

INTRODUCTION

The contents of this manual have been compiled from numerous University of Michigan websites, the Foundations for Successful Leadership manual, as well as many individuals within the Medical School.

I want to thank Drs. Yali Dou, Jolanta Grembecka and Zaneta Nikolovska-Coleska for their input, as well as Joel Bronstein, Laura Blythe, David Golden, Cathy Bearman, Beverly Smith, Pat Ward, and Christine Black for providing materials and guidance on the project. Dr. Jay Hess, Chair of Pathology, deserves special recognition for giving me the charge and the freedom to pursue this project.

What you will find in this manual is a collection of information that is already available, but is scattered in many locations at the University. The purpose of this manual is to provide you with a quick reference source to aid you in establishing and running your laboratory. It is not an all-inclusive manual, but it contains links to where you can find more information on important topics.

I hope you find this a useful resource. If you ever find that information needs to be updated, please let me know. Links change and processes are modified frequently. I would like to keep this manual current and useful for all incoming researchers. I can be reached at lmccain@umich.edu or at 734-763-6384.

Thank you and enjoy your time at Michigan!

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Lieberman LE	Andrew Assistant Professor of Pathology	P.	M.D., Ph.D.	Liz Laura	Wawrzaszek Connor	936-1889 764-6683	3510 MSRB1, SPC 5650	liebermn@umich.edu C:615-0688/R:76
Lieberman LI	Richard Associate Professor of Pathology and Ob/Gyn.	W.	M.D.	Liz	Wawrzaszek	936-1889	M4215 MS1, SPC 5602	jakrwl@path.med.umich.edu 615-2965
Lim HC	Megan Professor of Pathology and Director of Hematopathology	S.	M.D.	Pamela Elvira	Warwashana Skuzinski	936-1873 615-4388	Clin. Ofc M5242 MS1 SPC 5602 Res. Ofc 2039 BSRB SPC 2200 Res. Lab 2380 BSRB SPC 2200	meganlim@umich.edu 936-2756
Liu	Tianju Research Investigator		M.D., Ph.D.	Elvira	Skuzinski	615-4388	M4204 MS1, SPC 5602 Phan Lab	tianliu@med.umich.edu
Liu	Yifan Research Investigator		Ph.D.	Dawn Nadirah	Harper Maki (temp)	936-3024 936-3024	5215 MS1, SPC 5602	yifan@umich.edu 647-9654
Lombard	David Assistant Professor of Pathology; Research Assistant Professor, Institute of Gerontology	B.	M.D., Ph.D.	Reynetta Mark	Fath Eckersdorff	936-8198 615-6171	3015 BSRB, SPC 2200 3118 BSRB, SPC 2200	davidlom@umich.edu 936-9220
Lowe DP	Lori Professor of Pathology and Dermatology, Director of Dermatopathology		M.D.	Patti Sharon	Harbuck Kerr	764-4460 615-3410	3261 MS1, SPC 5602	lorilowe@umich.edu 764-4690
Lucas LU	David Professor of Pathology	R.	M.D.	Laurie	Quay	232-0022	2G332 UH, SPC 5054	drlucas@umich.edu 763-4095
Lucas LP	Peter Associate Professor of Pathology	C.	M.D., Ph.D.	Cynthia Laura	Shuereb Connor	936-6776 764-6683	3510A MSRB1, SPC 5650	plucas@umich.edu C:764-4308/R:76
Lukacs	Nicholas Professor of Pathology	W.	Ph.D.	Michele Jennifer	Pushies Vida	647-8153 763-0253	4059 BSRB, SPC 2200 4628 BSRB, SPC 2200	nlukacs @umich.edu 615-8166
Mallery	David President, Paradigm Diagnostics		M.B.A., J.D.				1111 Traverwood IV, 2900 Huron Parkway	dmallery@intgen.org

Last Name Prefix	First Name Title	MI	Degrees	Secretary/Assistant Research Secretary		Phone Phone	Address - Office Address - Lab	e-mail Fax
Mani	Ram Research Investigator		Ph.D.	Christine	Betts	615-4062	MCTP	ramm@umich.edu 615-4498
McHugh JM	Jonathan Assistant Professor of Pathology, Director of Immunohistochemistry	B.	M.D.	Shirley	Andrews	647-9125	2G332 UH, SPC 5054	jonamch@umich.edu 763-4095
McKeever MK	Paul Professor of Pathology	E.	M.D., Ph.D.	Liz	Wawrzaszek	936-1889	4207 MS1, SPC 5602	paulmcke@umich.edu 615-2965
McKenna MN	Barbara Professor of Pathology	J.	M.D.	Laurie Linda	Chopko O'Brien	936-6770 936-6770	5222 Med Sci 1, SPC 5602	barbmcke@umich.edu 615-8340
Miller	Richard Professor of Pathology	A.	M.D., Ph.D.	Reynetta	Fath	936-8198	3001 BSRB, SPC 2200 3160 BSRB, SPC 2200	millerr@umich.edu 647-9749
Moons	David Clinical Lecturer	S	M.D.	Laurie Linda O'Bri	Chopko 936-6770	936-6770	4211 Med Sci 1	davidmoo@umich.edu 615-8340
Morrison	Jane Clinical Lecturer - Surgical Pathology		M.D.	Lauire	Quay	232-0022	2G332 UH, SPC 5054	mojane@umich.edu
Muntean	Andrew Assistant Professor of Pathology	G	Ph.D.	Sue Beverly	Scott Schumann	763-4924 647-2921	7520B MSRB 1, SPC 5602 7514 MSRB1, SPC 5602	andrewmu@umich.edu 764-4308
Murphy	Hedwig Assistant Professor of Pathology	S.	M.D., Ph.D.		z-Unassigned	845-3427	3510 MSRB1, SPC 5650	hsmurphy@umich.edu 845-3207
Myers MY	Jeffrey A. James French Professor of Pathology and Director, Division of Anatomic Pathology, Director of Mlabs Outreach Programs	L.	M.D.	Beth	Minors	936-1888	2G332 UH, SPC 5054	myerjeff@umich.edu 763-4095
Naylor NA	Bernard Professor Emeritus of Pathology		M.D.	Susan	Sica	936-9355	NI6A17 NIB	bnaylor@umich.edu 936-7361
Nesvizhskii	Alexey Associate Professor of Pathology		Ph.D.	Beth	Gibson	615-5727	M4237 MS1, PSC 5602	nesvi@umich.edu 615-2511
Newton	Duane Associate Professor and Dirctor of Microbiology/Virology Laboratory	W.	Ph.D.	Cindy	Shuereb	936-6776	F2541 Mott, SPC 5206	dnewton@umich.edu 763-4095

Last Name Prefix	First Name Title	MI	Degrees	Secretary/Assistant Research Secretary		Phone Phone	Address - Office Address - Lab	e-mail Fax
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	Assistant Professor of Pathology						615-9203	4514 MSRB 1
Nuñez	Gabriel		M.D.	Dawn	Harper	936-3024	4219 CCGC, SPC 5264	gabriel_nunez@umich.edu
	Paul H. De Kruif Professor of Pathology					Nadirah	Maki (temp)	936-3024
Owens	Scott		M.D.	Laurie	Chopko	936-6770	5224 Med Sci 1, SPC 5602	srowens@umich.edu
	Assistant Professor of Pathology					Linda	O'Brien	936-6770
Palanisamy	Nallasivam		Ph.D.	Christine	Betts	615-4062	2900 Huron Parkway, Traverwood IV	nallasim@umich.edu
	Research Assistant Professor						Room 1219	232-0805
Panek	Robert	L	Ph.D.	Laura	Connor	764-6683	3510 MSRB 1, SPC 5602	rpanek@umich.edu
Research Investigator								
Pang	Judy		M.D.	Cynthia	Shuereb	936-6776		763-4095
Assistant Professor								
Patel	Rajiv			Patti	Harbuck	764-4460	3261 MS1, SPC 5602	rajivpat@umich.edu
Assistant Professor					Sharon	Kerr	615-3410	764-4690
Paulauskis	Joseph		Ph.D.				1147C Traverwood IV, 2900 Huron Parkway	jpaulauskis@intgen.org
COO, Paradigm Diagnostics								
Penny	Robert		M.D., Ph.D.	Jennifer	Stovall	232-0815	1109 Traverwood IV, 2900 Huron Parkway	rpenny@intgen.org
CEO, Paradigm Diagnostics								
Phan	Sem	H.	M.D., Ph.D.	Michele	Pushies	764-8153	4069 BSRB, SPC 2200	shphan@umich.edu
Professor of Pathology							4830 BSRB, SPC 2200	615-9666
Pierson	Carl	L.	M.D.		z-Unassigned	936-6877	2G461 UH, SPC 5054	carlpier@umich.edu
Assistant Professor Emeritus of Pathology								
Rabah	Raja		M.D.	Mary	Currie	232-8774	2G332 UH	rajar@umich.edu
Professor of Pathology								763-4095
Rajendiran	Thekkelnaycke		Ph.D.	Christine	Betts	615-4062	2900 Huron Pky, Traverwood IV	tmraj@umich.edu
Research Investigator							Room 2300	232-0805

Last Name Prefix	First Name Title	MI	Degrees	Secretary/Assistant Research Secretary		Phone Phone	Address - Office Address - Lab	e-mail Fax
Ramon	Daniel Clinical Assistant Professor of Pathology, Director of Histocompatibility Laboratory		M.D.	Lisa	Brown	764-0271	2910 Huron Parkway	dramon@umich.edu 764-4102
Ramsburgh	Stephen Emeritus Assistant Professor, Interim Director of Autopsy Service	R.	M.D.	Mary	Currie	936-6776	NI6A19 NIB	sramsbur@umich.edu 763-4095
Rasche MU	Rodolfo Assistant Professor of Pathology, Associate Director of MLabs		M.D.	Liz	Wawrzaszek	936-1889	NI6A13 NIB SPC 5452	rasche@umich.edu 615-2965
Rhodes	Daniel Research Investigator	R.	Ph.D.	Christine	Betts	615-4062	5316 CCC, SPC 5940	drhodes@med.umich.edu 615-4498
Roh	Michael Assistant Professor of Pathology, Director of Cytopathology	H	M.D., Ph.D.	Benita	Threadgill	936-6775	2G334 UH	mikro@umich.edu 763-4095
Ross RO, HC	Charles Associate Professor of Pathology, Director of Clinical Flow Cytometry Laboratory	W.	M.D.	Kelly	Dotson	936-1874	M5242 MS1, SPC 5602	cwross@umich.edu 936-2756
Roulston	Diane Associate Professor of Pathology, Director of Cytogenetics Laboratory		Ph.D.	Lisa	Brown	764-0271	2900 Huron Parkway, Rm 1122	droulstn@umich.edu 936-2756
Rual	Jean Francois (Jeff) Assistant Professor of Pathology		Ph.D.	Laura	Connor	764-6683	4214 MS1 4214 MS1	jrual@umich.edu 615-0688 or 763-
Rungta	Shilpa Clinical Lecturer/Breast Pathology Fellow		M.D.	Open		647-9125	4216 CCGC, SPC 5264	shilparu@umich.edu 763-4095
Sadighi Akha	Amir Research Investigator		Ph.D.				z-Unassigned	asadighi@umich.edu
Sarma	J. Research Assistant Professor	Vidya	Ph.D.	Beverly Sue	Schumann Scott	647-2921 763-4924	7501 MSRB1, SPC 5602	vsarma@umich.edu 764-4308
Schaller	Matthew Research Investigator	A	Ph.D.				z - unassigned 4620 BSRB SPC 2200	mschalle@umich.edu
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Last Name Prefix	First Name Title	MI	Degrees	Secretary/Assistant Research Secretary		Phone Phone	Address - Office Address - Lab	e-mail Fax
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Shao	Lina Assistant Professor, Director of Cytogenetics		M.D., Ph.D.	Lisa	Brown	734-764-02	2900 Huron Parkway, Rm 1129	linashao@umich.edu 734-998-5804
Shukla	Ajay Surgical Pathology/Gynecologic Pathology Fellow		M.D.	Mary	Greene	764-1549	1C51 BSRB, SPC 2200	abshukl@umich.edu 647-7950
Smith HC	Lauren Assistant Professor of Pathology	B.	M.D.	Kelly	Dotson	936-1874	5230 MS1, SPC 5602	lbsmith@umich.edu 936-2756
Stamatovic	Svetlana Research Investigator		M.D., PhD	Sue Beverly	Scott Schumann	763-4924 647-2921	7518 MSRB1, SPC 5602	sstamato@umich.edu
Stoolman	Lloyd Professor of Pathology	M.	M.D.	Joanne	Momcilovich	615-3860	4224 MS1, SPC 5602	stoolman@path.med.umich.e 763-6476
Sun	Liou Research Investigator	Y	M.D., Ph.D.		z - unassigned		3016 BSRB, SPC 2200	leesun@umich.edu 936-9220
Thomas	Dafyyd Research Investigator		M.D., PhD	Joanne	Momcilovich	615-3860 936-8099	C570F MSRB II SPC 5669 Giordano Lab	thomasda@umich.edu 615-0688
Tomlins	Scott Assistant Professor of Pathology and Urology	A.	M.D., Ph.D.	Shirley Mary	Andrews Greene	647-9125 764-1549	1524 BSRB, SPC 2200	tomlinss@med.umich.edu 647-7950
Utiger	Cheryl Lecturer		M.D.		z-Unassigned	845-3427	VA Hospital	cutiger@umich.edu 845-3207
Varambally	Sooryanarayana Associate Professor		Ph.D.	Christine	Betts	615-4062	2900 Huron Parkway, Traverwood IV Room 1107	soory@med.umich.edu 232-0805
Varani	James Professor of Pathology		Ph.D.	Joanne	Momcilovich	615-3860	M4224 Med Sci 1, SPC 5602	varani@umich.edu 763-6476
Vergilio	Jo-Anne Professor of Pathology		M.D.	Kelly	Dotson	936-1874	5242 Med Sci 1 SPC 5602	jvergili@med.umich.edu 936-2756
Wang	George Research Investigator	Xiaoju	Ph.D.	Christine	Betts	615-4062	5431 Cancer Center, SPC 5940	xiaojuw@umich.edu 615-4055

Last Name Prefix	First Name Title	MI	Degrees	Secretary/Assistant Research Secretary		Phone Phone	Address - Office Address - Lab	e-mail Fax
Ward	Peter Godfrey D. Stobbe Professor of Pathology	A.	M.D.	Beverly Sue	Schumann Scott	647-2921 763-4924	7520 MSRB1, SPC 5602	pward@umich.edu 764-4308
Warner	Roscoe Research Assistant Professor	L.	Ph.D.	Beverly Sue	Schumann Scott	647-2921 763-4924	7524 MSRB1, SPC 5602	roscoew@umich.edu 764-4308
Warren	Jeffrey Aldred S. Warthin Endowed Professor of Pathology, Director of Clinical Pathology	S.	M.D.	Pamela	Warwashana	936-1873	M5242 MS1, SPC 5602	warren@umich.edu 936-2756
Warrick	Joshua Clinical Lecturer - GU Pathology		M.D.	Shirley	Andrews	647-9125	2G332 UH, SPC 5054	warrickj@umich.edu
Wilson	Thomas Associate Professor of Pathology	E.	M.D., Ph.D.	Ann	Savory	615-5242 763-5414	2065 BSRB, SPC 2200 2828 BSRB, SPC 2200	wilsonte@umich.edu 763-2162
Wu	Angela Assistant Professor	J.	M.D.	Shirley	Andrews	647-9125	2G332 UH, SPC 5054	angelawu@umich.edu 763-4095
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Yamada	Chisa Assistant Professor of Pathology		M.D.	Cindy	Shuereb	936-6776	2F225 UH, SPC 5054	yamadac@umich.edu 763-4095
Young	Allison Clinical Lecturer/Genitourinary Pathology Fellow		M.D.	Open		232-0022	2G332 UH, SPC 5054	763-4095
Zhai	Yali Research Investigator		M.D., Ph.D.	Mary	Greene	764-1549	1658 BSRB, SPC 2200	yaliz@umich.edu 647-7950
Zhang	Chen Clinical Lecturer - Pulmonary Pathology		M.D., Ph.D.	Beth	Minors	936-1888	2G332 UH SPC 5602	chezhang@umich.edu
Zheng	Pan Professor of Surgery and Pathology		M.D., Ph.D.	Darla	Kroft	615-3500	2062 BSRB SPC 2200	panz@umich.edu 763-2162

Friday, August 10, 2012

PERSONNEL

Human Resources

Human Resources at the University of Michigan is subdivided to provide excellent service to the many populations of the University. There are two basic HR paths – Health System and Campus. Health System personnel are those who are employed by the University of Michigan Hospitals and Health Systems in patient care or patient support roles. Laboratory staff, including students who may be rotating through your lab, are considered Medical School or Campus staff.

Within the Department of Pathology, Human Resources is broken into two units: Faculty/Residents/Academic Fellows, and Staff. Please refer to the contact sheet for contact information on each of these offices. As a new researcher coming on board, you will work primarily with Faculty HR. Any staff you are bringing on board will be supported by the Staff HR. These individuals serve as the Department's liaisons between you and the larger University-wide HR office.

Your Departmental HR representative will assist you with the complete hiring process, problem resolution, guidance on policies and procedures, salary determination, interviewing, disciplinary actions and termination proceedings.

Hiring Postdoctoral Fellows

In general, you will go through the search process for a postdoctoral fellow as you did for your other staff, including a thorough interview and reference check. Often, you will receive unsolicited inquiries regarding fellowship opportunities in your laboratory. You may even identify an ideal candidate without having to advertise first, however, the position must be approved by our HR office before you are able to hire anyone. Your Staff HR Representative will be able to assist you through every step of the process.

Postdoctoral Fellows are appointed as Research Fellows. This is a time-limited position, which includes benefits and is renewed on a yearly basis, not to exceed 5 years. Salary levels are generally based on NIH guidelines, (<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-075.html>) though this is not required. Salaries and the associated benefit costs (~30% of salary) may be supported by research grants, training grants, fellowships or discretionary funds.

Once a candidate has been selected, the faculty member will work with the Staff HR Representative regarding an appropriate salary for the Fellow. An official offer letter which has been approved by the Staff HR office, is then sent to the candidate by the PI. Other pertinent information will accompany the offer letter.

When you have selected a postdoctoral fellow to work in your laboratory, you will both need to review and commit to the agreements on the following pages, which

outline the responsibilities of both the postdoctoral fellow as well as the PI/Mentor.

You can learn more about hiring Postdoctoral Fellows from The Office of Postdoctoral Studies website:

<http://med.umich.edu/postdoc/prospective/resources.html>.

Commitments of Postdoctoral Appointees

I acknowledge that I have the primary responsibility for development of my own career. I recognize that I must take a realistic look at career opportunities and follow a path that matches my individual skills, values and interests.

I will develop a research project with my mentor that includes well-defined goals and timelines. This project will be outlined and agreed upon at the time of initial the appointment.

I will maintain detailed records and will catalog and maintain all materials that result from the project.

I will comply with all institutional and federal regulations relating to responsible conduct in research, (*as required – privacy and human subjects research, animal care and use, laboratory safety and use of radioisotopes*). I recognize that this commitment includes seeking guidance when presented with ethical or compliance uncertainties and reporting on breeches of ethical or compliance standards by me and/or others.

I will show respect for and will work collegially with my colleagues.

I will endeavor to assume progressive responsibility and management of my research project as it matures. I recognize that assuming responsibility for the conduct of research projects is a critical step on the path to independence.

I will seek regular feedback on my performance and will request formal evaluation annually.

I will have ongoing discussions with my mentor concerning the dissemination of research findings and the distribution of research materials to third parties.

I recognize that I have embarked on a career requiring “lifelong learning”. To meet this obligation, I will keep current in my specialized field through literature and attendance at seminars and scientific meetings.

I will seek opportunities outside the laboratory (i.e., professional development seminars and workshops, scientific writing and teaching) to develop professional skills necessary for success in my career.

At the end of my appointment, in accordance with institutional policy, I will leave all original notebooks, computerized files and research materials so that other individuals can continue related research. I will work with my mentor to submit research results for publications. I can make copies of my notebooks and computerized files and have access to research materials which I helped to generate during my postdoctoral appointment according to institutional policy.

Commitments of Mentors

I acknowledge that the postdoctoral period is a time of advanced training intended to develop skills to promote the career of the postdoctoral appointee.

I will work with _____ to define a set of expectations and goals at the outset of the postdoctoral training period. We will work together to create a career development plan.

I will maintain a relationship with _____ that is based on trust and mutual respect. I acknowledge that open communication and periodic formal performance reviews, conducted annually, will help ensure that expectations are met.

I will identify standards for conducting research including compliance with all institutional and federal regulations as they relate to privacy, human subjects research, animal care and use, laboratory safety and use of radioisotopes. I will clearly define expectations for conduct of research in my laboratory and make myself available to discuss concerns as they arise.

I will provide _____ with opportunities to acquire the skills necessary to become an expert in the agreed upon area of investigation.

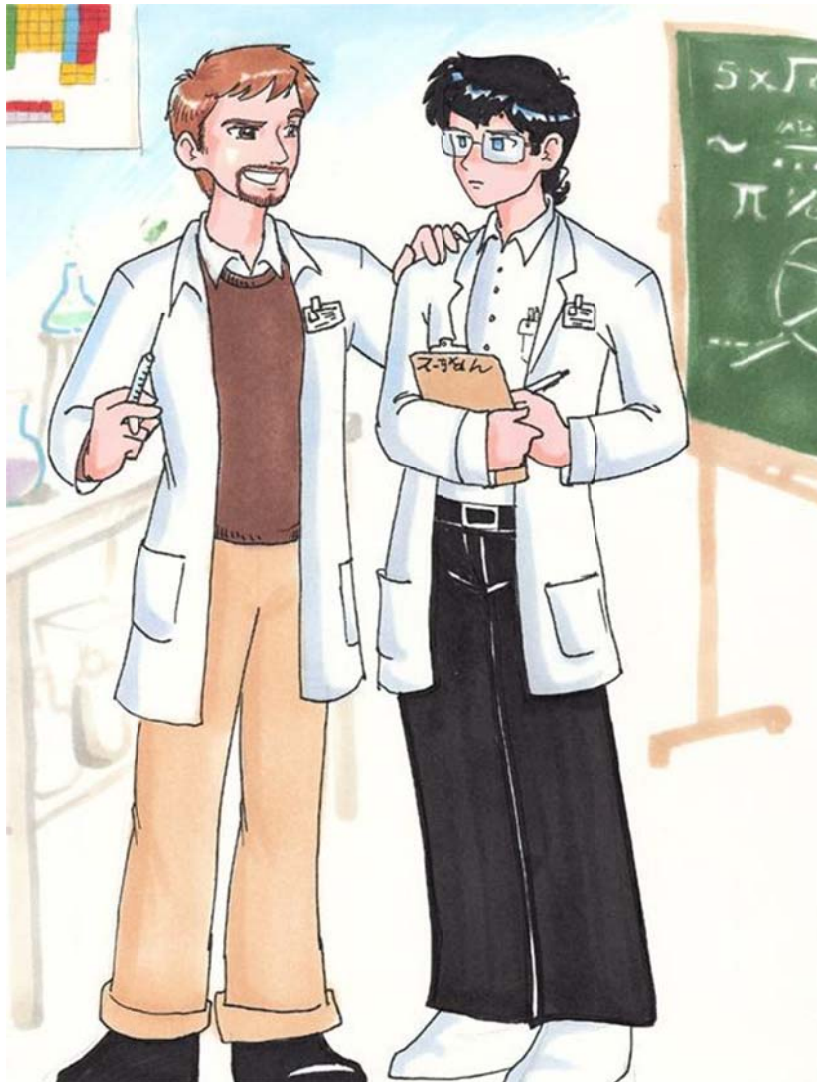
I will provide _____ with guidance and mentoring and will seek the assistance of other faculty and departmental and institutional resources when necessary. Although I am expected to provide guidance and education in technical areas, I recognize that education also occurs by example. I will provide access to formal opportunities/programs necessary for a successful career.

I will provide a training environment that is suited to the individual needs of _____ to ensure his/her personal and professional growth. I will encourage a progressive increase in the level of responsibility and independence to facilitate the transition to a fully independent career.

I will encourage interaction with fellow scientists both in the Department of Pathology and in other units and encourage _____ attendance a professional meetings to network and present research findings.

I will ensure that the research performed by _____ is submitted for publication in a timely manner and that he/she receives appropriate credit for the work performed. I will acknowledge his/her contribution to the development of any intellectual property and will clearly define future access to research material according to institutional policy.

I recognize that there are multiple career options available for a postdoctoral appointee and will provide encouragement to explore appropriate options. I recognize that not all postdoctoral appointees will become academic faculty. If appropriate, I will direct _____ to resources that explore non-academic careers and discuss these options.



Individual Development Plan: To be filled out by the mentor and discussed with the research fellow. A new IDP program has also been set up online, which will be required effective July 2012 for all graduate students and is recommended for use with postdoctoral fellows. <http://sitemaker.umich.edu/pibs.tracker/home>.

Review and discuss job expectations and develop a plan to successfully complete the post-doc appointment and to prepare him/her to meet personal career goals.

Targeted Development Areas <i>List interpersonal, communication and/or analytical skills to focus on</i>	Development Plan <i>List specific means by which to remedy deficiencies</i>	Attainment of Goals <i>How will the achievement of goals be determined or benchmarked?</i>

Current Position	Duration of Current Position	Targeted Position	Probability of Readiness	Overall Current Performance

I have discussed the contents of this report with my mentor.

<i>Post Doctoral Fellow Signature:</i>	<i>Date:</i>
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<i>Principal Investigator Signature:</i>	<i>Date:</i>
--	--------------

LIST SCHOLARSHIPS, GRANTS OR AWARDS (**applied for, received or pending: indicate start & end dates**)

LIST ALL PUBLICATIONS INCLUDING JOURNAL ARTICLES, ABSTRACTS, CONFERENCE PRESENTATIONS (**include papers submitted and those in print**)

LIST CURRENT FINANCIAL SUPPORT FOR THIS REPORTING PERIOD (**provide information from all sources including amount and length of support**)

LIST CAREER GOALS TO BE ACHIEVED OVER THE NEXT YEAR

Graduate Students Research Assistants (G.S.R.A.)

The following information is taken from the Academic Human Resources website: <http://www.hr.umich.edu/acadhr/grads/gsra/appointment.html>

Where G.S.R.A. Appointments Are Made

A G.S.R.A. appointment may be made in a student's academic department or in another department or unit in which the research being performed is academically relevant to the student's degree program. If an appointment is provided in a department or unit other than the one in which the degree is being pursued, prior arrangements must be made between the appointing department or unit and the department or program in which the degree is being pursued. In such cases, the appointment form should be signed by a representative of the academic, as well as the appointing department.

When to Process Appointments

All appointment forms (as described below) should be prepared, whenever possible, prior to the beginning of the term or other period of appointment. Forms prepared in a timely fashion should be sent to Human Resource Records and Information Services (HRRIS) in University Human Resources.

Late appointments (i.e., those which, for whatever reason, are sent to Human Resources subsequent to the first pay date of the appointment period involved) should be sent directly to Academic and Staff HR Services for review. In order to avoid unnecessary delays, late appointment paperwork should be accompanied by a written statement documenting the nature of the appointment-related activity and its duration as well as explaining, briefly, the reasons that all appointment was not submitted on a timely basis.

It should be noted that the late processing of an appointment can have an adverse impact on the involved student. Apart from the delay in stipend payments, serious problems and confusion can be created with respect to an individual's eligibility for insurance coverage, tuition waivers, and other benefits afforded to G.S.R.A.'s. Late processing could also result in penalties to the University if the Employment Eligibility Verification Form (I-9) is not processed on a timely basis.

Forms to Use in Processing Appointments and Terminations

The following forms are utilized in the G.S.R.A. appointment process and may be obtained online from Human Resource Records and Information Services (HRRIS). <http://www.hr.umich.edu/hrris/forms/index.html>

Processing the initial appointment of an individual as a Graduate Student Research Assistant:

- Appointment Request (Form #36400)
- Supplemental Appointment Information (Form #36100)
- Educational Assistant Personnel Record (Form #36510)
- Employment Eligibility Verification Form (I-9)
- Tax Withholding Forms (Forms W-4 and MI W-4)
- Processing re-appointments of G.S.R.A.'s who have previously been appointed within the past year.
- Submit Job/Data/Salary Distribution Worksheet for the student available from the Human Resources section of Wolverine Access at:
<http://wolverineaccess.umich.edu>.

The following forms are optional and should accompany appointments only as necessary:

- A copy of the Salary Distribution worksheet for the student and the Effort Certification Form from Wolverine Access.
- Check Deposit Authorization (Form #9836)
<http://www.umich.edu/~payroll/formreq.html>
- Termination Request Forms (#36605) should be processed at the end of the appointment period if it is anticipated that a student will not be reappointed in any capacity.

Cost of Graduate Student Research Assistants:

GSRAs must be continuously enrolled as students. First year GSRAs' tuition and salary are paid for by the Graduate Program. The Department will pay for their 2nd year. Beyond that, once GSRAs are thesis candidates who have passed their preliminary exams, the P.I. is responsible to pay for the tuition and salary plus benefits. Consult your Staff HR representative for details on exact costs.

For more information on Graduate Student Research Assistants:

How to Mentor Graduate Students: A Guide for Faculty

<http://www.rackham.umich.edu/downloads/publications/Fmentoring.pdf>

Academic Human Resources: Graduate Students

<http://www.hr.umich.edu/acadhr/grads/gsra/index.html>

Staff Human Resources

As a new incoming faculty member, it is highly likely that the first person you will wish to hire is a highly-skilled technician to serve as your laboratory manager. This is an individual whom you may hire prior to your start date to coordinate the set up of your laboratory, so you are ready to begin your research efforts immediately upon arrival. Staff Human



Resources for the Department of Pathology will be your resource for hiring of technicians, laboratory assistants and postdoctoral fellows. You will be provided with an Administrative Assistant, who will likely be shared by other faculty, so you will not need to hire an Assistant.

In addition to the information provided here, you may want to view the “Hiring Best Practices (Staff) Wiki at:

<https://wiki.umms.med.umich.edu/display/UMHSHBP/Hiring+Best+Practices+%28Staff%29>

Posting Medical School Staff Positions (does not include postdocs or graduate students)

Posting of Medical School staff positions (laboratory managers, research technicians, and research associates) is handled by the Staff Human Resources Representative in the Department. Prior to posting a position, you will need to consider the following:

- What are the tasks this individual will need to complete?
- What technical skills are required?
- What language skills are required? Do you need someone with multiple languages to work well with overseas collaborators?
- What organizational/management skills are needed, if any?
- How many years of experience is required?
- Do I need someone full time or part time – how many hours?
- How much can I afford to pay? Cost of the employee is approximately 1.3 times the salary earned plus supplies, which vary widely, averaging about \$18,000 per person annually.

Once you have clear answers to the above questions, send or bring the information with you to the Staff HR Representative. This information will be compiled into a position description and job classification and title based on University protocols. When you approve this information, it will be posted to the University’s Jobs website: <http://www.umich.edu/~jobs/>.

The Hiring Process

Shortly after posting the position, resume’s will begin to arrive. If you have not yet started at the University, these resume’s can be forwarded to you via mail or

e-mail. Please notify your Staff HR Representative as to how you wish these CV's to be handled.

Upon receipt of the CV's, do a cursory review of each CV to determine baseline qualifications. This can quickly take a stack of 100 resumes down to a reasonable 10-15. From the potential candidates, do a careful screening of qualifications and contact your HR Representative with the top 3-5 candidates. If any are current UM employees, they can look into their backgrounds a bit and give you additional information. If you wish to interview any of these candidates, you can conduct an initial interview by phone. If you find candidates that you think may be a good fit and would like to proceed with a formal interview, you can work with your HR Representative to schedule the interviews and you can take a trip to the University to conduct the interviews, possibly in conjunction with a house-hunting trip.

It is possible that you will have some applications from "Reduction in Force" (RIF) candidates. These are individuals who, due to loss of funding or other reasons, had to be let go elsewhere in the University. Some of these are very talented individuals with years of experience whose PI moved or lost funding. They can be stellar employees. If you get an applicant who is a RIF and they meet your requirements, you are required to interview them. As such, your job description is very important. If after interviewing the RIF candidate, you determine the person is not a good fit for your position, please provide HR with a statement indicating why you will not be hiring that person. If you choose to hire the RIF candidate and they have more than 6 months of experience at the University, they would not be considered on probationary status. Be sure to work closely with your HR Representative on the hiring process.

Interviewing

When interviewing an applicant, it is a good idea to write up a list of questions in advance – to be sure you cover all of the information you need to know. In addition to the fact-based questions, it is very helpful to have some behavioral-based questions included in the interview. Create scenarios that may actually happen in the lab and ask how they would handle it. Ask them to tell you about times they had to work closely with someone they didn't particularly like. Ask about times they made an error in the lab that resulted in some serious negative consequences (i.e. broken machine, ruined experiment, etc.). A list of possible behavioral-based questions, questions you may not ask, and Interview Guide are included in the appendix.

You may also ask an experienced researcher from the University with whom you may collaborate to sit in on the interview with you and to prepare some questions. This team approach will enable you to get a more complete picture of your applicant.

When preparing your list of questions, you may want to check with your HR Representative to be sure that none of your questions are on the “Can’t Ask That” list. In general, you can ask an individual any questions that are directly related to the job and how they interact with others in a professional setting. You cannot ask about their personal lives in any way – marital status, family, age, sexual orientation, religion, disability, etc. Should an individual volunteer information, it cannot be used in the selection process unless it affects their ability to perform the work or could be disruptive to the workings of the lab. For example, if an applicant indicates that they have an allergy to mice, it would be fair to ask follow up questions on their ability to work with mice, or in a lab where mice are sometimes present, as the job requires. However, if your lab doesn’t work with mice, and the employee would not have exposure to mice, you cannot consider that in the hiring process.

At the conclusion of the interview, thank the applicant and give them a timeline for when you will be getting in touch with them regarding any future steps. Be sure to either send them a letter of regret or contact them regarding next steps within that time frame.

Checking References

Once you have completed your interviews, and have selected a lead applicant for your position, you need to check references on this applicant. The University has an obligation not to “negligently hire” people who may endanger our employees or students or who may cause harm to the Institution. In addition, some people falsify or exaggerate their credentials and backgrounds, especially educational degrees and certifications. Reference checks can help you uncover strengths and opportunities for growth that may not have come up in the interview process.

For candidates who are currently or were recently University of Michigan/UMHS employees, contact the Staff HR Representative to review their personnel file. Carefully review the contents of the file, especially the evaluations. Talk to former supervisors and co-workers and listen carefully for what they are not saying in addition to what they are saying. Do they carefully avoid mentioning interpersonal relationships? Do they focus on what a great person this is, but don’t give much information as to work performance?

For outside candidates, you will need to obtain a list of references from the applicant. If you know someone who has worked with this individual, check with them as well. Often, businesses are reluctant to share information on a former employee. To obtain a usable reference, you will want to follow these tips:

- **Gain the confidence of the referee.** Introduce yourself and explain that the candidate has applied for a position in your laboratory and that you would like to obtain a reference from them. Find out if it is a good time to

talk or if you should call back at another time. Set an appointment to call back, if appropriate.

- **Ask straightforward questions.** In what capacity do you know Mr. Smith? How long have you known/worked with Mr. Smith?
- **Give a brief description of the position's duties and responsibilities**
 - Ask how good a fit Mr. Smith would be in this position.
 - Ask how they would evaluate this applicant's ability to do the job.
 - Ask clarifying questions and get as much information as possible.
 - Find out if they recommend you speak with anyone else at their business regarding the applicant.
- **Ask if the supervisor would rehire this person.** A less than enthusiastic affirmative response should send up red flags!
- **Thank the referee,** no matter the quality of the reference or the conversation. In some cases, only the date of hire and years worked will be confirmed.



If references on a candidate are problematic, you should check with other sources to confirm that one person is not purposely and perhaps, falsely, giving a poor reference.

The Offer

Once you have selected your candidate, sit down with your HR Representative to go over the qualifications, education and experience of this candidate. The HR Representative will input the information into a database and compare the salaries of others with similar responsibilities and backgrounds. A salary range or a specific dollar figure will be determined. At this point, you can contact your top candidate and offer them the position. If they verbally accept, contact your Staff HR Representative with the start date and salary. An offer letter will be generated through the HR System.

Your new staff member will have many questions for which you may not have the answer. Do not hesitate to refer him/her to Staff HR. Many of these questions will be answered during Orientation, which will be the first 1.5 days of work, including obtaining their ID, parking permit, benefits sign up, and policies.

Department Orientation will need to be attended as well, scheduled for 8:00 am – 2:00 pm on the 1st Wednesday of each month. For questions regarding Benefits, you can refer them to <http://www.benefits.umich.edu/>.

Mentoring the New Hire

As a faculty member, you may not have time to personally train your laboratory staff. Team up your new hires with someone who is more experienced in the lab and will be able to guide your new staff member and answer questions. You should also make it a point to schedule regular meetings with your new employee to be sure that he or she is on track and is receiving the guidance needed for success. Don't wait until there are major problems to intervene. Be sure your new associate understands his or her role, your expectations, and what it means to be successful. Look for solutions if mistakes are made rather than assigning blame. All new hires will make mistakes – some of them can be quite costly in terms of failed experiments or broken equipment. It is part of the learning curve and to be expected. The University offers numerous classes and your new hire should be encouraged to participate in relevant learning opportunities and to complete compliance requirements in a timely manner.

Conducting Performance Reviews

The University has a formal performance review process that takes place annually. You will need to meet with each individual in your laboratory and complete the review paperwork, the link to which will be sent to you via e-mail. At the annual review, you have flexibility on how you handle the review. You may choose to send the form to your employees, asking them to complete a self-review and send it back. After reviewing their input and determining any changes you feel need to be made, you would meet with them and discuss the review. Another option is to complete the review and send it to your employees so that they can come prepared with any feedback before meeting with you. A third option is to have each of you prepare a form and then reconcile it during the meeting.

The formal review should not “surprise” your employees. Anything that you have concerns about should be brought up as the concerns arise so that they can be corrected. Do not “save” them for the annual review. You should also be sure to acknowledge work that is well done as it happens. The review process should actually be a continual loop.

When giving feedback, it is helpful to provide the following information:

- Describe the current behavior
- Identify specific situations
- Describe impacts and consequences of behavior
- Identify appropriate recognition and/or praise OR Identify alternative behaviors and agree on a plan.



Recognition and rewards are often strong motivators. Some ways you can recognize or reward your staff are:

- Put a letter in their file
 - Write a Thank You note
 - Give praise at a staff meeting
 - Give “Making a Difference” awards
 - Celebrate team success
 - Give certificates
 - Free up time for Educational Opportunities
 - Give them a \$5 gift card for the coffee shop or cafeteria
- For more ideas, see “101 Ways to Celebrate People” in the Appendix.

If you find that your employee is underperforming, it is important to identify the causes of this performance issue. It may be that additional training is needed, or there is a personal issue impacting performance. It may be a physical problem impacting his or her ability to complete tasks. Once the causes of the underperformance is identified, your role becomes one of coach. Encourage your employee to obtain assistance as needed for any personal or physical issues. You may need to assign someone to mentor or more thoroughly train your employee. Your HR Representative can assist you in identifying and rectifying performance issues.

After exhausting your efforts to aid in improving performance, if performance still remains below acceptable levels, it is time to speak with your HR Representative

to identify next steps. Your HR Representative will give you the guidance you need to ensure everything is handled appropriately. Be sure to document what you have done as it will be required for any next steps.

Salary Adjustments

Performance reviews and annual salary adjustments/merit increases, if any, do not happen at the same time. Performance reviews are conducted in early summer. Salary increases take effect in September. Each year, the University establishes the percent range for pay increases. Some years, there will be no pay increases. Other years it may be 3-5%. It depends on the operating margin of the Medical School and Health System. You also need to be sure that your grant funding has adequate funds to support the pay increases, if you so recommend your employees receive them. Your grants administrator can assist you in determining the amount of funds you have available for salary increases. From time to time, you may want to give a salary increase outside the annual merit increase program. Please see your Staff HR Representative for a review of the policies in place and what you are wishing to do prior to offering a pay increase. All such increases need to be approved by the University HR office prior to being given. Your Staff HR Representative will assist you with that process.

In addition to, or in lieu of, wage increases, you may also opt to give an employee a one-time lump sum payment. This increases total earnings in the year given, but does not increase base salary. This, too, must go through your Staff HR Representative and University HR for approval.

Promotions

If you believe that you have an employee that is deserving of a promotion, contact your Staff HR Representative. The two of you will go over the employee's current classification, the increased responsibilities they will be given, and the performance history of your staff member. You will also discuss the next classification level and whether or not this individual meets the criteria for a promotion to that level. If you agree that a promotion is warranted, you will need to provide all of this documentation in writing to your Staff HR Representative, who will proceed with determining an appropriate salary, with your input, and getting the promotion approved through both the Department and the University.

Faculty Human Resources

The Department offers robust Faculty Human Resources for new and current faculty. An offering unique to the Department is our Academic HR System website, located on the Pathology Website's Intranet. This is a secure website that may only be accessed by those faculty and staff who are required to utilize the information contained in this system. A valid username and level 2 password (the same as your e-mail password) is required. This system is a repository of information on each faculty member, with limited access on a need-to-know basis. This site will hold all application materials submitted, CV's, offer letters, review letters, and promotion materials.



Posting Faculty Positions

This section will apply only if you are a Senior Faculty member and/or a Section/Division leader. Junior Faculty do not hire other faculty-level personnel for their laboratories. Before proceeding, you first need to discuss this with your Division Director, who can provide you with guidance on this recruitment. If your Division Director is in agreement, the request will be brought to the Department Chair for review. Once approved for the position, it is time to post the position.

The first step in the posting process is to write up a draft position description. Determine how much you can afford to pay this individual. This is especially true if you are bringing on board a Research Investigator for your laboratory. Remember, benefits cost approximately 1/3 of the salary paid, and you need to be able to support the salary and benefits from your grant funding, along with the increased costs in supplies, space (office/bench), equipment, etc.

Bring this information to your Faculty HR representative. Your representative will work with you to edit your position description. For hard-to-recruit positions, if you have specific journals in which you want this position posted, bring this information with you. Otherwise, the Faculty HR representative will post the position in the U-M system.

The Hiring Process

Those interested in your posted faculty position must submit their CV's to the individual named in the advertisement/posting, which is likely you or an Assistant. You need to keep all CV's submitted until the hiring process is completed and your application report has been filed with HR. Quickly review the CV's received, sorting them by whether or not they meet your minimum qualifications. Those that do not should receive a letter indicating that you will not be pursuing the application.

Of the remaining CV's, review them carefully. Pay special attention to their work history. Are their gaps in either education or work? Have they followed a reasonably-timed trajectory for their academic level? What is their productivity – are there first and last author publication in high impact journals? Are they active on any committees or in professional associations? Does it appear that they possess the skills needed for this position?

Once you select your top candidates, call them and talk to them about the position and get an idea of what their goals are and if this individual may fit well into your laboratory. If you are excited about the candidate following the call, invite them to interview for the position. At this point, your Assistant can take over the logistics for you and coordinate a two-day visit. You will be responsible to pay for all expenses incurred for these visits, in accordance with University Guidelines, from your funding sources. The candidate should be asked to make his/her own coach airline reservations, which will be reimbursed. Your Administrative Assistant should make all of the other arrangements including hotel, car service, and itinerary for the visit (with your guidance). If your Assistant is unsure of how to proceed, there is a website with a step-by-step guideline on inviting candidates for interviews in the Administrative Assistant Orientation Manual. Generally, the visits entail arriving the afternoon of Day 1, checking into the hotel and going to dinner with a small group of 4-6 individuals. Day 2 will be full of interviews with various faculty, a 60-minute lecture, and a 60-90 minute chalk talk (researchers only). All faculty candidates must meet with the appropriate Division Director and usually, the Chair of Pathology.

Candidates for whom there is a serious interest in pursuing should be invited for a second visit along with his/her spouse or significant other. This is usually a 2-3 day visit which will include interviews, possibly another talk, opportunities to see the community and possibly a separate itinerary for the spouse/significant other. Efforts need to be made to assist with finding an appropriate position for the spouse/ significant other, as needed. We have an Office of Dual Career Recruitment, which is dedicated to assisting faculty spouses find suitable employment, http://www.provost.umich.edu/programs/dual_career/. The Dean's office supports a similar program for Clinical Track faculty.

Either at the conclusion of the 2nd visit or shortly thereafter, if you wish to hire this individual, you may craft a preliminary offer letter. This letter needs to be finalized by the Faculty HR representative and approved by the Chair, as we have specific required wording in these letters. Review this letter carefully, if you need clarification on any point in the letter or would like changes made, do not hesitate to discuss this with Faculty HR. Once this letter is signed and returned, it is a contract between the candidate, you and the University, contingent upon completion of the application process and approval by the appropriate University offices.

Completing the Application Process

Upon receipt of the signed offer letter, Faculty HR representative will send your candidate a packet of information which needs to be completed and returned as quickly as possible. The contents of this package will vary depending upon citizenship status, degrees held, and the specific position. Packages will contain directions for completion of some or all of the following items:

Citizenship or Visa Documentation

Application Form

Referee Request (Contact information and required qualifications for your referees. Junior faculty require a minimum of 3 referees, senior faculty require a minimum 5 referees)

Request for CV with Bibliography

Request for Research Plan

Request for Teaching Summary

Instructions for applying for appropriate licensure (M.D.'s only)

State of Michigan Medical and Controlled Substance/Pharmacy Licenses

Medical Staff Application (M.D.'s with clinical assignments only)

Request for Verification of Education/Transcripts

It can take three-to-five months for this process to be completed, as such, timely completion of each piece is important. You can get additional information on this process from your Faculty HR representative.

Onboarding Your New Faculty Member

Your incoming faculty member will have a number of questions for you. This manual should be provided to that faculty member, which will answer many of the questions and make the transition easier.

The Department of Pathology will pay moving expenses up to 1/12th of the annual salary for new faculty. This includes trips to find housing as well as the expenses associated with the move itself. Receipts need to be kept and submitted to the Faculty HR representative for reimbursement.

In the offer letter, you may have agreed to start-up funds for the purchase of equipment for research. In that case, your new faculty member should have sent you quotes for any major equipment and a list of required supplies before arrival. This equipment can then be purchased in advance and the supplies in place when your new faculty member arrives.

Faculty Orientation will be scheduled through the Faculty HR representative. It will be important that you acquaint your new faculty member with the laboratory space, shared space, equipment available, co-workers in the laboratory as well as making introductions to others with whom he or she may be interacting,

whether in neighboring labs or in the administrative office area. Be available to answer questions and to provide guidance as necessary.

Payroll

Payroll is another area that is divided between the Health System and the Medical School faculty/staff. The Payroll office for Medical School staff is located in the grants administration offices in 5231 Medical Science 1. The Department of Pathology uses an online timekeeping process that is accessed via Wolverine Access for staff and research track faculty. Tenure and clinical track faculty only submit absence forms. Each staff member and research faculty member is responsible to submit a timesheet on either a biweekly or a monthly basis. Non-exempt employees are those who track their time hourly and are paid time and 1/2 for any hours worked in excess of 40 hours per week on a biweekly basis. This would include your administrative assistant and some of your laboratory personnel. Exempt employees are those who track only their exception time (vacations, sick, etc.) and are paid on a monthly basis. These employees do not earn overtime for hours worked in excess of 40 per week.

Below is a chart detailing the type of position, exempt/non-exempt status, and funding source for the various types of staff you may have in your laboratory:

Type of Position	Exempt/Non-Exempt	Funding Source(s)
Undergraduate Student	Non-Exempt	Grant/Start Up Funds
Graduate Student	Not Applicable	1 st Yr: Program 2 nd Yr: Department 3+ Yr: Grant/Start Up Funds (salary, benefits, tuition)
Pre-Doctoral Fellow	Not Applicable	Varies
Post-Doctoral Fellow	Exempt	Grant/Start Up Funds
Research Technician Associate	Non-Exempt	Grant/Start Up Funds
Research Track Faculty	Exempt	Grants/Dept/Discretionary Funds

Effort Certification

The federal government (Office of Management and Budget Circular A-21, *Cost Principles for Educational Institutions*) requires effort certification. To receive federal funding, institutions must maintain an accurate system certifying to the percentage of effort that employees devote to sponsored projects or more than one functional activity (e.g., Instruction and Department Administration). The University of Michigan's (the "University") Facilities and Administrative (Indirect) Cost Proposal must include costs associated with all activities.

To comply with OMB Circular A-21, the University requires effort certification by certain employees. The University's certified effort reports must assure sponsors that funds are properly expended for the salaries and wages of employees working on the projects that sponsors fund.

The University's certified effort reports must identify effort on multiple functional activities performed by an employee. In addition, federal agencies, state agencies, private foundations, and other organizations that provide sponsored funding may require verification that effort is consistent with the terms of the grant or contract.

Employees must certify effort if they:

1. Perform a sponsored activity, or
2. Are compensated by cost sharing related to sponsored activities, or
3. Perform more than one functional activity. (e.g., Instruction and Departmental Administration)

Your Faculty HR Representative will provide you with periodic summaries of how your effort is being funded. You should review this information and contact this individual if there are variances from the funded effort, explaining how your activities vary from this report. Adjustments will be made to ensure that all activities are accurately reflected.

Annually, you will be required to formally attest that your effort is correctly reflected. Your HR Representative will notify you when this is required (late summer).

Employees signing the Effort Certification Report attest to and verify the accuracy of information contained in the report. Annual effort certification education is mandated for all persons required to certify effort. The University is the primary award recipient with oversight accountability to the sponsor. As such, the University may suspend the rights and privileges enjoyed by the Principal Investigator (PI) and the staff when they do not adhere to this policy. If a PI fails to comply with this policy, the University may suspend or withdraw proposal submissions for the PI and may inactivate existing Project/Grants in the

accounting system. Disregard of this policy may also lead to other disciplinary actions in accordance with other University policies.

If you experience a change in activities, you should complete an effort survey, which can be found on our website at:

[http://141.214.4.211/formium/server.asp?form=Effort Reporting Survey2.pdf](http://141.214.4.211/formium/server.asp?form=Effort%20Reporting%20Survey2.pdf)

This survey will be forwarded to your Faculty HR representative who will review the information and if the changes are significant, will discuss this with the Chair.

Mentoring and Career Development

Selecting a Mentor

As a junior faculty member, a mentor will be assigned to you by the Department. This individual is responsible for providing you with guidance in your research, assisting you with grant preparation and manuscript submissions as well as overseeing your development as a researcher. However, you may wish to (and probably should) select multiple mentors from various levels to help you as you grow in your career. According to “360 degree Mentoring” by Elizabeth Collins (Harvard Management Update, March 2008, p.5-7), the ideal mentor is a network of mentors from all levels of your organization. According to Ms. Collins, to have a successful mentoring relationship, you should:

1. **Define your Goals and Expectations.** To find the right mentor, you need to know what you wish to learn from them. Are you looking for technical or strategic expertise? Do you want to learn more about the culture of the institution or do you need someone who can help you build external collaborations? Narrow your goals to four or five objectives and then seek mentors who can help you meet these objectives.
2. **Make Every Mentoring Relationship Reciprocal.** Mentoring should be a two-way street. You have teachable knowledge that you can share with your mentor as well as learning from that individual. The most successful mentoring relationships are ones in which the mentor and protégé share knowledge.
3. **Regularly Evaluate Progress.** Do you and your mentor “click”? Is the relationship productive? You should prepare a list of goals and objectives that are to be met as part of the mentoring relationship and regularly evaluate your progress. Not all mentoring relationships are long-term situations. You may come to the point where you have learned what you need from that relationship and determine it is time to change the relationship to that of peers, rather than mentor/protégé. Be sure to thank

your mentor and let him know you appreciated his assistance and would like to stay in touch as you transition to the next phase of the relationship.

Requirements for Promotion

When being considered for promotion, your productivity in research, teaching and service are evaluated. Anything done prior to your current appointment is not considered for promotion purposes. For example, if you have 20 manuscripts published prior to being appointed at your current level, but only 3 manuscripts published since, only the three publications will be considered at your promotion review.

Tenure Track Faculty

The Dean's office conducts a mid-term review of all tenure track faculty three years after they have joined the University. At this review, recommendations are made as to what steps will be necessary prior to being recommended for promotion. Unlike the research and clinical tracks, tenure track faculty have a 7-year "clock" during which time they need to be promoted, switched to a different track or be terminated. The requirements for promotion can be found at <http://www.provost.umich.edu/faculty/handbook/5/5.C.html>

Research Track Faculty

There are two Research Tracks in the Medical School.

The *Research Scientist track* consists of four ranks: Research Investigator, Assistant Research Scientist, Associate Research Scientist and Research Scientist. Research Scientist Track faculty actively contribute to the Medical School's research mission. These appointments are intended for individuals whose primary activity is research; either in a team science/co-investigator role or as an independent scientist.

The *Research Professor track* consists of three ranks: Research Assistant Professor, Research Associate Professor, and Research Professor. A Research Investigator may be promoted to either track. Research Professor Track faculty actively contribute to the Medical School research and teaching missions. These appointments are intended for individuals whose primary activity is research; and who also teach and mentor within the context of research in the Medical School. Substantive curricular teaching by Research Professor Track faculty may be reflected in a fractional appointment in another track.

The requirements for promotion can be found at <http://med.umich.edu/medschool/faculty/appointment-procedures/VI-appointments-research-track.pdf>

If you feel that your productivity warrants a promotion review, please meet with your Division Director, who will go over your CV and discuss your accomplishments. The Division Director will then contact the Chair to initiate the promotion process, should that be deemed appropriate. Promotion applications begin in January with recommendations to the Chair. If the Chair agrees, then the promotion cycle begins. You will need to provide the following information, and possibly some additional information, to the faculty HR representative for your promotion packet:

1. **Curriculum Vitae.** Your CV needs to be in the University of Michigan Medical School approved format. You can see the guidelines at: <http://www.med.umich.edu/medschool/faculty/promopackage/CVguidelines09.pdf>
2. **Teaching Documentation:** This includes a 1-page teaching statement, evaluations from didactic teaching sessions, documentation of mentoring of students, postdoctoral fellows and others in your laboratory as well as your protégés' successes.
3. **Research Statement:** A 2-3-page statement of your research accomplishments and future direction.
4. **Service:** Any clinical service or service provided as part of committees, internal or external; advisory boards, etc.
5. **Referee Letters:** You will need 3-5 letters (depending on your rank) from referees with whom you have not collaborated or trained in the past 10 years. These referees must be at or above the rank to which you will be promoted. You are responsible to provide the names, titles, and contact information. The Chair will send letters to these referees seeking input.
6. **Referee Credentials:** A document that provides information on each referee as to their qualifications to act as a referee on your behalf. This document will include the name, title, address, phone, and e-mail address for each referee as well as a narrative describing their qualifications.

Promotions that begin in January are effective in October of the following year. The promotion process takes almost two years to complete. For more detailed information on the promotion process, go to http://med.umich.edu/medschool/faculty/app_promo.htm.

Maintaining your Teaching Documentation

Maintaining complete and accurate teaching records is vital for your annual reporting responsibilities as well as for promotion applications. Your teaching documentation should include:

1. **Didactic Teaching Evaluations:** Any time you present a lecture, whether at the University or elsewhere, you should ask the attendees to complete an evaluation form. Keep a copy of these forms in your files.
2. **Teaching Record:** Each year you will be asked to complete a teaching record. This record will ask for your teaching activities, the number of contact hours and the overall evaluation/# of responses. This will be broken out by Medical School teaching, Dental School teaching (or other school), Resident Training/Contact Hours, Graduate Program/Contact Hours, Postdoctoral, Graduate and Undergraduate/Contact Hours, and CME/Other Contact Hours. You need to keep track of this information throughout the year so that this report can be completed on an annual basis. It is a good idea to keep a copy of your slides and handouts for each class you teach.
3. **Training Record:** You need to maintain a training record of all past and current trainees. This record should contain the trainee name, pre/post doctoral status, dates of training, Prior degrees/Institution/Year, Research Topic and Current Position or Source of Support. The training record is generally maintained in a Microsoft Excel spreadsheet.

Mentoring Your Laboratory Personnel

As the head of a research laboratory, you are now responsible not only to direct the research but also to mentor everyone in your laboratory, to ensure they reach their full potential as scientists. While mentoring styles differ based on personality, some recommended activities include:



1. **Weekly Laboratory Meetings:** These meetings are opportunities for your laboratory members to present on their research findings and for you to share any recommended learning opportunities with your lab. You may wish to set a schedule for each member of the lab to present his or her work. You may also wish to provide your lab with notices of internal seminars that may be related to their work as well as

external meetings that may be especially relevant and for which you have the funding to send one or more of your lab members.

2. **Weekly Journal Club Meetings:** Each week, a member of your laboratory presents a journal article that is relevant to his or her research

topic. This helps your laboratory stay abreast of the most current research findings and techniques.

3. **Weekly One-on-One or Small Group Meetings:** Many investigators meet individually with lab members on a weekly basis to provide them with guidance on their research efforts. You may choose to group a team of lab members who are working together on a project into one meeting slot.
4. **Research Seminar Attendance:** Laboratory members should be encouraged to attend the weekly Thursday afternoon Research Seminar Series. This is an excellent opportunity to learn not only what research is going on in the Department, but also from visiting scientists from around the country.
5. **Manuscript Reviews:** It is likely that from time to time you will be asked to review a manuscript prior to publication. It is very helpful for your postdoctoral fellows to provide them with an opportunity to review these manuscripts and prepare a critique to be discussed with you. You are still responsible for reviewing and critiquing the manuscript, but this gives your fellows a chance to learn how to critically evaluate the work of others.
6. **Manuscript Preparation:** As your research comes to fruition, your laboratory will need to publish its work. The University of Michigan offers professional writers who can aid in writing the manuscripts for a fee, if this is difficult for you or for members of your laboratory. <http://www.med.umich.edu/medschool/research/support/editors.htm>. In addition, you can seek guidance from other widely-published scientists and your mentor(s). You may wish to seek the input of faculty who are serving on Editorial Review Boards for various journals in your field.
7. **Establish SMART goals.** Often we give our lab members goals that are not specific and leave them unsure of exactly what we expect of them to reach that goal. Comments such as “I expect you to work hard and be productive” are difficult to measure and impossible for a lab member to know whether or not they are meeting these goals. SMART goals are:
 - a. **S** – Specific
 - b. **M** – Measurable
 - c. **A** – Attainable
 - d. **R** – Relevant
 - e. **T** – Time-limited

An example of a SMART goal would be:
 You will complete the experiments for the manuscript, write the manuscript and prepare the figures by a certain date.
 This type of goal will leave the lab



members with no doubts as to your expectations, making it easier for them to reach their goals. You will also be able to more easily evaluate them on whether or not they have reached the goals you have set for them each year.

There are several resources listed in the Appendix that can also aid you in mentoring your laboratory members as well as aid you in your career development.

Developing Management Skills

The University of Michigan offers numerous opportunities for you to develop your management skills. One of the best programs offered is the Foundations for Successful Leadership program

(<http://www.med.umich.edu/Leadership/training/foundation/index.htm>). This program will walk you through all of the personnel issues and policies that relate to the University of Michigan. The program includes applied learning and skill development in the following areas¹:

- Becoming a successful leader
- Using the strength of diversity
- Managing performance and conflict
- Hiring the best and setting expectations
- Creating high performance teams
- Administering compensation and payroll
- Understanding legal and regulatory responsibilities
- Promoting excellent customer service
- Managing finances
- Managing health and safety



This is a time-intensive program which requires one day per week for 8-10 weeks to complete. If this is unrealistic for your situation, you may choose to participate in the Leadership At All Levels Seminars that are held on a regular basis. These are typically only a couple hours long and cover many of the same topics, just spread out over several months rather than weeks. In addition, Human Resources Development (<http://www.umich.edu/~hrd/>) and MLearning (<https://mlearning.med.umich.edu/>, requires password) offer many workshops and online opportunities from which to learn. The Center for the Education of Women (<http://www.umich.edu/~cew/>) offers many growth opportunities for members of the University and the community, including their Advanced Leadership Seminar series for women.

In addition to these formal classroom-based learning opportunities, you should take advantage of the years of laboratory management experience from senior research faculty. You can mine the knowledge of not only your official mentor, but also others whom you may note have a highly-productive and collegial laboratory.

Resources you may wish to purchase include: *The Handbook of Research Laboratory Management* by Virginia P. White and *Laboratory Management: Principles and Processes* by Denise M. Harmening.

Where To Get Help With Difficult Situations

As the head of a new laboratory, you are sure to be faced with numerous difficult situations with which you may need assistance. Below is a listing of types of issues you may face and where you can find the help you need.

Budgetary Issues: As a new researcher, maintaining a budget and keeping your expenses on track is a challenging and often daunting task. Your Grants Administration staff are here to help you with a variety of budget reports to assist you in keeping on track. They are able to meet with you on a monthly basis to go over your prior month's expenses and to help you consider your upcoming expenses and how to appropriately budget for them. If you are looking at hiring new staff for your laboratory, remember, the cost of the employee is not just salary, it is salary and benefits, which equals 1.3 times the salary.

Benefits: Each member of your laboratory will have benefits in accordance with the type of position held. You will have a variety of benefit packages held by members of your team. Faculty, postdocs, students, full-time staff and part-time staff all have different packages. If a member of your lab needs assistance with their benefit package, you can refer them to their Human Resources Representative or you can refer them to the Benefits Website <http://www.benefits.umich.edu/>. Prior to approving vacation time, you need to be sure the employee has adequate vacation time in the "bank". You can find this balance by 1) Maintaining a log for each employee, 2) Looking on Wolverine Access, under the Manager Self Service account (you need HR to get this set up for you), or 3) Calling the departmental payroll staff who can access the information for you.

Equipment Repair: If a piece of equipment is not functioning properly and needs to be repaired, you will first contact the vendor of the equipment who holds the service contract to determine the cost of the repair and to schedule repair. Then go to the grants administration office and they will prepare a PO to pay for the repair. If the equipment will cost too much to repair, they can assist you with determining if funds are available to replace that piece of equipment and help you with ordering.

Grant Writing Assistance: The Medical School offers a number of courses that can assist you with your grant writing, including how to use EndNote, how to insert graphics into your NIH grant application, and how to format a grant. In addition, you have been assigned a faculty mentor who is able to assist you by reading your grant and providing you with feedback on how to improve your grant's probability of success. The Office of Research maintains a scientific editors list that you may wish to engage to review your documents for proper English, spelling, formatting and grammar (<http://www.med.umich.edu/medschool/research/support/editors>). Your Administrative Assistant can prepare all of the "shell" documents for you and can help you with proofreading, typing, formatting, and converting documents from

Word to a PDF format. Your Assistant can also coordinate with others on the grant to ensure all the pieces are ready on a timely basis. When your shell is ready, it needs to be submitted to the Pre-Award Representative to go through the Medical School approval process. This needs to be submitted at least 10 days before the due date of the grant. The science portion of the grant needs to be submitted at least 3 days prior to the due date of the grant. Your Pre-Award Representative will do the actual grant submission on your behalf.

Personnel Performance Issues: If you have someone in your lab who is not working up to the level you feel is appropriate or who has committed ethical breaches, you need to immediately contact Medical School Staff Human Resources for the Department of Pathology. They will walk you through the process of helping your employee improve work or to begin the termination process.

Personality Conflicts: Sometimes you will face situations where people in your lab will have personality conflicts. These may stem from cultural differences, age differences, work style or simply personality differences. If you need help, one resource available to you is Mediation Services (<http://www.umich.edu/~mediate/>). Mediation services provide confidential, free services to all members of the University, including temporary staff. Your Human Resources Representative may also be able to provide assistance in mediating the issue and provide you guidance on how you may be able to resolve the conflict.

Faculty and Staff Assistance Program: You may find that you or one of your lab members need additional support services for personal issues or job related issues. The Faculty and Staff Assistance Program (<http://www.umich.edu/~fasap/>) offers confidential counseling services, brown-bag lunch educational programs on a variety of topics and other services. Whether you need assistance with managing change, improving communication, dealing with grief, alcohol or substance abuse, managing stress, parenting skills or a host of other topics, the FASAP program is free, confidential and available for your use. Supervisors who need assistance in dealing with a staff member can contact them 24/7, as needed, at 734-936-8660.

LABORATORY

Developing Your Start-Up Budget

As you prepare to set up your laboratory, you will need to know what to expect as far as laboratory expenses are concerned. You will work very closely with the Director of Finance in Pathology's Grants Administration office to get your budget set up. You will be assigned a Finance Team that consists of a Pre-Award Representative, a Post-Award Representative, an Accountant, and a Buyer, in addition to the Director of Finance.

Many of the items in your budget, such as large equipment and start up funds, will be detailed in your offer letter. While each laboratory is different, you can expect the following:

Personnel Expenses: Salary and Benefits will account for 60-70% of your annual budget. A rough estimation of cost is 1.3 x the annual salary for salary plus benefits. Postdocs are paid the NIH postdoctoral salaries plus benefits, Graduate Students who are in their 3rd year and beyond cost you both salary and tuition plus benefits, technician salaries vary greatly depending on their expertise. Consult your staff HR representative to get a clear picture of what your personnel expenses will entail.

Supply Costs: On average, you can expect \$1,500 per person per month, or \$18,000 per person per year. If your laboratory works with some exceptionally costly reagents, this number could double. All supplies, including pens and paper, are purchased through your Finance Team in the Pathology Grants Administration Office.

Animal Expenses: This varies greatly depending on your particular research needs. Most labs find the animal expenses to be 10-20% of their annual budget. The animal rates are published on the ULAM website (<http://www.ulam.umich.edu/ordering/PerDiem.htm>).

Equipment Costs: The cost of your equipment is often included in your start up package. Since equipment costs vary significantly, you will need to work closely with the Director of Finance when you seek to purchase new equipment.

Equipment Maintenance: Maintenance contracts are negotiated on most equipment for a minimum of 1 year to an average of 3 years. Some pieces of large equipment may have a longer-term contract. Your Finance Team will work closely with you to determine the type of contracts you will need.

Shared Equipment and Facilities: There may be charge backs for use of some shared facilities. If you need to utilize shared facilities, please check with them for the charge back amounts so that you can budget appropriately.

Continuing Education and Travel: Faculty at the Assistant Professor level or higher are allocated CME funds annually by the Department. Your CME Assistant is located in the Chair's office. This is for your use in traveling to meetings, purchasing books, paying publication expenses, etc. For your laboratory staff, you will need to provide funding from your grant or start up funds. You should budget for this expense annually.

Facilities Expense: Any minor changes or repairs that need to be made to your laboratory space will go through your Facilities Manager in the Pathology Grants Administration office. Any requests for larger cost changes or repairs will go through the Director of Finance, Director of Finance and Administration and the Chair of the Department. In most cases, these expenses are borne by the Department. You will be notified in advance if any of these expenses will be borne by your laboratory.

Determining Equipment Needs

The determination of what you will need should be completed BEFORE you sign your acceptance letter, as you may need some specialized, high-budget pieces of equipment to successfully pursue your research. You need to be sure that the Department is aware of your needs and supportive of providing you with access to that type of equipment.

One of the best ways to determine what type of equipment and supplies you will need in your new laboratory is to keep a log of all the equipment you currently use in your current laboratory. What type of glassware, and how much, do you use in your research? What types of pipettes and instruments do you need? Write down all of the equipment that you use – centrifuges, refrigerators, freezers, ice makers, specialized equipment, etc. Are there particular models of the equipment that you prefer?

Once you have your log written up, check with your new Division Director or Mentor to see what type of shared equipment is available for your use and where it is located. It is possible that you will not need to invest in everything yourself. Take a tour of your new lab space – is it configured in a manner that will be effective for your research? Provide a list of any major equipment that will need to be purchased to your Division Director or Chair to see if the Department is able to include any of it in the start-up package. Generally, this information will be requested from you by the recruiting Department so that you have the best possibility of success in your new laboratory.

After you have arrived, if you find that you didn't mention a piece of equipment you needed, bring it to the attention of your new Chair and see how that need may be addressed. There may be a nearby lab that is willing to share with you or you may have room in your start-up funds budget to purchase that piece of equipment. As your lab grows, you will likely need to add new pieces from time to time. Until you are funded by grants, your start-up fund is your primary source of support for you, your employees, supplies, equipment and space rental.

Approved Vendors Information

The University of Michigan maintains an Approved Vendors listing on "M-Marketsite", which can be found on Wolverine Access. Prior to being able to access M-Marketsite, you will be required to complete a training program. Information on accessing M-Marketsite can be found at http://www.procurement.umich.edu/mmarketsite_howto.html.

If the equipment you need is not available from the vendors on M-Marketsite, you can obtain quotations from other vendors and submit them to your purchasing representative in the Grants Administration office.

A listing of vendors specific to Laboratory and Life Science Supplies and Equipment (as of January 2012) include:

- Bostwick-Braun Co.
- Bio-Rad Laboratories
- Cryogenic Gases
- DOT Scientific
- EMD Chemicals Laboratory Products
- Fisher Scientific
- Fisher Scientific - Chemical
- Fisher Scientific – Life Sciences
- IDT Oligos & Custom DNA Synthesis
- Integrated DNA Technologies Inc.
- Invitrogen Corporation/Life Technologies.
- ISC BioExpress
- PerkinElmer, LAS
- Qiagen, Inc.
- Roche
- Sigma Aldrich Corporation
- VWR International.

This list is not static and new vendors may be added periodically. There are numerous other vendors in other categories for general supplies, furniture, etc. A complete list by commodity can be found at http://www.procurement.umich.edu/commodity_matrix.html.

Website

It is recommended that each laboratory should have its own website set up. The Department of Pathology has a comprehensive website and can host your site using pre-defined templates. The Web Team can also assist with development and provide training to you, your Assistant, or the member of your lab designated to maintain the site.

Before contacting the Web Team (Path-WebTeam@umich.edu), you will want to consider the following:

1. Select the main tabs for your site – Do you want a page on lab members, a page on research, links to biosketches, publication lists, a protocols database, lab meeting schedule, etc.? What type of information are you going to want on your website? It may be helpful to view other laboratory websites to get ideas. These can be found at <http://www.pathology.med.umich.edu/research/researchfaculty.html>.
2. Get pictures taken of your lab. You will probably want a group photo taken, individual portrait shots, and possibly some candid shots, shots of specialized equipment, etc. Contact Pathology Imaging to schedule the photography session(s).
3. Determine who in your lab will be the point person for developing and maintaining your website. This may be your Administrative Assistant, Lab Manager, yourself or someone else. Preferably, you will want to select someone familiar with Dreamweaver, the software used to build our website pages. If no one has Dreamweaver knowledge, your Web Team can provide the software and onsite instruction, or you can send someone to classes, which are offered in various venues throughout the University. You can log into MLearning to find course offerings. <https://mlearning.med.umich.edu/>.

When you have an idea of how you would like to proceed, you will want to contact the Web Team. They hold regular meetings and will be happy to add you to the agenda. Bring your materials with you and they will provide you with support services, as necessary, to make your website a reality.

Once your website has been established, you need to be sure the data remain current. The web development point person in your lab needs to have updated information provided to him/her on a regular basis. Publications to add, new staff coming on board, students leaving the lab, breakthrough discoveries you want posted etc. are all examples of items that will need to be maintained. As content is updated, a member of the Web Team will ensure that the information is published at your request.

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DEPARTMENT OF PATHOLOGY

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Welcome to the Department of Pathology Research page.

We have a robust research program, including 65 research faculty in 35 research laboratories, and 8 endowed professorships.

Total extramural research projects for 2011 include 44 NIH R01 grants, 2 T32 training grants, and significant projects from other extramural sources. Our department is currently ranked #7 in NIH funding among all US Pathology departments.

Our [faculty](#) serve as NIH study section grant reviewers, scientific and society journal editors and reviewers, symposium organizers, invited lecturers, and are recipients of many national and international honors and awards. Additionally, they serve as mentors to over 65 postdoctoral fellows and 26 predoctoral students within our department.

The [Office of Research](#) in the Medical School provides additional information to assist researchers.

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Compliance

Prior to beginning your research, a number of approvals need to be obtained and specific training for you and your laboratory personnel completed. This includes:

PEERRS (<http://my.research.umich.edu/peerrs/>)

ULAM Training Core (<http://www.ulam.umich.edu/Training.htm>)

OSEH Training (http://www.osehtraining.umich.edu/oseh_training/)

HIPAA Training

(<http://www.med.umich.edu/u/compliance/area/privacy/training.htm>)

PEERRS (<http://my.research.umich.edu/peerrs/>)

(Program for the Education and Evaluation in Responsible Research and Scholarship) — online modules in selected RCR topics, human research and animal research.

Program for Education and Evaluation in Responsible Research and Scholarship (PEERRS) is a web-based instruction and certification program for members of the University community engaged in or associated with research. For some faculty, staff and students, PEERRS certification is required, which is obtained by passing a short quiz for each required topic area. All UM faculty, staff and students are invited to use the modules and certification tests to improve their knowledge and awareness of responsible research practices. Certification in a module is granted for three years from the last date the user passes a certification test. See the Certification and Recertification (<http://my.research.umich.edu/peerrs/help.php#cert>) topic for requirement details.

What modules are offered and what topics do they cover?

1. **Foundations of Good Research Practice:** publication/authorship, intellectual property, conflict of interest, signatures, plagiarism, misconduct reporting, information security
2. **Research Administration:** UM procedures/forms, PI responsibilities, pre- and post-award activities, federal regulations, important contacts
3. **Conflict of Interest:** definitions and recognizing potential conflicts, responsibilities toward students/colleagues, consulting and conflict of commitment, sponsored project and technology transfer issues
4. **Publications and Authorship:** Responsibilities of authorship, rights of co-authors, proper conduct by reviewers
5. **Animal Research:** Principles and regulations for animal care and use, regulatory and ethical obligations of researchers, reporting requirements and obtaining approval
6. **Human Research:** On October 23, 2006, the University of Michigan adopted content from the Collaborative IRB Training Initiative (CITI) <https://www.citiprogram.org/citidocuments/aboutus.htm> . The PEERRS

human subjects modules are comprised of multiple CITI modules. See the chart below for details.

PEERRS Modules	CITI Modules
Biomedical & Health Sciences	History & Ethical Principles
	Basic IRB Regulations and Review Process
	Informed Consent
	Research with Protected Populations - Vulnerable Subjects Overview
Social & Behavioral Sciences	History & Ethics
	Defining Research with Humans Subjects
	Regulatory Overview
	Assessing Risk in Social and Behavioral Sciences
	Informed Consent
	Privacy and Confidentiality

Unit for Laboratory Animal Medicine (ULAM) Training Core

<http://www.ulam.umich.edu/Training.htm> University Committee on the Use and Care of Animals (UCUCA)-required courses for research faculty and staff and on-the-job training for ULAM staff members

Occupational safety and environmental health training programs Training Courses

(<http://www.osehtraining.umich.edu/osehtraining/>) classes in safe laboratory methods, radiation safety, and other resources

The following resources provide training to assist you with your required certifications.

“Top Five GCP Violations: Creating an Action Plan to Assure FDA Compliance”
(<http://www.michr.umich.edu/programs/ed-mentoring.html>) Training Courses/Seminars offered by Michigan Institute for Clinical & Health Research (MICHHR)

IRB-Med workshops (<http://www.umich.edu/irbmed/education.htm#work>) IRB regulations, assistance with applying to the IRB for approval, informed consent issues

HIPAA training (<http://www.med.umich.edu/u/compliance/area/privacy/training.htm>) — Medical School

IRB for Health Sciences and Behavioral Sciences
(<http://www.irb.umich.edu/audiocasts/audiocasts.html>) — Audio programs on informed consent

Seminars, including Introduction to the IRB, eResearch Basics, Informed Consent Fundamentals, and How to Submit an Amendment

(<http://www.irb.umich.edu/workshops.pdf>)— IRB for Health Sciences and Behavioral Sciences

DRDA Workshops on compliance with sponsored project administration

(http://www.drda.umich.edu/training/descriptions_all.html) (A-21, cost accounting standards, etc.) — Division of Research Development and Administration

Animal Use/UCUCA

Any research that involves vertebrate animals is regulated through the University Committee on the Use and Care of Animals (UCUCA)

(www.ucuca.umich.edu). UCUCA is responsible for ensuring the humane care and use of animals at the University of Michigan while fostering a cooperative relationship with the research community



UCUCA provides researchers with training on the proper use and care of animals in research, reviews protocols submitted that involve animals, conducts inspections of animal housing and any rooms, facilities and laboratories where animals are kept, and ensures compliance with University, State and Federal laws and guidelines concerning research animals.

If you will use animals in your research, you will need to go to the Forms page of the UCUCA website and download an Animal Use eRAM application (www.ucuca.umich.edu/form.htm). You must have an approved protocol in place before any animals can be ordered or used in research. This site also includes Animal Procurement & Disposition forms, which are needed to procure animals.

You and any laboratory members who will interact with the animals used in your research project will need to go through mandatory training offered by UCUCA. This training can be scheduled at your convenience and UCUCA makes every effort to ensure that the training is done in a timely manner so as not to unduly delay your research. Any questions regarding training can be directed to ulamtraining@umich.edu or 763-8039.

Other helpful links:

Unit for Laboratory Animal Medicine (ULAM):
<http://www.ulam.umich.edu>

Animal Concern Hotline: 734-763-8028
<http://www.ucuca.umich.edu/hotline.htm>

Animal Management (eRAM)
(<http://www.ucuca.umich.edu/>) (select eRAM
Login at the top right corner)



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eResearch: <http://eresearch.umich.edu/>

Human Tissue/Clinical Research (IRB) (<http://hrpp.umich.edu>)

Laboratory Safety

The Department of Pathology has a Laboratory Safety Manual online at <http://www.pathology.med.umich.edu/Safety Manual/>. This manual covers everything from Personal Protective Equipment to Waste Management. The following pages are excerpts from this manual, covering

The Chemical Hygiene Plan

Liquid Nitrogen

Personal Protective Equipment

Radiation Safety

Regulated Medical Waste Plan and Disposal

Shipping Biological Specimens

Chemical Hygiene Plan

Introduction:

The University of Michigan Health System, Department of Pathology is committed to providing a safe working environment and is aware that employees have a right to know about health hazards associated with their work. This document is designed to identify various risks of using hazardous chemicals in the workplace and the appropriate safeguards and practices that are in place to protect all employees from these hazards. It is the responsibility of the Department Manager and all supervisors to see that all employees learn these risks and are aware of the proper means of protection.

In 1990, the Federal Occupational Safety and Health Administration (OSHA) promulgated a Code of Federal Regulations (29 CFR 1910.1450) entitled, "Occupational Exposure to Toxic Substances in Laboratories". One of the provisions of this document was the requirement to develop and implement a written Chemical Hygiene Plan (CHP). Appendix A of this document outlines eleven required "Components of the Chemical Hygiene Plan". This plan should be used in conjunction with the University of Michigan Policy # 05-03-026 Hazardous Waste Management . The Chemical Hygiene Plan also defines the employer's and employee's responsibilities.

Responsibilities

Employer Responsibilities

- Complete and annually update a hazardous (unique) chemical inventory. Send one copy to Occupational Safety and Environmental Health (OSEH) and a semi-annual submission to Department of Facilities Services, Safety, Building, and Environmental Management(SBEM).
- Provide for the protection of employees from the health hazards associated with hazardous chemicals.
- Inform the employee of the OSHA Permissible Exposure Limit (PEL) for the hazardous chemical inventory. Have copies of the Material Safety Data Sheets available.
- Keep the exposures to hazardous chemicals below the Permissible Exposure Limits (PEL's).
- Establish criteria to be followed to reduce employee exposure by means of engineering controls, personal protective equipment, and hygiene practices.
- Develop a means of determining the proper function of fume hoods and other personal protective equipment.
- Pre-approve and provide training and documentation for procedures, activities or operations that include the use hazardous chemicals.
- Explain the physical and health hazards of the hazardous chemicals in the laboratory.
- Provide for exposure monitoring if there is reason to believe an action level or PEL has been exceeded. When indicated provide medical surveillance.
- Notify the employee of exposure monitoring results in writing within 15 days of receipt.

Employee Responsibilities

- Follow Standard Operating Procedures (SOPs) as written for use of hazardous chemicals.
- Use and maintain personal protective equipment (PPE) as mandated in the Chemical Hygiene Plan (CHP).
- Inspect safety equipment before use and use only if inspection proves the equipment is in good working order. Report all deficiencies to the Chief Technologist/Supervisor.
- Inform Chief Technologist/Supervisor immediately of exposure symptoms, accidents or chemical releases and document incident.
- Attend Right-to-Know and all other applicable training sessions.

CHP Data and Review

The Chemical Hygiene Plan Review will be conducted annually and updated as needed. The CHP will also be a part of orientation and annual safety continuing education for laboratory staff. The Department of Pathology Safety Committee is responsible for maintenance and annual review of the Chemical Hygiene Plan.

Material Safety Data Sheets (MSDS)/Postings

The department uses chemical manufacturer's information from the MSDS to ascertain if a chemical is considered **hazardous**. The MSDS also provides information on appropriate PPE to wear, engineering controls to use, storage, emergency procedures, disposal and PEL's in regard to exposure monitoring.

An effort must be made by each lab to obtain manufacturer MSDS for all chemicals (including cleaning products) used or stored in the lab. The MSDS must be made readily available to employees who work in the lab or Pathology. The MSDS may be stored as hard copies in the lab or on-line. If stored on-line, clear instructions must be available to all employees as to how to access the MSDS.

Material Safety Data Sheets (MSDS) may be obtained directly from the manufacturer. Many manufacturers make MSDS available on their web-site catalogs (i.e. Fisher, Sigma, Roche, etc.). If not readily available from the manufacturer, web-site MSDS can also be obtained on-line through the Safety Central web link at:

<http://www.med.umich.edu/i/safety/>

- Click on "MSDS lookup"
- Follow the instructions for the 3E search home page or select a direct MSDS search engine from the list of sites at the bottom of the page. The Vermont Siri MSDS Index is a good site to start at.
- In the Vermont Siri Index you may search by manufacturer or by chemical. If searching by manufacturer, select the appropriate letter for the manufacturer. If searching by chemical name, type in text box and click on search.

- If you have difficulty obtaining an MSDS, you may call SMS for assistance at 764-4427.

Required Posting: The following two items must be posted in each workplace:

1. Current "MSDS(s) for this Workplace" poster. (#2105 rev. 4/98)
(<http://www.med.umich.edu/i/safety/environment-hazmat.htm>)
2. Current "Michigan Safety & Health Protection on the Job" poster (#2010 rev. 3/04) This must be requested by calling SMS at 764-4427.

The Current "New or Revised MSDS(s)" poster (#2106 rev. 4/98) is also recommended.

Chemical Inventory

Each laboratory shall maintain a "Unique Chemical Inventory" list (UCI) as described in UMHS safety document

<http://www.med.umich.edu/i/safety/hazmat/UCIInstructions.htm> .

Physical and health hazards of chemicals in the workplace are listed on the UCI.

A chemical inventory must be performed by each laboratory annually, along with continuous monitoring of chemical supplies. New chemicals or reagents are added to the list as they are received. Any chemical that is a **physical and/or health hazard** is considered to be hazardous under the Hazard Communication Program. Chemicals listed as hazardous are classified as such by the Department of Transportation (DOT), Environmental Protection Agency (EPA), and Code of Federal Regulations (CFR) 1910.1200.

Chemicals with Physical Hazards	Chemicals with Health Hazards
Combustible – pyrophoric	Irritating – toxic
Flammable - reactive	Corrosive – sensitizing
Explosive – water reactive	Carcinogenic
Compressed gas	

The unique chemical inventory lists must be located in areas where the chemicals are used. Chemicals are listed alphabetically according to the most common name (e.g. bleach). The following information for each hazardous chemical must be listed on the UCI:

- manufacturer
- name and phone number
- catalog/UPC number
- health/physical hazards
- access to MSDS.

Components of the Chemical Hygiene Plan

From OSHA's Code of Federal Regulations 29 CFR 1910.1450, Appendix A - found online at <http://www.gpoaccess.gov/cfr/index.html> , (select eCFR, select Title 29, select 1910.1000-end). The following items must be addressed within the CHP:

1. Basic Rules and Procedures
2. Chemical Procurement, Distribution, and Storage
3. Environmental Monitoring
4. Housekeeping, Maintenance and Inspections
5. Medical Program
6. Personal Protective Apparel and Equipment
7. Records
8. Signs and Labels
9. Spills and Accidents
10. Training and Information
11. Waste Disposal

Details of each of these items are as follows:

1. **Basic rules and procedures** (Standard Operating Procedures for Chemical Safety)
 - a. Minimize all chemical exposure and avoid an underestimation of the risk.
 - b. Do not perform a procedure that uses a hazardous chemical if you are alone in the lab.
 - c. Read the label of the chemical prior to use.
 - d. Observe the precautions listed.
 - e. Do not smell or taste chemicals.
 - f. Do not pipette by mouth.
 - g. Wear a laboratory coat or apron when handling hazardous chemicals.
 - h. Wear appropriate gloves when the potential for contact with toxic or hazardous materials exists.
 - i. Remove gloves carefully; thoroughly wash hands and forearms upon completion of work and before leaving the work area.
 - j. No eating, drinking, smoking, gum chewing or applying cosmetics or lip balm in the work area where chemicals or infectious materials are present.
 - k. No storing, handling or consuming food or beverages in storage areas, refrigerators, glassware or utensils that are used for chemical operations.
 - l. Do not wear sandals, perforated shoes or any shoes made of

canvas.

- m. Confine long hair and loose clothing.
- n. Wear appropriate eye protection when potential for chemical splashing exists.
- o. Use appropriate respiratory equipment as necessary.
- p. Ensure adequate ventilation for the type of chemical(s) used.
- q. Keep work area clean and uncluttered. Keep chemicals and equipment properly labeled and stored; clean up work area on completion of operation or at end of day.
- r. Ensure unimpeded access to safety showers and eyewash stations.
- s. Handle and store laboratory glassware with care to avoid damage; do not use damaged glassware.
- t. Seek information about hazards, plan appropriate protective procedures, and plan positioning of equipment before beginning any new operation.
- u. Be aware of unsafe conditions and report them to your supervisor.
- v. Follow the hazardous material accident and spill procedure immediately in the event of a hazardous chemical spill.

2. **Chemical procurement, distribution, and storage**

- a. Purchase what can reasonably be expected to be used within three months.
- b. Rotate chemical inventory. Indicate date received and date opened.
- c. Store compatible chemicals together.
- d. Store flammable chemicals in an explosion proof cabinet.
- e. Store toxic chemicals and acids in sturdy chemical resistant secondary containers. Label all containers: "CAUTION: ACID - PREVENT SKIN CONTACT".
- f. Less hazardous chemicals may be kept on shelves in appropriate area or in refrigerators.
- g. Store chemicals below eye level if possible.
- h. Do not place chemical containers in direct sunlight, underneath a sink, or near a heat source.
- i. Keep all chemical containers off floors, carts, and electrical equipment.
- j. No food is permitted in refrigerators designated for chemical storage.
- k. Consult MSDS's, labels, supervisors, or SMS if you are unsure of proper storage of chemicals. (See Chemical Compatibility Chart)
- l. Storage areas should be cool, dry, ventilated and well lit.
- m. Appropriate chemical spill kits and fire extinguishers should be kept near storage areas.

- n. Containers must be sealed, capped and in good condition.
- o. Keep the outside of containers clean of chemical residue.

3. Hazardous chemical storage specifics

- a. **Flammable Liquids** are required to be stored in flammable liquid storage cabinets approved by the National Fire Protection Association (NFPA) or flammable liquid storage rooms meeting OSHA requirements (29 CFR 1910.106). Oxidizers, acids and other incompatible chemicals are prohibited from being stored together with flammable liquids. Flammable liquids must be kept away from sources of ignition.
- b. **Corrosives** can be acidic or basic. Acids and bases should never be stored together. Corrosives should not be stored with flammable or combustible materials. Spill trays should be used to contain leaks.
- c. **Oxidizers** Store in an isolated area away from flammable or combustible materials. Do not mix strong oxidizers with combustible materials, they may form explosive products. Examples: perchloric acid, chromic acid, and hydrogen peroxide.
- d. **Toxic and Poisonous Materials** Store in isolated areas, do not store with acids or flammable materials.
- e. **Cryogenic Liquefied Gases** Store in cool, well ventilated areas. Cryogenic gases boil off at room temperatures and must be vented to prevent dangerous excessive pressure build up. Vented gas may cause cold-contact burns.
- f. **Water Reactive Compounds** Store in isolated location away from any water sources.
- g. **Peroxide Forming Compounds** Do not store with organics or solvents. Store in airtight containers in a dry, dark and cool but not freezing area. Date upon receiving and opening and dispose immediately upon reaching expiration date. Examples: diethyl ether, vinylidene chloride, sodium amide, styrene, tetrahydrofuran, and dioxane.
- h. **Special Compounds** Follow specific storage instructions from chemical manufacturers. Do not mix combustibles with perchlorates to avoid explosive compounds.
- i. **Compressed Gas Cylinders** must be secured in an upright position away from excessive heat, highly combustible materials, and areas where they might be damaged or knocked over. A chain, bracket or other restraining device shall be used to secure cylinder at all times. Cylinder status as to "full" or "empty" must be indicated

on cylinder and valve cap must be in place whenever cylinder is not connected for use. Cylinders must be stored in ventilated areas. Cylinders of oxygen and other oxidizers must not be stored within 20 feet of fuel-gas or other combustible materials unless separated by a specific barrier.

4. Chemical Compatibility Chart

Note: Identify class to which a specific compound belongs, read unsafe combinations with other classes both horizontally and vertically.

x = Unsafe Combinations

Chemical Class

1	Inorganic Acids																					
2	Organic Acids	x																				
3	Caustics	x	x																			
4	Amines & Alkaholamines	x	x																			
5	Halogenated Compounds	x																				
6	Alcohols, Glycols & Glycol Ethers	x																				
7	Aldehydes	x	x	x																		
8	Ketones	x																				
9	Saturated Hydrocarbons																					
10	Aromatic Hydrocarbons	x																				
11	Olefins	x																				
12	Esters	x																				
13	Halogens																					
14	Ethers	x																				
15	Acid Anhydrides	x																				
16	Oxidizers	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Example: Esters are incompatible with:
Inorganic Acids, Caustics, Amines & Alkaholamines

Transportation Hazardous chemicals should be transported to and from or within the lab using a chemical carrier.

Hazardous Waste Volume

The volume of hazardous waste generated in the laboratory must be kept to a minimum. Continual efforts are to be made to minimize hazardous waste with the goal of reducing the amount generated each year or decreasing the degree of hazard a particular waste poses to the environment. This may be accomplished by using any or all of the following methods: Acquisition Restraints, Process Changes, Recovery Techniques, Recycling, and Redistribution or Sharing of Resources.

Environmental Monitoring

Monitoring of airborne concentrations is to be performed when testing or redesigning hoods or other ventilation devices or when a highly toxic substance is stored or used regularly (e.g., 3 times/week)

Exposure monitoring is done to assure that an employee's exposure to a substance does not exceed permissible exposure limits (STEL & PEL) specified by OSHA occupational health standards. UMHS monitors employees at risk for ethylene oxide, formaldehyde and xylene vapor exposure annually or with any change in procedure, personnel, or other circumstances that may result in an increased risk of exposure.

Representative samples are collected at 8-hour and 15 minute intervals for each area with potential exposure. These samples are collected from air in the employee's breathing zone and sent to an accredited laboratory for analysis.

Employees are monitored and their supervisors are informed of results within 15 days of receipt of results by Safety Management Services. A copy of the results is given to the employee and another one is filed in the employee's personnel file.

Results exceeding the PEL and/or STEL are investigated and the employee undergoes medical screening which includes the occupational disease questionnaire.

Housekeeping, Maintenance and Inspections

Housekeeping plays an important role in safe utilization of hazardous chemicals. The following housekeeping rules apply:

- Work areas and aisles are to be kept clean and uncluttered.
- Contaminated glassware is to be cleaned daily.
- Use a brush, dustpan and forceps to pick up broken glass. Place broken glass into unlined biohazard bucket for disposal.
- Dispose of chemical and biohazard waste according to specific laboratory or departmental plans.
- Spills are to be cleaned up immediately according to established protocol from work areas and floors.
- Waste is deposited in proper receptacles and properly removed from the work area.
- Doorways and walkways shall not be blocked or used for storage.
- Access to exits and emergency equipment shall never be blocked.

Medical Program (Medical Surveillance)

If signs or symptoms of overexposure result from working with a chemical or as a result of injury when working with chemicals in a Pathology Department laboratory, a medical examination or consultation will be done by a licensed physician at no cost to the employee.

The employee must:

- a. Inform their Chief Tech/ supervisor immediately.
- b. Initiate a Work Connections Illness or Injury Report Form. Return it to Chief Tech.

Include information the examining physician will need to know:

- Chemical identity and MSDS sheet if available
- Exposure history and specifics, including quantitative data if available
- Signs and symptoms

The department will receive a written opinion from the examining physician.

This will include:

- a. Recommendations for medical follow up.
- b. Results of all tests.
- c. Medical condition found which may have been caused by work exposure.
- d. A statement signed by the employee indicating the results of examination have been discussed.
- e. Results of employee and/or area monitoring if warranted. If monitoring is recommended, a written report will be available to the employee within 15 days.

These records are to be maintained by SB&EM and Employee Health Services. The Chief Technologist will maintain a record of reported accidents for Chemistry.

Personal Protective Apparel and Equipment (PPE)

Non-Hazardous Exposure

Many of the chemicals used by the Pathology Laboratory do not present an exposure hazard when used as directed following standard chemical safety procedures and using protective equipment as outlined in this plan. These procedures are referred to as "Routine" procedures.

Hazardous Exposure

When procedures do involve the use of hazardous chemicals, personal protective equipment (PPE) and Engineering Controls are available for protection of employees and to reduce exposure to hazards associated with those

chemicals. The "Chemical Inventory and CHP" document for each specific lab indicates appropriate PPE to be used for each hazardous chemical.

Personal Protective Equipment (PPE) Equipment/Supplies Codes

Biological Safety Hood	FH
Safety Goggles	SG
Chemical Gloves	CG
Latex Gloves	G
Mask	M
Face Shield	S
Protective Apparel	

Biological Safety (Fume) Hoods Hoods in the Chemical Pathology lab are maintained and inspected annually by OSEH at 3-6973.

Safety Goggles In most cases the CHP chart suggests the use of safety goggles in conjunction with a hood. If the hood being used in these cases has a glass sash that may be pulled down to protect the face then the safety goggles may be omitted.

Gloves Latex or similar type examination gloves provide splash protection for all the hazardous chemicals used. In the cases where Acetone or Xylene is being used the gloves will protect for short procedures such as slide cleaning and mounting after which the gloves should be removed due to deterioration.

Chemical Gloves The handling of some extremely hazardous chemicals may require sturdier more chemically resistant gloves than latex examination gloves.

Masks or Respirators Masks or respirators must be available where use is necessary to maintain exposure below permissible exposure limits. These items must be used in accordance with 29 CFR 1910.134.

Face shields or bench top shields Must be available for activities that pose a possibility of hazardous material splashing or spattering.

Protective Apparel Buttoned up lab coats or aprons should be used at all times when doing any laboratory bench work. These items must be removed and left in lab when leaving general lab area.

Engineering Controls Engineering controls are used to eliminate or minimize exposure to hazardous chemicals. These items are used in conjunction with PPE items where occupational exposure still remains. Engineering controls are

examined, maintained, and replaced on a regular schedule to ensure their effectiveness.

The following engineering controls are being used to prevent or minimize exposure:

Controls In Use

- Hand Washing Facilities (designated hand washing sinks)
- Eye Wash Stations
- Safety Shower Stations
- Sharps containers
- Biohazard Waste Containers
- Mechanical Pipettes
- Fume Hood/Bio Safety Cabinet
- Safer Sharps Devices

Chemical fume hoods - Local exhaust ventilation systems such as fume hoods and slot hoods are the preferred and primary method of controlling exposures to hazardous chemicals. All fume hoods are certified for correct performance upon installation and then annually thereafter. This is performed by OSEH at 3-6973.

Eye wash fountains that are plumbed to a drain are flushed for three minutes weekly by department personnel and checked monthly by maintenance. Records are maintained by the department and by maintenance. Other Eye wash fountains are inspected monthly and records are maintained by Maintenance (UMHHC Policy [05-03-026 Hazardous Waste Management](#)).

Safety showers are inspected monthly and records are maintained by the maintenance department (UMHHC Policy [05-03-026 Hazardous Waste Management](#)).

Fire extinguishers are inspected monthly for the correct level of charge, proper placement, accessibility and physical condition by the Maintenance department. All extinguishers are tested annually by a technician.

Records

University of Michigan Health Center and Department of Pathology have established and maintain accurate records for each employee. Record locations and duration of availability are as follows:

Incident records shall be retained by Safety Management Services. (Accidents/injuries requiring medical procedures are made part of an employee's medical records. See #2.)

Medical records shall be retained by Employee Health Service for the duration of employment plus thirty years.

Exposure monitoring records shall be maintained by Safety Management Services.

Training attendance records are maintained by the department.

All records are kept, transferred, and made available in accordance with 29 CFR 1910.1020.

Signs and Labels

Emergency telephone numbers shall be posted or easily accessible for contacting emergency personnel or facilities, supervisors, and laboratory workers.

Chemical Identity Labels All containers of chemicals will be labeled. Labels must not be removed or defaced. All hazardous chemical labels will contain:

1. Name of the chemical
2. Name and address of the company that made or distributed the chemical
3. Physical hazards
4. Any important storing or handling instructions
5. Health hazard.
6. Basic protective clothing, equipment and procedures that are recommended when working with this chemical

Read the label and follow instructions before handling or opening any chemical container.

If a chemical is transferred to another container, such as making a different concentration, all secondary container labels need:

- Full name of the material in the container
- Physical
- Health hazards

Location signs for safety showers, eyewash stations, spill kits, first aid kits, other safety equipment and exits must be posted (may all be listed on one inclusive floor map that is openly posted in the lab).

Laboratory hazard warnings must be posted on all main entryways to each laboratory. Areas where food and beverage consumption are allowed must be designated by signage.

Hand washing sinks must be identified by signage to distinguish those sinks from sinks that are used for dumping non hazardous laboratory liquids.

Spills and Accidents

Chemical Spills

Hazardous substances used in work areas require preplanning to respond safely to chemical spills. Risks include accidents or injuries, chemical releases, fires and explosions. Cleanup of chemical spills should only be done by knowledgeable and experienced personnel. Spill kits with instructions, absorbents, reactants, and protective equipment should be available to clean up minor spills. Minor spill substances can be absorbed, neutralized or otherwise controlled at time of release, by employees in the immediate area if safety hazards such as fire, explosion, chemical exposure, or oxygen deficient atmosphere **do not** exist. A minor chemical spill is one that staff is capable of handling safely without assistance of safety and emergency personnel.

Minor Spill Clean Up:

- Contain spill and secure the area
- Evacuate the spill area
- Consult Material Safety Data Sheet
- Don appropriate personal protective equipment
- Use appropriate spill clean-up materials
- Decontaminate the area
- Dispose of waste properly

All other chemical spills are considered to be **major**.

Major Spills

In an **emergency**, Monday through Friday, 7:30 am - 4:30 pm, call Safety Management Services at 764-4427 and provide the following information:

Location
Nature of emergency
Names of chemicals involved
Your name
Phone number that you are calling from

For hazardous chemical spill emergencies after hours, call Hospital Security at 936-7890. Security shall notify OSEH personnel (via DPS) by the departmental emergency call list at UM-DPS.

All accidents, whether resulting in injury or damage, should be carefully analyzed with the results reported to all who might benefit. An Incident Report must be filled out and forwarded to SMS. A blank copy of report form can be found at www.med.umich.edu/i/sms in the Hazardous Materials section.

General Accident and Injury Procedures

Accidents or injuries that occur and require medical treatment must be reported and treated immediately. In case of personal (staff) exposure:

1. Consult chemical product label or MSDS
2. Call Employee Health, Monday – Friday, 7:30 a.m.-4:30 p.m. or the Emergency Department after hrs.
3. Take the product label or MSDS for examination by the medical provider.

In general, follow these instructions for exposure:

- a. **Eye contact:** Promptly flush eyes with water for 15 minutes and seek medical attention. If employee is wearing contact lenses he/she should immediately flush face with water and at same time remove contact lens.
- b. **Ingestion:** Encourage victim to drink large amounts of water, if applicable per MSDS.
- c. **Skin Contact:** Promptly flush affected area with water and remove any contaminated clothing; use a safety shower if available when contact is extensive. Remember to remove shoes if legs and feet are splashed.
- d. **Clean Up:** Minor spills can be absorbed, neutralized or controlled by employees in immediate release area if safety hazards such as fire, explosion, chemical exposure, or oxygen deficient atmosphere **do not** exist. Promptly contain and clean up spills according to OSHA guidelines, using appropriate protective apparel equipment and proper disposal. Notify supervisor and/or Safety Management Services in event of a spill.

Training and Information

Training is a necessary and important part of the Hazard Communication Program. The employer must provide employees with information and training to ensure that they are aware of the hazards of chemicals present in their work area. **All employees receive training at the time of their initial assignment to a work area where hazardous chemicals are present and prior to introducing new hazardous chemicals into a work area.**

The training/information sessions shall include:

1. Information in regard to any operation in the work area where hazardous chemicals are present, including:
 - Chemical procurement, distribution, and storage
 - Hazardous procedures, substances, and/or equipment
 - Biohazardous materials
 - Operations requiring special prior approval
 - Special equipment, experimental procedures, or unique hazards
2. The availability and location of the Chemical Inventory List, the Chemical Hygiene Plan document, and the Material Safety Data Sheets (MSDS).
3. Methods and observations used in the department to detect presence of chemical releases. *List (monitoring, visual appearance, odor, etc.):*
4. Measures to protect employees from these hazards, including:
 - a. Standard Operating Procedures
 - b. Work practices
 - c. Emergency procedures
 - d. Personal protective equipment (PPE) and Engineering Controls.

Waste Disposal

Hazardous waste is labeled according to The University of Michigan Hazardous Waste Manual developed by OSEH. When a labeled waste container becomes full, bring it and its manifest to B2G420 on the far side of the hospital dock. A valid Hospital ID is required to enter this room. Waste materials are picked up from B2G420 by Waste Management or campus HazMat, if approved by SMS. All waste must be properly packaged and manifested.

A partially filled waste container may not remain in the laboratory longer than 3 months. No hazardous wastes may be poured down the drain. The University of Michigan's waste disposal procedures allow only non-regulated, non-coagulating sugars and salts to be poured down the drain. All other chemicals are considered hazardous by the University of Michigan.

General Waste Storage Guidelines

The following general guidelines apply to all chemical wastes:

- **Incompatible Chemicals:** Keep incompatible chemicals separate. (See Chemical Compatibility chart, pg. 8)
- **Aqueous/Organic:** Do not mix aqueous and organic chemicals. A mixture that forms two phases - one aqueous and one organic - must be separated.
- **Aqueous Solutions:** Keep acids separate from bases. List each anion and cation in the solution. Of particular importance are the metals, cyanide, and sulfide. Avoid including organics.

- **Batteries:** Batteries are collected for recycling. Place dry cell batteries in a 5 gallon pail available from HazMat. Once full, Mon. - Fri., 7:30 am - 2:00 am, call Environmental Dispatch at 6517 for a pick-up, and the full pail will be replaced with an empty pail.
- **Cyanides and Sulfides:** Keep these materials separate from other wastes. These may include pure compounds or aqueous solutions. Call HazMat at 3-4568 for a pick-up.
- **EP Toxic Metals:** The following metals (in metallic or compound form) should never be discarded with organics: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, copper, nickel, thallium, zinc. Keep these materials separate from all other wastes and label properly.
- **Explosive Materials:** Explosive materials, such as picric acid (<10% H₂O) and its derivatives or certain azo compounds or perchlorates, must be separated from all other wastes and packaged individually. Notify HazMat for a special pickup of these items.
- **Hazard Classes:** Separate hazard classes are required to keep incompatible chemicals apart. Each different chemical in a container should be listed on the label or on an accompanying sheet of paper. Stick a label for hazard class on each container (i.e. flammable liquid). If a chemical possesses more than one hazard property, choose two most severe hazards and label container for both hazards.
- **Labeling:** All waste bottles must be fully labeled with originator's name, room number, building, start of accumulation date, Environmental Protection Agency (EPA) Identification number, and contents of container. Waste labels can be ordered through HazMat at 3-4568. List all contents in each container. List each organic, sodium or any other metals, and hazardous anions and cations in mixtures. Use indelible ink and write legibly. If unsure of proper labeling for a specific material, contact HazMat at 3-4568.
- **Liquids/Solids:** DO NOT combine liquid and solid chemical wastes in the same container. Place solids in wide mouth jars or buckets. HazMat recommends disposing liquids in gallon jugs.
- **Metallic Mercury:** Keep metallic mercury and other materials contaminated with metallic mercury separate from all other wastes and label properly.
- **Organo-metallics:** Keep organometallic wastes separate from all other wastes and label them.
- **Polychlorinated Biphenyls (PCB's):** Keep polychlorinated biphenyls and other materials contaminated with PCB's separate from all other wastes and label with concentration (ppm) and aroclor if known (four digit number) located on the ballast.
- **Pyrophoric Materials:** Pyrophoric materials must be separated from all other wastes and packaged individually.
- **Unknowns:** Unknowns must be separated from all other wastes.
- **Water-Reactive Chemicals:** Keep water reactive chemicals separate

from all other wastes. Label and manifest for pick-up by HazMat.

- **Hazardous Waste Pickup:** Refer to Hazardous Waste Packaging (below) for waste packaging instructions for pick-up. Contact HazMat at 3-4568 to arrange for pick-up.
- **Fill Lines:** Buckets and wide mouth jars should have at least 1 inch of free space below the rim. Gallon jugs should have at least 1 inch of free space below the base of the neck. Partially filled containers are acceptable.
- **Cleanliness:** The outside of all waste containers must be clean. If material has been spilled on the outside, it must be wiped off.

Hazardous Waste Packaging

Before a shipment of hazardous waste can be legally transported off-site, the shipping container must meet specific Department of Transportation (DOT) regulations. The shipping containers must be adequate to withstand physical stress, vibration, temperature, and humidity extremes that are often encountered in transportation, and without any leakage.

Packaging containers (bottles, cans, lids, etc.) in contact with hazardous waste must be resistant to any chemical action or properties of the waste.

For hazardous chemical waste labeling instructions and disposal, contact Safety Management Services at 764-4427 or Hazmat at 3-4568.

Appendix:

- Chemical Inventory and Hazard Analysis
- Department of Pathology Policy for Reducing the Volume of Waste
- The University of Michigan Safety Standard CHP Hazard Communication
<http://www.umich.edu/~oseh/> press <Guidelines>, <Hazard Communication Program>
- Michigan Right to Know Law
- Michigan Safety and Health Protection on the Job
- Contingency Plan and Emergency Procedures 40 CFR Ch1
- OSHA Regulations (Standards 29CFR) Occupational Exposure to Hazardous Chemicals in Laboratories 29CFR Part 1910.1450 http://www.osha-slc.gov/OshStd_data/1910_1450.html

REVISION HISTORY

REVISED BY	DATE	COMMENTS
DMH	11/19/07	New Document

Liquid Nitrogen (LN)

1. Use of Liquid Nitrogen (LN)

- Liquid nitrogen (LN) is frequently used for the purpose of cooling.

2. Hazards Associated with Exposure to LN / Handling Precautions

- Material Safety Data Sheet (MSDS) for LN is available in the work area of use.
- Prevent all direct contact with cryogenic liquids. Cryogenics freeze tissue on contact and can cause permanent damage.
- Use only in fully ventilated areas. Nitrogen gas is colorless, odorless, tasteless and potentially lethal. It reduces the concentration of oxygen and can cause suffocation. As liquid nitrogen evaporates, the resulting nitrogen gas displaces the normal air and breathing air that is less than 18% oxygen may cause dizziness, unconsciousness and even death.
- *Thus, liquid nitrogen must always be stored and used ONLY in areas that are fully ventilated.*
- Handle and store LN in well-ventilated areas. LN easily displaces oxygen and poses an asphyxiation hazard.
- Never store LN in a sealed container since this can cause a rupture or an explosion. Ensure pressure relief mechanisms are open and kept clear.
- Special containers are required. Cryobiological storage containers are specifically designed and constructed to withstand the extreme temperature variances involved in handling LN. These special containers should be filled slowly to avoid the expansion stress that occurs as a result of the rapid cooling. Too much stress can damage the container.
- Do not seal the containers. Cryobiological storage containers are designed to function with little or no internal pressure. The use of any tight-fitting stopper or plug that prevents the adequate venting of gas builds up pressure that could severely damage or even burst the container. Even icing or accumulated frost can interfere with proper venting and containers should be checked for such obstructions.
- Handle containers with care. Containers should always be stored in an upright position. Tipping the container or letting it lie on its side can result in spillage and may damage the container or the materials stored in it. Walking or dragging containers could result in a partial or complete vacuum loss. For containers that cannot be easily and safely carried, a roller base can provide safe and easy movement of containers.
- Check container contents weekly. The extremely low temperature of LN provides the protection of the materials stored in cryobiological storage

containers. When all LN has evaporated, the temperature inside the container will rise slowly. The rate of evaporation depends upon the age, condition and use pattern of the container. Opening and closing the container or moving it about will reduce its cooling efficiency. You should check LN levels in your containers at least weekly. If the liquid has evaporated faster than usual or if the container is covered with frost or condensation, the vacuum system may be damaged. In such instances, transfer the contents to another container and remove the damaged one from service.

- Transfer LN with care. The primary hazards of transferring liquid nitrogen from one container to another are spilling and splashing. NEVER overfill the containers.
- Use solid metal or wooden dipsticks. Because of the extremely low temperature of LN, plastic measuring devices tend to become very brittle or even shatter. NEVER use hollow rods or tubes; the gasification and expansion of the rapidly cooling liquid inside the tube will force liquid to spurt from the top of the tube. Always wear insulated or heavy gloves when measuring.

3. Liquid Nitrogen Personal Protective Equipment (PPE)

At *minimum*, PPE that should be utilized when working with cryogenics are:

- Laboratory Apparel: Wear standard laboratory apparel including a fully buttoned lab coat, long pants and closed toe shoes. Shoes should completely cover the feet.
- Face / Eye Shield: Safety glasses should be worn when handling small volumes. When pouring or transferring cryogenic liquids, splash goggles with an approved face shield must be utilized.
- Gloves: Insulated, heavy-duty leather gloves or special cryogen gloves. Loose fitting gloves are recommended so that they may be discarded quickly in the event that any liquid nitrogen splashes into them.
- Equipment: Use tongs to handle frozen objects.
- In case of accidental contact with LN, report any resulting skin/eye symptoms to a supervisor. Supervisor should refer employee to Employee Health Service and/or the Emergency Room. Additionally, Supervision is responsible for adhering to [UMHHC Policy 05-01-005 Accident Investigation and Reporting](#).

Personnel Protective Equipment (PPE)

PPE Defined Personal Protective Equipment (PPE) is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) are not intended to function as protection against a hazard are not considered to be PPE ([OSHA, 1910.1030\(b\)](#)). The employer shall assess the workplace to determine if hazards are present, or likely to be present, which necessitate the use of PPE.

Personal Protection Codes

<u>Code</u>	<u>Equipment/Supplies</u>
VH	Chemical fume hood
SG	Safety Goggles
G	Gloves
LC	Laboratory Coat
FS	Face Shield

PPE Guidelines Personal protective equipment, which includes protective equipment for the face, eyes, head, hands, feet, etc, must be provided for the employee as a safety aid to protect the worker from potential hazards in the workplace.

Exposure Control Plan (ECP) Specific laboratory activities require the use of different types of personal protective equipment as specified by each individual laboratory's Exposure Control Plan (ECP). The following areas each have ECPs, with access to the plans granted to those who work in these areas.

Adult Blood Gas
Autopsy
Blood Bank
Cytogenetics
Cytology
Hematology
Histocompatibility
MMGL
PDS
Phlebotomy
Peds Pulmonary and Blood Gas

Lab coats/Gowns/Aprons

The Department of Pathology and UMHHC supply laboratory coats, gowns, and/or aprons to employees. Use protective gowns, aprons, or lab coats appropriate to the level of risk. Lab coats must be completely buttoned/snapped to protect scrubs and/or street clothing from splattering of reagents or blood and body fluids.

Lab coats worn as PPE when working with potentially infectious material or chemicals must NOT be worn into areas designated as “clean” such as staff lounges, restrooms, office areas, or institutional common areas (i.e cafeteria, hallways, etc.).

When leaving the laboratory, lab coats must be removed. If a lab coat is needed to be worn outside the laboratory area, a clean coat not exposed to blood and body fluids must be worn. Discretion may be used if an employee is transporting specimens or chemicals from one room to another via a non-laboratory hallway. Laundering of lab coats is provided by Continental Linen Service or UMHS Laundry Services. Lab coats must NOT be taken home to be cleaned. Lab coats should be changed at regular intervals (weekly or bi-weekly) to ensure cleanliness.

In the laboratory areas, an area must be provided and designated for the handling of “clean” and “dirty” lab coats. This is only necessary if staff choose to remove the PPE and wear a clean coat outside the laboratory.

All disposable PPE must be disposed of appropriately in the trash. Disposable PPE that is visibly grossly contaminated must be disposed of in a biohazard receptacle.

If an employee’s personal clothing is contaminated with blood or body fluids, the clothing must be removed. The hospital linen service will provide scrubs for the employee. The contaminated clothing must be placed in a plastic bag with the employee’s name and department and taken to hospital linen service to be cleaned.

Eye/Face Protection

Laboratory employees are required to wear the proper eye and face protection meeting ANSI Z87.1 for tasks that expose them to potential biological or chemical hazards.

Prescription eyeglasses DO NOT meet this requirement unless they are made of shatterproof safety-glass or plastic and are equipped with side shields.

Contact lenses DO NOT provide eye protection! Contact lenses will absorb certain solvents and may trap material against the cornea and prevent tears from washing caustic substances away.

Eye/mucous membrane protection against biological hazard (e.g. face shield or mask/visor combination) must be worn when splatter or droplet formation of blood or body fluids is likely. A bench shield may be substituted for a biohazard face shield.

Safety goggles/glasses must be worn when:

- Heating test tubes or flasks.

- Using an apparatus where the contents are under pressure.
- Using certain chemicals.

Ultraviolet (UV) specified goggles must be worn when:

- UV viewing box or Wood's Lamp is in use. Eye exposure to UV light may result in painful inflammation of the conjunctiva, cornea, and iris.
- Work must be done in or about a biological safety cabinet while the UV light is on. This practice is strongly discouraged and prior approval from the area supervisor is required.

Hand Protection

Gloves must be worn for blood and body fluid precautions and when working with heat sources, subzero cold sources, and hazardous chemicals. Gloves must be removed when outside the technical area.

There are different types of gloves for different hand exposures. Proper glove selection for each circumstance is very important. Be sure to wear gloves that provide a close fit: loose fitting gloves or gloves with fingers which are too long for the users do not provide a safe grip.

Employees who experience glove allergies or dermatitis involving the hands must complete an incident report and be evaluated by Employee Health.

Blood and Body Fluids

Approved latex or nitrile gloves must be worn at all times when:

- Handling blood or body fluids
- Performing cleaning operations of equipment
- Performing venipuncture
- Touching patient's non-intact skin
- Cleaning up spills of blood or body fluids

Gloves must be replaced whenever torn or appreciably soiled with blood or body fluids. Gloves must be changed and hand hygiene performed between patients. Hands must be washed immediately after removing gloves if gloves are not to be worn again in the immediate future. When removing gloves, grasp the cuff of the glove and pull the glove off inside out. Avoid touching the skin. Never wash and reuse disposable gloves.

Disposal – if not visibly contaminated dispose in regular trash. If visibly grossly contaminated dispose in biohazard receptacle.

Heat/Cold Sources

Insulated gloves made from various materials are available and required for handling hot and cold (subzero) substances. The correct choice of glove is important: for example Zetex (synthetic material resembling asbestos) and

woven terry gloves provide insulation, but are permeable to steam and liquids. Therefore, non-permeable insulated gloves are required when working with hot liquids and liquid nitrogen or working with an autoclave or with materials recently removed from an autoclave.

Hazardous Chemicals

Several types (latex, nitrile, butyl rubber, neoprene) and weights of chemical resistant gloves are available for use with specific chemicals. NO SINGLE GLOVE TYPE IS RESISTANT TO ALL CHEMICALS FOUND IN THE LABORATORIES. Selection of the appropriate type and weight of glove must be done in accordance with the hazardous assessment for the chemical in use.

Utility and Disposable Vinyl Gloves

Utility and disposable vinyl gloves may be worn for general cleaning duties where there is limited risk to exposure to infectious agents, and where only ordinary household chemicals are in use. Utility gloves may be contaminated and reused unless they are cracked, peeling, torn, punctured, or no longer provide barrier protection. Disposable vinyl gloves are never washed or reused.

Foot Protection

Shoes should be comfortable and must provide the appropriate protection for the job. It is recommended that they have rubber or crepe soles to prevent slipping. Open toed shoes, sandals, and footwear with holes on the top are NOT allowed.

Hazard Assessments

OSHA Regulation [29 CFR 1910.132](#) (General Requirements: Personal Protective Equipment) requires that the employer shall assess the workplace to determine if hazards are present. The Department of Pathology laboratories shall perform such workplace assessments:

- Whenever a new procedure or hazardous chemical is introduced that does not fall under a previously performed assessment.
- Whenever there is a change in previously assessed procedures or move or physical renovation of the workplace that reduces the level of engineering control in the procedure.
- Upon request.

Departmental Safety Representatives are not always aware of all changes being made within the laboratories; therefore, it is the laboratories' responsibility to contact their laboratories respective safety representative when a hazard assessment is needed for any of the above reasons.

Training

The Laboratories will provide training to each employee who is required to use PPE. Training will address at least the following:

- When PPE is necessary
- What PPE is necessary
- How to properly don, doff, adjust, and wear PPE
- The limitations of the PPE, and
- The proper care, maintenance, useful life and disposal of the PPE

Retraining will take place if:

- There is reason to believe that any employee who has already been trained does not have the required understanding or skill
- Whenever there are changes in the workplace which render previous training obsolete, or
- Whenever there are changes in the types of PPE to be used

Certification of training will be maintained with each employee's respective Chief Technologist/Supervisor.

References

McLendon Clinical Laboratories III.B Personal Protective Equipment and Workplace Hazard Assessment

CLSI. *Protection of Laboratory Workers From Occupationally Acquired Infections* (3rd ed.). Document M29-A3 (ISBN 1-56238-567-4).

College of American Pathologists (2006, April 6). *Laboratory General Checklist*.

Gile, T. J. (2007, April). *Complete Guide to Laboratory Safety* (2nd ed.). Marblehead, MA: HCPPro, Inc.

Radiation Safety

The following pertains to laboratory personnel who collect, transport, analyze patient specimens, or handle reagents that contain radioactive materials.

Personnel Exposure

Radioactive sources can include liquids or solids that release radiation above normal background levels. Solids are most likely to be encountered in prostate specimens. See Pathology policy on handling prostate seeds. Seeds must not be handled until cleared by Safety Management Services.

Patients who receive radioactive substances for testing/treatment generally have low levels of radioactivity. The Nuclear Regulatory Commission (NRC) has determined the risk to be low in these specimens. Although radioactivity may be detected, the radiation dose is insignificant.

Excretion of radioactive substances occurs mainly through urine, saliva, and perspiration. Therefore, higher levels of radiation are detected in these specimens, the most being urine and blood.

Radioactive Exposure

The level of exposure to radioactive sources is influenced by the level of activity of the source, distance to the source, and exposure time.

Universal precautions are required for radioactive patient specimens. Special handling precautions are not required, unless specifically stated on a case by case basis.

Collection of Specimens

- Universal precautions are required for collecting specimens.
- Adhere to instructions posted on patient's door.
- In general, NO SPECIMENS or BLOOD DRAWS should be collected by Pathology staff for patients with a "Caution Radioactive Material" sign on the door. Nurses are responsible for the collection and hand delivery of these specimens to Pathology.
- If options of collection by personnel other than Pathology staff are exhausted, the duration of patient contact should be limited to the minimal amount of time necessary to perform patient care duties.
- Biologic specimens may be collected by Pathology staff after approval by Nuclear Medicine. Specimens must be labeled with radioactive material stickers and hand delivered to Pathology.
- Gloves should be put on before entering the room.

- While in the room shoe covers, gloves, and other personal protective equipment that are determined to be necessary as defined by door signs should be worn. Upon exiting, PPE MUST be discarded into containers marked for radioactive waste within the patient's room.
- A clean sink outside of the patient's room should be used for hand washing.
- Pregnant personnel should not have contact with individuals receiving radioactive therapies. See UM Declared Pregnant Worker Policy available from Safety Management Services.

Transport of Specimens

- Specimens from patients receiving therapy (i.e. Bexxar) must be hand carried to the laboratory. The pneumatic tubes should not be used for transport of these specimens.
- Due to the low level of radiation present in a patient's specimen no special radioactive precautions are required for transport to the laboratory.
- Direct handling of specimens should only occur while wearing gloves, and adhering to Universal Precautions.

Specimen Disposal

Specimens that have been labeled as radioactive should be disposed of in 5-gallon radioactive waste buckets after analysis. These buckets are located in the Chemical Pathology area.

Radioactive Reagents

See the Department of Pathology Chemistry Section Radiation Safety for details of handling and disposal of radioactive materials used during testing.

Chemistry has barrels for disposal of liquid and solid Iodine-125 waste. Other forms of radioactive waste require separate disposal barrels.

Radiation Warning Signs and Labels

All areas or rooms where radioactive materials are being used or stored will post the appropriate approved warning and prohibition signage to indicate the presence of radioactive materials.

Appropriate radioactive warning labels will be placed on all containers of radionuclides and waste containers, and shipping containers as mandated via the Department of Transportation and U.S. Nuclear Regulatory Commission.



Radioactive Spills

Notification to a chief technologist, supervisor, senior clinical tech, or director should happen after a spill has occurred. Safety Management Services-Radiation Safety Service must be notified if spills occur on the floor or are identified on laboratory personnel.

- Use the following PPE: double gloves, safety glasses, and lab coat.
- Contain the spill by covering with absorbent material.
- Working from the edge wipe towards the center of the spill.
- Carefully clean using Isoclean solution.
- After cleaning the spill, take a smear using a cotton swab and perform
- A count of the swab using a Geiger counter.
- Counts should be $\leq 3X$ background. Background is measured using a
- Clean cotton swab as a comparison.
- Counts that are $\geq 3X$ background should have a blue pad placed over
- The area with the plastic side facing up. "Caution Radioactive Material" tape should be placed on the pad.
- Smears of the area should be tested weekly until counts are below $3X$ background.

9. Contacts Table 1: Contacts

Contact	Reason for Contacting	Phone Number
OSEH (Occupational Safety and Environmental Health)	Radioactive solid and liquid waste pickup	647-1143 3-4568
Safety Management Services Radiation Safety Service	Radiological spills or questions	764-4427 764-6200
Department of Public Safety	After hours radiological spills	763-1131 or 911
Safety Management Services Radiation Safety Service	Declared Pregnant Worker Policy	764-4294

References

Clinical Radiation Safety Procedures. 2006. (Accessed November 2, 2007, at <http://www.safety.duke.edu/RadSafety/manual/chap11.asp>).

Pathology Department. Radiation Safety in Chemical Pathology. University of Michigan Hospital; 2002. 10 CFR 20. *Standards for Protection Against Radiation*. 2003. <http://www.nrc.gov/reading-rm/doc-collections/cfr/part020/>

UMHHC Policy 05-03-029 Radiation Monitoring Dosimeter.
<http://www.med.umich.edu/i/policies/umh/05-03-029.html>

Occupational Safety and Environmental Health (OSEH)
<http://www.oseh.umich.edu>

Nuclear Regulatory Commission (NRC). <http://www.nrc.gov/>.

NCCLS. *Clinical Laboratory Safety; Approved Guideline—Second Edition*.

Regulated Medical Waste Plan and Disposal

Licensing

All facilities producing regulated medical waste (any waste generated in the diagnosis, treatment or immunization of human beings or animals, in research, or in production or testing of biologicals) are required to obtain a license from the Michigan Department of Environmental Quality. Safety Management Services (SMS) obtains and maintains these licenses.

Types of Regulated Medical Waste

Regulated medical waste (RMW) is defined by law as:

Cultures and stocks of infectious agents and associated biologicals, including laboratory waste, vaccines, media used to grow microorganisms, culture dishes, and related transfer devices.

Liquid body fluids from humans or animals (except urine) which are in containers (plastic or glass) and are free flowing liquid, such as blood, blood products and potentially infectious material.

Semi-liquid body fluids (except urine and feces) which have been saturated or become caked on items and may release blood or other potentially infectious body fluids when compressed during handling.

Pathological waste such as human tissue, organs, products of conception, body parts other than teeth, body fluids removed by trauma or during surgery, autopsy or other medical procedure and not fixed in formaldehyde.

Sharps that have been used in animal or human patient care or in clinical/ research laboratories.

Waste from research animals exposed to agents which are infectious to humans.

Containers

Regulated medical waste may be placed in red bags, biohazard-labeled plastic bags, sharps containers, fiber drums, biohazard boxes, or biohazard buckets.

Sharps must be placed in a properly labeled container designed for that purpose.

Containers must be closable, rigid, puncture-resistant containers that can be secured to preclude loss of contents. Cultures and stocks of material contaminated with infectious agents must be placed in puncture-resistant containers.

Other regulated medical waste such as liquid body fluids, semi-liquid body fluids and pathological waste must be placed in bags or other containers that are closable, impervious to moisture and constructed to contain all contents and prevent leakage of fluids.

Containers must have sufficient strength to resist ripping, tearing, breaking, or bursting under normal conditions of usage or handling.

Labeling

Sharps containers shall be conspicuously labeled with the word "Sharps".

All containers of regulated medical waste (including sharps containers, red bags and biohazard buckets) must be clearly labeled with the following information:

- Universal biohazard symbol, or word "biohazard" printed not less than 1 inch high.
- Calendar date waste was first placed in the container.
- Calendar date the container must be sent to disposal (eleven weeks after waste was first placed in the container).
- Unit or department where the waste was generated.

Handling

UMHHC Environmental Services manages the process of obtaining and changing out RMW containers in the areas they service.

Off-site locations and on-site areas not serviced by UMHHC Environmental Services must describe how this process is completed at their location as part of the site Regulated Medical Waste Management Plan.

Standard precautions including personal protective clothing and equipment (PPE) shall be used at all times when handling materials that may be contaminated with RMW.

Collection and Disposal

Solid RMW is routinely processed through the UMHHC autoclave which steam decontaminates the material and grinds the residue for landfill disposal.

The preferred method for disposing of liquid body fluids and semi-liquid body fluids is by flushing down the sanitary sewer.

Regulated medical waste must be processed for final disposal within ninety (90) days of generation. Off-sites must ensure their RMW is sent to University Hospital at least one week before this date. Sharps containers must be emptied or discarded when they are three-quarters (75%) full.

Packaging and Transport

The department, unit or individual producing RMW is responsible for placing it in appropriate containers and ensuring the containers are securely closed and free of leaks or exterior contamination.

At onsite locations, Environmental Services (ES) staff transports waste at least daily from the collection sites to the centralized autoclave for processing.

At offsite locations, RMW is packed by the producing unit and then picked up and transported to the UMHHC autoclave by a transportation service (Metro Delivery) licensed by the United States Department of Transportation (DOT) to carry regulated medical waste.

Training

The producing unit or department is responsible for training employees in the management of regulated medical waste.

References

Hospital Waste Management: Regulated Medical Waste UMHHC Policy # 05-03-023 Regulated Medical Waste Management

<http://www.med.umich.edu/i/sms/Waste/RMW.htm>

UMHHC Policy # 05-03-026 Hazardous Waste Management

<http://www.med.umich.edu/i/policies/umh/05-03-026.html>

Shipping Biological Specimens

This guideline applies to any employee who prepares biological materials for shipment, or is responsible for receiving shipments of potentially biohazardous materials. Refer to specific laboratory and institutional policies and procedures for more information.

Classes of Specimen Types

Infectious Substances (Category A Infectious Substances)

An infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals. Infectious substances meeting these criteria that cause disease in humans and/or animals, must be assigned UN 2814. Infectious substances which cause disease only in animals must be assigned UN 2900.

Diagnostic Specimens (Category B Infectious Substances)

An infectious substance that does not meet the criteria for inclusion in Category A. Category B infectious substances are shipped with the proper shipping name "Biological Substance, Category B" and assigned to UN 3373.

Procedure for Packaging and Shipment of Biological Specimens

The following are not subject to IATA or DOT shipping regulations:

- Materials that do not contain pathogens or only contains inactivated/neutralized pathogens.
- Environmental samples that do not pose a significant threat of infection (i.e., food, water soil or dust samples).
- Dried blood spots, or fecal occult screening tests.
- Blood or blood components collected for the purpose of transfusion.
- Tissue or organs used for transplantation.
- Patient specimens with no or minimal likelihood that pathogens are present.

For packing instructions for Infectious Substances (Category A Infectious Substances) and Diagnostic Specimens (Category B Infectious Substance) please refer to laboratory specific procedures.

For additional packaging and shipping guidelines and a listing of Category A Infectious Substances, please refer to the University of Michigan OSEH guidelines regarding the [Safe Transportation of Biologics \(DOT/IATA Dangerous Goods\)](#)

Labeling of Shipping Containers

All shipping containers containing biological samples of any category must have the following phrases and/or label:



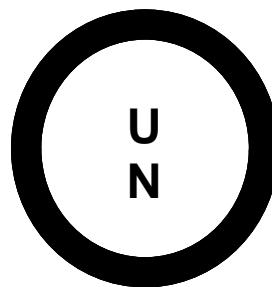
”

’

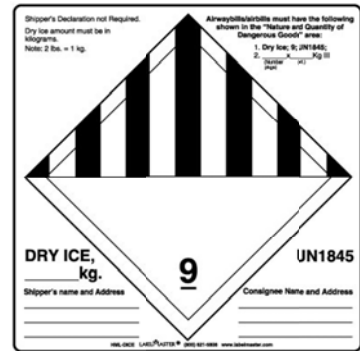
Biological Substance Category B requires the following label:



Infectious Substance Category A requires the following labels:



The use of dry ice requires the following label:



When shipping dangerous goods the following manifest must accompany the shipment:

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (Provide at least three copies to the airline.)

Shipper		Air Waybill No.		Page of Pages		Shipper's Reference Number			
Consignee		FedEx Express							
Two completed and signed copies of this Declaration must be handed to the operator		WARNING							
TRANSPORT DETAILS		Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.							
This shipment is within the limitations permitted by IATA/ICAO (delete non-applicable)		Airport of Departure		Shipment type: (delete non-applicable)					
<table border="1"> <tr> <td>PASSENGER AND CARGO AIRCRAFT</td> <td>CARGO AIRCRAFT ONLY</td> </tr> </table>		PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY	Airport of Destination		<input type="checkbox"/> NON-RADIOACTIVE <input type="checkbox"/> RADIOACTIVE			
PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY								
NATURE AND QUANTITY OF DANGEROUS GOODS									
Dangerous Goods Identification									
LINE of ID No.	Proper Shipping Name	Class. or Division (Subsidiary Risk)	Packing Group	Quantity and type of packaging	Packing Inst.	Authorization			
Additional Handling Information									
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.				Name/Title of Signatory					
Emergency Telephone Number				Place and Date					
				Signature (All typed signatures must be signed if the origin and destination are in the United States or its territories)					
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT AND EUROPEAN TRANSPORT STATEMENT - CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1									

□

For all other labeling specifications and requirements refer to University of Michigan Occupational Safety and Environmental Health Guideline for the Safe Transportation of Biologics (DOT/IATA Dangerous Goods).

<http://www.oseh.umich.edu/pdf/guideline/guideep.pdf>

Training for Shipping Biological Specimens

Training will be conducted by UH Safety Management Services according to the appropriate guidelines established via DOT and IATA utilizing the training materials at the following site: UMHC Department of Transportation (DOT)

Training <http://www.med.umich.edu/i/safety/hazmat/DOT/Definitions.htm>

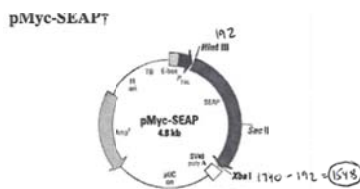
Protocols

As you conduct your research, you will develop new protocols in your laboratory. If these protocols require the use of animals or animal tissue, the protocol must be submitted to UCUCA for approval utilizing the eResearch system (<http://www.eresearch.umich.edu>). You will need your unique name and Kerberos password to access this site. The form is lengthy and will take you a considerable amount of time to complete and you will need to explain all aspects of the protocol in detail.

For human subjects research, infectious agents, or recombinant DNA, you need to submit the protocol to the Institutional Biosafety Committee through eResearch (<http://www.eresearch.umich.edu/>).

It is extremely important that you maintain proper records on any research protocols you establish or use in your laboratory. These may be maintained in a binder or you may wish to maintain them in an online database, or both. The online database would make your protocols available to others who need to use them. It is recommended that you use both paper and database formats for protocol recording. The Pathology Informatics team (936-6740) can assist you in developing a database if you do not have personnel familiar with doing so.

Protocols not requiring institutional approvals should be added to your binder and/or online database as soon as they are found to be repeatable with consistent results. Those requiring approvals, as above, should be added as they are approved. Be sure to include the source protocol information on your new protocols, how this new protocol was developed and the processes for effective use. Each member of your lab should be trained on proper recording of new protocols which they develop and be held accountable for keeping the information in your protocol binder/database accurate and complete.



Note: The entire sequence file has been compiled from information in the sequence database, published literature, and other sources, together with partial sequences obtained by CLONTECH. This vector has not been completely sequenced.

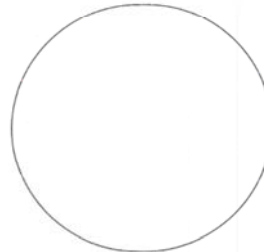
Description

pMyc-SEAP is designed to monitor the activation of c-MYC and c-MYC-mediated signal transduction pathways. Overexpression of the Myc protein causes cell transformation via activation of genes whose products are required for cell growth. The Myc protein forms a heterodimer complex with the Max protein, which binds to the E-box DNA binding element (1) and initiates transcription of genes responsible for cellular proliferation (2). pMyc-SEAP contains the secreted alkaline phosphatase (SEAP) reporter gene (3-5). This vector also contains six tandem copies of the E-box consensus sequence fused to a TATA-like promoter (P_{TAL}) region from the Herpes simplex virus thymidine kinase (HSV-TK) promoter. After cMYC proteins bind E-box, transcription is induced and the reporter gene is activated.

The SEAP coding sequence is followed by the SV40 late polyadenylation signal to ensure proper, efficient processing of the SEAP transcript in eukaryotic cells. Located upstream of the response element is a synthetic transcription blocker (TB), which is composed of adjacent polyadenylation and transcription pause sites for reducing background transcription (6). The vector backbone also contains an Origin for single-stranded DNA production, a *guc* origin of replication, and an ampicillin resistance gene for propagation and selection in *E. coli*.

Vector	Size	Cat. #	Genbank Accession #
pMyc-SEAP	20 μg	Sold as part of #K2044-1	submission in progress

Construct: pMyc-Luc
Made by: Nay Hoss
Parent Vector: HindIII → XbaI luciferase fragment into pMycSEAP
Insert: Myc E Box
Construct Size: ~ 6 kb
Linearize with: _____
Source: CLONTECH
Map:



NOTES: Workhorse plasmid for E box studies

GRANTS

The Department of Pathology provides a Grants Administration Office, located in 5231 Medical Science I, to provide you with assistance in submitting grant applications and managing grants awarded. For contact information, please refer to the Quick Reference/Contact Sheet in the front of this manual. You may also want to reference

http://www.pathology.med.umich.edu/admin_resources/Grants_and_Contracts.html

Pre-Award Assistance

Our pre-award grants specialist is available to:

- Assist with the Application Process
- Assist with the Requirements for Grants
- Serve as the liaison between the Principal Investigator and the DRDA (Division of Research Development and Administration <http://www.drda.umich.edu/>)
- Submit Grants to the DRDA

The timeline for Grants.Gov grant submissions is as follows:

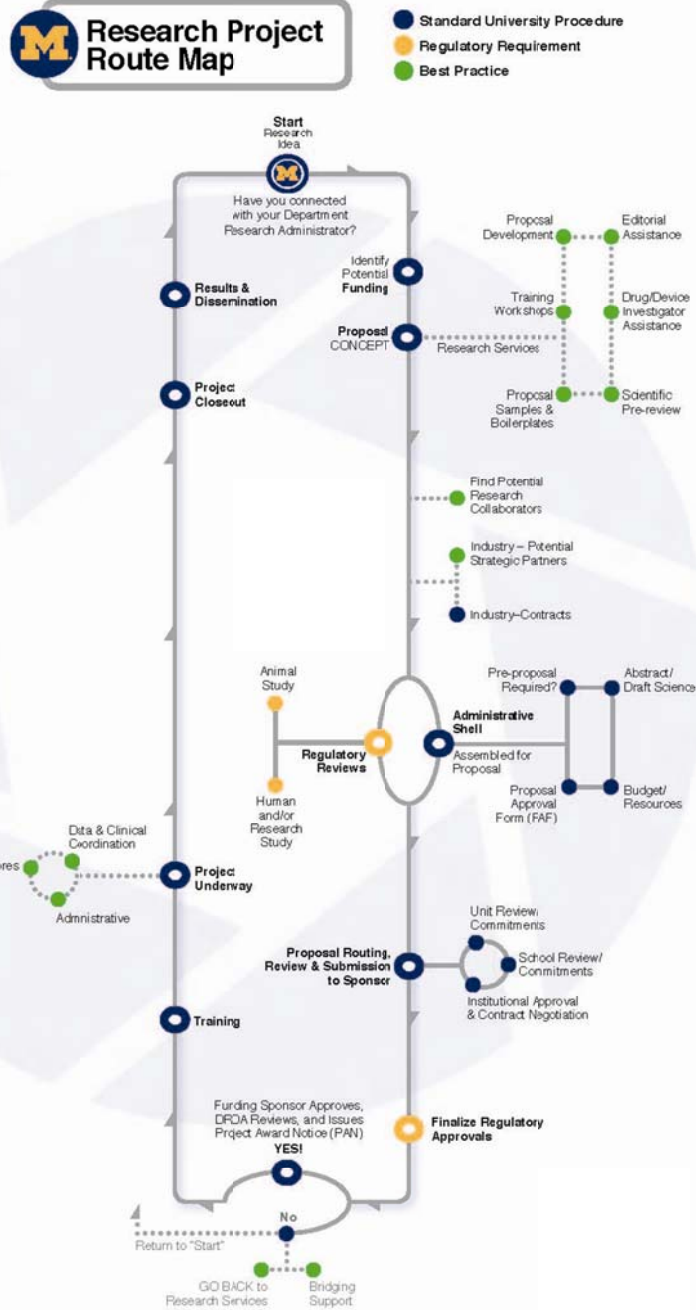
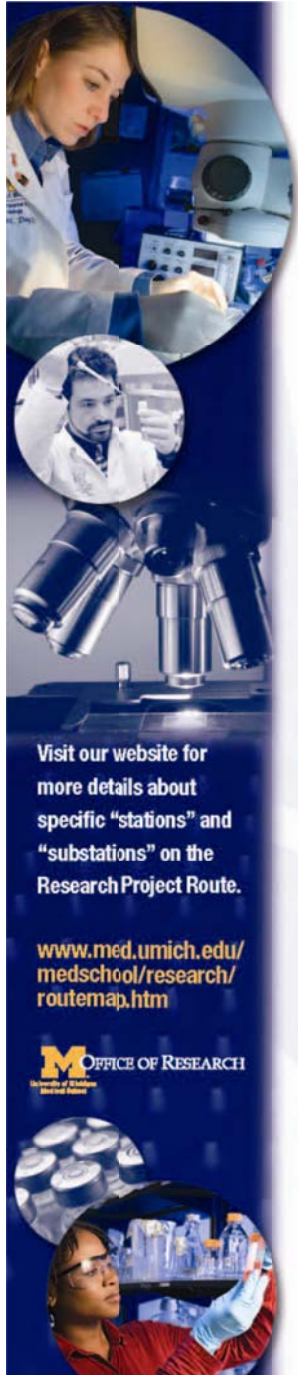
Shell to Pathology Administration: 14 working days prior to due date.
Shell sent to Medical School for Approval: 7 working days prior to due date.
Shell sent to the DRDA: 5 working days prior to the due date.
Complete Application, including Research Plan sent to the DRDA: 3 working days prior to the due date.
The DRDA will submit the application prior to the due date.

Post-Award Management

Our post-award grants specialist is available to assist you with finances, including what the grant will or will not cover. Grant balances are available to you as well as monthly meetings to go over the status of your grants. When grants are completed, the post award grants specialist will also assist you in closing out the award. Reports on your grant finances can be generated on M-Dash and M-Stat. See your post-award grants specialist for more information on these programs and how you can gain access to your reports.

The following pages will provide you with more in-depth information into the grants processes.

Medical School Research Project Route Map



(<http://www.med.umich.edu/medschool/research/routemap.htm>)

NIH Grant Due Dates – 2012-2013

<http://grants.nih.gov/grants/funding/submissionschedule.htm>

Activity Codes	Program Description	Application Form	Cycle I Due Date	Cycle II Due Date	Cycle III Due Date
<p>P Series All - new, renewal, resubmission, revision</p>	<p>Program Project Grants and Center Grants</p> <p>NOTE: Applicants should check with the relevant Institute or Center (IC), since some do not accept P series applications for all three receipt/review/award cycles.</p> <p>Transition to SF424 (R&R): On Hold</p>	PHS 398	January 25	May 25	September 25
<p>R18/U18 R25 All - new, renewal, resubmission, revision</p>	<p>Research Demonstration Education Projects</p>	SF424 (R&R)	January 25	May 25	September 25
<p>T Series D Series All - new, renewal, resubmission, revision</p>	<p>Institutional National Research Service Awards Other Training Grants</p> <p>NOTE: Applicants should check with the relevant Institute or Center (IC), since some do not accept T series applications for</p>	SF424 (R&R)	January 25	May 25	September 25

	all three receipt/review/award cycles. Applicants should refer to the IC Table of Contacts for information for each IC's scientific/research contact for the NRSA T32 program.				
C06/UC6 <i>All - new, renewal, resubmission, revision</i>	Construction Grants	SF424 (R&R)	January 25	May 25	September 25
G07, G08, G11, G13, G20, S11, S21, S22, SC1, SC2, SC3 <i>All - new, renewal, resubmission, revision</i>	Other Activity Codes	SF424 (R&R)	January 25	May 25	September 25
D71/U2R, G12, M01, R10/U10, R24, R24/U24, S06, U19, U45, U54, U56 <i>All - new, renewal, resubmission, revision</i>	Other Activity Codes Transition to SF424 (R&R): On Hold	PHS 398	January 25	May 25	September 25
R01 <i>new</i>	Research Grants	SF424 (R&R)	February 5	June 5	October 5
U01 <i>new</i>	Research Grants - Cooperative Agreements	SF424 (R&R)	February 5	June 5	October 5
UM1	Research	PHS 398	February	June 5	October 5

<i>new</i>	Grants - Multi-Component Cooperative Agreements		5		
K series <i>new</i>	Research Career Development	SF424 (R&R)	February 12	June 12	October 12
R03, R21, R33, R21/R33, R34, R36 <i>new</i>	Other Research Grants	SF424 (R&R)	February 16	June 16	October 16
R15 <i>All - new, renewal, resubmission, revision</i>	Academic Research Enhancement Award (AREA)	SF424 (R&R)	February 25	June 25	October 25
R01 <i>renewal, resubmission, revision</i>	Research Grants	SF424 (R&R)	March 5	July 5	November 5
U01 <i>renewal, resubmission, revision</i>	Research Grants - Cooperative Agreements	SF424 (R&R)	March 5	July 5	November 5
UM1 <i>renewal, resubmission, revision</i>	Research Grants - Multi-Component Cooperative Agreements	PHS 398	March 5	July 5	November 5
K series <i>renewal, resubmission, revision</i>	Research Career Development	SF424 (R&R)	March 12	July 12	November 12
R03, R21, R33, R21/R33, R34, R36 <i>renewal, resubmission, revision</i>	Other Research Grants	SF424 (R&R)	March 16	July 16	November 16
R41, R42 R43, R44, U43, U44, <i>All - new, renewal,</i>	Small Business Technology Transfer (STTR) Small Business Innovation	SF424 (R&R)	April 5	August 5	December 5

<i>resubmission, revision</i>	Research (SBIR)				
F Series Fellowships <i>new, renewal, resubmission</i>	Individual National Research Service Awards (Standard) (see NRSA Training Page)	SF424 (R&R)	April 8	August 8	December 8
R13, U13 <i>All - new, renewal, resubmission, revision</i>	Conference Grants and Conference Cooperative Agreements	SF424 (R&R)	April 12	August 12	December 12
F31 Diversity Fellowships <i>new, renewal, resubmission</i>	Individual Predoctoral Fellowships (F31) to Promote Diversity in Health-Related Research (see NRSA Training Page)	SF424 (R&R)	April 13	August 13	December 13
All Activity Codes Cited Above <i>new, renewal, resubmission, revision</i>	AIDS and AIDS-Related Applications	Based on Activity Code	May 7	September 7	January 7

Review and Award Cycles

	Cycle I	Cycle II	Cycle III
Scientific Merit Review	June - July	October - November	February - March
Advisory Council Round	August or October *	January	May
Earliest Project Start Date	September or December *	April	July

Important Links

Office of Research Webpage

<http://www.med.umich.edu/medschool/research/>

Talent, new Researcher and Training

<http://www.med.umich.edu/medschool/research/talent.htm>

Funding Opportunities

<http://www.med.umich.edu/medschool/research/fundingproposals.htm>

Find Collaborators/Expertise

<http://www.experts.scival.com/umichigan/>

Proposal Preparation

<http://www.med.umich.edu/medschool/research/support/proposal.htm>

Regulatory Reviews

<http://www.med.umich.edu/medschool/research/regulatory.htm>

Managing a Research Operation

<http://www.med.umich.edu/medschool/research/managingresearchop.htm>

Results & Dissemination

<http://www.med.umich.edu/medschool/research/managingresearchop.htm>

Other relevant websites

Preparing and Managing Your First Lab Budget: Finance 101 for New Investigator

http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/0210/preparing_and_managing_your_first_lab_budget_finance_101_for_new_investigators/

NIH's New and Early Stage Investigator Policies

http://grants.nih.gov/grants/new_investigators/

New Investigators Program

http://grants.nih.gov/grants/new_investigators/QsandAs.htm

NIH All About Grants Tutorial (developed by NIAID)

<http://funding.niaid.nih.gov/researchfunding/grant/pages/aag.aspx>

Post Award Administration

<http://grants.nih.gov/grants/policy/gps/8postnew.htm>

Grant Review and Analysis Office
<http://med.umich.edu/medschool/grants/index.html>

Electronic Routing and Proposal Management (eRPM) Issues
<http://med.umich.edu/medschool/grants/erpm-issues.html>

Routing Information
<http://med.umich.edu/medschool/grants/routing-info.html>

Administrative and Research Data
<http://med.umich.edu/medschool/grants/admin-data.html>

The following information was taken from:
<http://med.umich.edu/medschool/grants/index.html>

Helpful Hint Lists for Proposal Preparation: Budget Terms in Plain English

The purpose of this page is to give a working definition of budget terms that turn up in pre- and post-award administration. These are not the "legal" definition! If there are terms you would like to suggest adding or if a link to the "legal" definition would be helpful, please send an email to [Heather Offhaus](#).

Sponsored Research v. Gifts: Although alphabetically this isn't first, this is one of the first distinctions to be made. Sponsored Research is auditable. In exchange for the money sent to you to do research, the sponsor expects it to be used for a particular project with certain restrictions on spending, a financial report due, services in return, or some auditable promises were made from the university. A gift is a sum of money with no strings attached. They aren't specific on what research you have to use it, they aren't interested in more than a blurb for their financial offerings, and there is no commitment of how funds might be spent. Sponsored research can be broken down into several categories such as grants, contracts, clinical trials, material transfers, other sponsored activity, etc.

A-21 Items: This is a peculiar term for certain budget items. The Office of Management and Budget (Federal Government) publishes rules and conditions for use of federal moneys. One of their circulars was numbered A-21 and it directly impacts institutions of higher education that conduct research. In it, they spell out that certain costs cannot be charged to a grant unless they are specific to the project. Most of the components are costs that would normally be covered under the Administrative portion of the F&A rate (see below.) For instance, if you want to charge a sum of money to a grant for copying charges, it has to be justified in the application as project specific (i.e. why do you need it?) for it to be

allowable (Copy charges are requested to cover disseminating data results to the 3 subcontract sites). If it is not justified and approved, the charges cannot hit a federal account. This applies mainly to federal proposals. See Cost Accounting Standards for the implications on non-federal sponsors.

Conflict of Interest (COI): Many institutions now ask you to declare long before award if you will or will not have a conflict of interest. At UM it is the following statement (Yes/No): Do the Project Investigator, Participating Investigators, or other key investigators has significant financial or management interest in the proposed project that may constitute the basis for a conflict of interest?

Cost Accounting Standards: Although it has many issues involved, the basic ideas are that all sponsors should 1) be treated equally and 2) be able to audit for university support "promised" in a proposal. The first of the two basically means that the government wants us to be consistent in how we account for items. If someone non-federal gets a "break" for something, in the same way the government should get that break. Whether it be an indirect cost rate, how we charge out salaries, or allowable costs on grants. Conversely, if the government guidelines limit us, we should also be limiting what we charge other sponsors. So, A-21 items, although a government requirement, should be a non-federal guideline. This isn't to say that you cannot charge certain A-21 costs to a proposal, but should try to be consistent on the allowable charges. As far as the 2nd principle, see Cost Sharing. The term most synonymous with Cost Accounting Standards might be consistency.

Cost Sharing: This easily could be also termed Resource Sharing. Any time we commit effort, supplies, space or other item to a sponsor as indication of support for the project within the university, we have to account for how that commitment will be matched. If you represent that a faculty member will be on a grant 10% effort, it is assumed that the agency awarded the project taking that into consideration. At any time they can come and ask us if the resource (in this case salary) is being provided and audit us for this cost. At UM it is extremely important to account for where that support will come from before submission of a sponsored research project. There are two types of cost sharing. The definitions vary from institution to institution, but UM has a fairly mainstream understanding.

Mandatory Cost Sharing: Any time the resource is quantifiable, it is considered mandatory (and auditable.) This would be an effort level (which is translatable into dollars), a specific amount for a piece of equipment or supply, or anything else you can put in terms of dollars.

Voluntary Cost Sharing: Consists of things that are non-quantifiable. This may be a statement in the justification that says: "The PI will provide other necessary supplies to this project." or "The tuition will be paid from departmental funds." Another instance is when the sponsor imposes a limit. The NIH salary cap is

congressionally set. Any time a person's academic base exceeds that amount, the department has to voluntarily cost share the amount over the imposed cap. (Current cap is available at http://grants2.nih.gov/grants/policy/salcap_summary.htm).

Direct Costs: These are the dollars directly associated with research investigations. It could be professional salary, travel, consulting fees, or equipment (among others). The cost must have a direct benefit to the project.

Indirect Costs (or Facilities and Administrative Costs - F&A): These are what in the business world would be considered overhead. Facilities charges include lights, water, electricity, network hook-ups for the computer, telephone lines. A good rule of thumb is anything behind the wall. Administrative costs are secretarial support, general office supplies, and the cost of people that administer sponsored projects. A rule of thumb here is anything "common" that does not directly benefit a specific project.

Fees: These come under a variety of names. They are costs that have to borne in certain circumstances under a university's accounting/charging system. They all have separate rules and will vary by institution. We bring them up so that you know the types of fees to look for and examples of what they might do. Examples:

Institutional Review Board Fee (IRB Fee): UM charges \$1,800 (no Indirects) for the IRB committee to review protocols for industry sponsored projects with human use. This is a type of charge that is specific to a university that you should check into before submitting an application.

Specialized Service Facility Fees: UM charges users of the animal medicine laboratories a 39.5% direct charge on animal housing in federal grants to cover the overhead involved with housing cages. Since it has an overhead built in, it has to be excluded from the F&A calculation. There are other categories that work similarly at UM - networking charges, computer technology support, and research on a naval vessel.

Quality Assurance Fee: Is just like the animal SSFF, but is 45% on purchase and housing for non-federal sponsors.

Patient Care: Many times, institutions that have clinical care as part of research charge less for certain procedures on a research proposal. In these cases, you need to find out if the prices include the F&A/Indirect charges already. If they do, you can't charge a sponsor for the F&A associated since it is built in and charging would constitute "double-dipping."

Research Participation: There are several different titles of those who participate on a project. In many cases they are different shades of gray.

Project Director: the person who meets the eligibility requirements of the university and is responsible for the academic and budgetary performance.

Principal Investigator: The person who meets the eligibility requirements of the sponsor and is responsible for the academic and budgetary performance (usually the same person)

Co-Investigator: NIH defines this as people who contribute significantly to the scientific progress of the proposal.

Collaborators and Consultants: These terms are fairly interchangeable? The only distinction that has been explained is that Collaborators tend to be those who work in the field of the research and are willing to offer advice and consultation on the direction of the project. Consultants then would be outside the PI's realm of expertise that are willing to advise from a different professional perspective. Then again, the definitions have also been flipped.. NIH no longer recognizes/uses the term Collaborator.

Subcontracts: Also called Consortium/Contractual on NIH budget forms. This is an agreement between another site (corporation, university, hospital) and the parent institution submitting the proposal to perform a component of the research. It is a subcontract if the site work involves specific people who impact the course of research. They would be subject to their own internal cost structures.



Routing Checklists: UMMS Grant Proposal Checklist

The following checklist can be used to verify all information in a grant application. If all items have been addressed, there should not be any questions at the Medical School before approval.

Your departmental grants administrator can assist you to be sure all of your documents are ready to be uploaded to the Medical School Grants Office.

- [Application to Proposed Sponsor](#)
- [Direct Costs - All Sponsors](#)
- [Direct Costs - Subcontracts](#)
- [Budget Justification](#)
- [Indirect Costs\(F&A\)](#)
- [General Proposals \(especially geared to NIH\)](#)
- [University Proposal Approval Form \(PAF\)](#)
- [Signature Approvals](#)

Application to Proposed Sponsor

- We use the eRPM routing system on campus. Signatures that must be obtained prior to routing a proposal to the Dean's Office are that of the Principal Investigator (PI) and any subcontract sites. The eRPM system will automatically require the rest of the signatures.

Direct Costs - All Sponsors

- All math is correct
- Whenever figures are quoted in more than one place, they agree
- If salary equal to effort on the project is required, an increase is built into the first year budget to allow for salary increases which are expected to occur between the time the application is submitted and the time it is expected to be awarded

Direct Costs: Subcontracts/Consortium/Contractual Agreements

- The entire amount to be subcontracted, including indirect costs at the subcontractor's rate, is included in our direct cost budget
- A budget (even if internal) for the subcontracted amount is obtained from the subcontract site.

The Budget Justification

- The role of all persons listed in the budget is described
- All amounts stated in the justification, or further breakdowns of amounts on the budget, agree with the amounts on the budget itself
- All increases/decreases in years subsequent to the first year are explained fully, so that a reviewer will be able to arrive at the same figures as are in the budget for each year
- Any statements as to University "policy" are true according to the U-M Standard Practice Guide

Indirect Costs (F&A)

- Indirect costs have been included at the maximum rate allowed by the sponsor. The rate has been applied to the entire direct costs amount unless sponsor regulations specifically exempt particular charges. If a non-profit sponsor does not have a published rate, 20% may be an appropriate amount to use. Check with Medical School for most appropriate rate for a particular project (msgrants@umich.edu).

Budget Forms (mostly NIH, but may apply to other sponsors)

- The dates at the top are for the first year only, and the beginning date of the first budget period agrees with the date on the face page.
- On federal projects, the equipment category includes only items which are equipment by definition (\$5,000 and useful life >2 years).
- Patient care includes only Hospitals' charges for inpatient or outpatient care that has been built into overhead charges. If you use the Clinical Pricing Tool, the costs do not go in patient care.
- Consortium/subcontracts include only funds which we will subcontract to another institution. Indirect costs are included at that institution's federal negotiated rate. A separate budget is included for each subcontract.

Indirect Costs (F&A)

- The indirect cost figure has been calculated at the [current negotiated](#) rate.
- Computing charges which will be billed through the University's Computing Center are calculated at the separate Computing Center rate
- On a federal project:
 - Equipment items have been excluded before calculating indirect costs

- Alterations and renovations have been excluded before calculating indirect costs
- Appropriate patient care has been excluded from indirect costs
- Tuition has been excluded from indirect costs
- Only the first \$25,000 of each subcontract is included when calculating indirect costs. If the application is a non-competing renewal or supplement of a grant/contract which has included (and met the minimum \$25,000) subcontract to the agency in past funding, the entire amount of the subcontract to that agency is excluded

Face Pages (especially NIH)

- All items have been completed and are correct.
- The type, number, or name of program being applied for is listed as required
- Any budget amounts required agree with the budget amounts for the time period requested on the application budget
- The face page reflects the department of the primary appointment of the principal investigator under "Department" for NIH applications
- And Medical School under "Major Subdivision" for NIH applications

When requested:

- The "type of application" section has been filled in. If a renewal/resubmission, the grant number has been included (for NIH this is 2 letters + 6 numbers)
- The approval date for the most recent indirect cost rate is included (3/1/2012)
- The breakdown of base amounts and indirect cost percentages have been included, both for the first year, and all years requested.

University Proposal Approval Form (PAF in eRPM)

- All sections of the PAF have been completed and are correct.
- Sponsor and school deadlines have been included.
- A copy of the final proposal or administrative shell has been attached for review.

- If the application continues an existing project, the most recent account number of the grant/contract is included under "Continuation, Project/Grant No."
- An Administrative Contact has been listed to answer questions associated with the application
- ALL faculty and research track individuals listed with effort on the project are included, along with unique name, department/unit, and organization code and NO fellows, house officers, research associates, or P & A staff are listed
- PAF includes ALL YEARS of support requested
- PAF includes budget figures for ALL YEARS of support requested and, in the Sponsor section, the amounts agree with the amounts in the application itself
- All explicit commitments included anywhere in the application materials (including cover letters) which will not be paid by grant/contract funds, are itemized. This is considered mandatory cost sharing. Included under "Line Item" is name, department and effort percent or other commitment.
- Indirect costs have been calculated at the funding agency's rate
- For each item of cost sharing, the dollar amount, the department project/grant number, and source of funds are included
- The project/grant number or source listed for cost sharing is appropriate
- Activities: ALL ITEMS are checked either "yes" or "no" and agree with information presented in the proposal. If "yes", all information required in the second column has been filled in
- Human Subjects Committee and Animal Use Committee approvals are current
- Space: All the space required in order to conduct the project, as stated in the facilities section of the application, has been included with the room number, building, and building zip
- Notes: Special circumstances or procedures have been noted. Voluntary cost sharing commitments are documented here. If completing a modular application for NIH, all exclusions have been listed by item, by year.

Signature Approvals

- The Project Director has signed for both responsibility and for Conflict of Interest assurance,



- The eRPM system will automatically route and require every Department and Deans Office that has faculty effort listed in the proposal has signed
- The Associate Chief of Staff for Research of Veterans Administration Hospital (VAH) has signed if VAH is currently supporting salaries applicable to effort on the project. You must obtain sign off outside the eRPM system and attach the approval.
- The eRPM system will route to a Howard Hughes Medical Institute (HHMI) official to sign if they are currently supporting space applicable to the project and are listed on the PAF.
- Every space allocation has the signature approval of an individual AUTHORIZED TO COMMIT THAT SPACE – including the Chief Department Administrator for clinical space. (This may be accomplished by the CDA signing the PAF or attaching a document indicating approval.)
- All negotiations regarding space for the project have been negotiated through the office of the Senior Associate Dean for Research and are accounted for under the Additional Space section.

If you have any questions, please contact the Medical School Grants Office, msgnants@umich.edu.

Routing Checklists: UMMS Requirements/Applications

Use the following as guidelines for what to include (original plus one copy for our office) when submitting to the Grants Office for review. The categories are listed by type of application.

For any application turned in to the Medical School, the following general rule should be followed: For review, we need a copy of everything administrative or nonscientific plus a statement of work.

- [NIH Research Applications](#)
- [Other Federal Research Applications](#)
- [Foundations](#)
- [Corporations \(Investigational Drug/Device Studies\)](#)
- [Corporations \(Research\)](#)
- [Other Schools' Applications with Medical School Involvement](#)
- [Material Transfer Forms](#)

NIH Applications

<p style="text-align: center;">PHS 398 PROPOSALS</p>	<p style="text-align: center;">SF 424 PROPOSALS</p>
<ul style="list-style-type: none"> • Routed in eRPM • PHS Application • Multiple PI Page • Abstract/Performance Site Key Personnel • Detailed Budget for Initial Period • Budget for Entire Proposed Project • Budgets for Consortium/Contractual Arrangements with institutional authorization • Budget Justification • Resources/Equipment Page • Checklist • Any required Multiple PI Plan 	<ul style="list-style-type: none"> • Routed in eRPM • SF 424 Application • Senior/Key Personnel Profile • Other Project Information <ul style="list-style-type: none"> ○ Abstract Attachment ○ Project Narrative Attachment ○ Facilities Attachment ○ Equipment Attachment • Performance Site Location (s) • PHS 398 Cover Page Supplement • Detailed (Traditional) or Modular Budget • Budget Justification <ul style="list-style-type: none"> ○ Narrative Budget Justification for any variation in the number of modules requested • Budgets for Consortium/Contractual Arrangements with institutional authorization • PHS 398 Checklist • Any required Multiple PI Plan <p>For Modular Proposals: Please document all items that were excluded from the indirect cost calculations on the PAF form under the Notes section. All items should be listed individually.</p>

Additionally for NIH Career Development Awards, include:

(For K01, K02, K05, K07, K08, K12, K22, K23, K24, K25, K26, K99/R00)

Career Development
<ul style="list-style-type: none">• Modified Other Support of mentor (for mentored K Awards)• Statement from Mentor• Environmental and Institutional Commitment to the Candidate• Draft of training plan

Other Federal Research Applications:

For all other types, Generally Required:

- Routed in eRPM
- Face Page
- Abstract
- Budget Forms as required by agency
 - Budgets for Consortium/Contractual Arrangements (if applicable) with institutional sign off
- Budget Justification
- Other Support pages
- Resources

Foundations:

As there are no standardized instructions for foundations, the following is a guideline of sections to include for the Grants Office, if required by sponsor.

- Copy of the sponsor guidelines or web link listed on ePAF
- Routed in eRPM
- Face Page
- Abstract/Statement of Work
- Budget Forms

- Budget Justification
- Other Support pages
- Resources

Corporations (Investigational Drug/Device Studies):

- Routed in eRPM
- Internal Budget on how the funds are projected to be spent (Could use a 7471)
- Rough Draft of the contract that indicates sponsor's proposed funding
- Protocol showing research to be done

Corporations (Research):

- Routed in eRPM
- Copy of application as being submitted to the Sponsor
- Budget as proposed to Sponsor
- Statement of work or proposed research

Other Schools' Application with Medical School Involvement:

- Routed in eRPM (with Medical School department sign off)
- Abstract/Statement of Work
- Budget Forms as required by agency
- Budget Justification
- Biosketches
- Other Support pages (if required and for Medical School faculty only)
- Resources

Material Transfer Forms:

Note: Not all MTFs are required to go through Dean's Office for signature. Consult the DRDA Project Representative or your department administrator for details.

- MTF Page 1
- MTF Page 2 - including brief description of material use
- Draft of agreement between sending institution and the University

http://www.drda.umich.edu/projects/transfers/materials_transfer.html



External Funding Opportunities, Forms & Resources

Electronic Alerts:

- ResearchResearch.com <http://www.researchresearch.com>

Searchable Databases (search for opportunities by topic or deadline date):

- SPIN (Info ED) <http://spin2000.infoed.org/>
- Community of Science Funding <http://fundingopps2.cos.com/>
- NIH Guide <http://www.nih.gov/grants/guide/>
- NIH Commons <http://www-commons.cit.nih.gov/>
- GrantsNet <http://www.grantsnet.org/>

Institutional Funding Lists:

- DRDA Funding Site <http://www.drda.umich.edu/funding/funding.html>

Forms/Information for Selected (Major) Sponsors:

- U-M research DRDA Supported Form Site <http://www.drda.umich.edu/proposals/forms/forms.html>
- NIH Form Support <http://grants.nih.gov/grants/forms.htm>

Grant Preparation and Submission:

- DRDA Grant Preparation Information <http://www.drda.umich.edu/proposals/proposals.html>
- The Robert Wood Johnson Foundation <http://www.rwjf.org/>

Resources for Administrators:

- National Council of University Research Administrators (NCURA) <http://www.ncura.edu/>
- Society of Research Administrators (SRA) <http://www.srainternational.org/>
- NIH Award Data <http://grants.nih.gov/grants/award/award.htm>

Please see the Appendix: Research Support & Services: Research Resources for additional links to helpful sites.

APPENDIX

Human Resources

- How to Effectively Use an Administrative Assistant**
- The Interview Guide**
- Questions You May Not Ask in an Interview**
- 96 Ways to Celebrate People**
- Useful Websites: Employee Information**

Research Support & Services

- Quick Reference/Contact Sheet – Medical School Office of Research**
- Useful Websites**
 - Department of Pathology**
 - Office of Research**
 - Major Core Services and Resources**
 - Compliance**
 - Other Important Websites**

Web-based Research Tools

- News and Publications**
- Useful Documents**
- Poster Production and Printing Options**
- Research Editors List**

Personnel

How to Effectively Use an Administrative Assistant

- 1. Communication is vital.** Meet regularly with your Assistant to go over priorities and expectations and to answer questions. Answer e-mails and inquiries from your Assistant promptly.
- 2. Give your assistant access to your calendar.** There is no need for you to be interrupted in your work to schedule appointments or to find out if you are free for a meeting. Others expect your Assistant to have this information. It makes double the work for you and your Assistant if you do not provide calendaring access, as well as inconveniences others who are trying to schedule meetings with you. In addition, your Assistant can add calendar reminders for upcoming projects, grant deadlines, etc. to help you prioritize your work flow.
- 3. Be clear in your expectations.** Your Assistant cannot read your mind. Give clear instructions on what you would like completed and how you wish it done. It is fine to give your Assistant latitude in projects, but be sure to provide adequate information for it to be completed in a timely fashion in the manner you wish it done.
- 4. Give adequate time to complete projects.** Most Assistants have multiple faculty whom they support, each of whom wants his or her projects completed first. Your Assistant may need help in prioritizing competing high-priority requests. It is best to allow adequate lead time for completion in case there are other very high priority requests pending.
- 5. Realize your Assistant is human.** Your Assistant will make mistakes sometimes. Other times, your Assistant may be exceptional. Everyone has off days – your patience with an off day here or there is helpful. Praise your Assistant for exceptional work. Be clear, yet respectful, when pointing out errors. If errors occur too often, your Assistant may need some additional coaching or training. Speak to your Assistant's supervisor and/or Human Resources if additional coaching or training may be needed or if expectations are not being met.
- 6. Provide time for continuing education.** Technology changes and skills need to be upgraded. Your Assistant should have time provided to grow and enhance his/her skill set and abilities, as well as to network with others to gain insights and tips for improving. Your Assistant should know that you encourage continuing education efforts. You may even suggest classes or seminars you find that may be of interest to your Assistant.
- 7. Seek feedback from your Assistant.** Your Assistant has a unique vantage point from which to observe interactions in the Department. Seek feedback from your Assistant. The more you do so, the more your Assistant will grow as a valuable team member. In addition, you may find your Assistant to be a valuable source of information for you.

The Interview Guide

The Interview Guide comes from the 2004 UM-HRD Foundations for Successful Leadership Manual. This guide provides a framework so that you can interview candidates completely and consistently and focuses on job-related issues. It contains the following sections.

- **Opening** – This section lists a few guidelines for welcoming the interviewee.
- **Transition to Interview** – This section moves the interview from the opening to the start of the interview. It is also used to make the applicant feel at ease. Normally, statements about the weather or the interviewee’s trip to the interview work well. You can also ask how the interviewee learned about the position. Make sure that you introduce the interview team and tell the candidate a little about team members’ roles/responsibilities. Tell candidates that you are going to take notes as they talk so that you will have accurate information to refer to later. It is important to record actual answers to questions as opposed to your evaluation of the answer. You may record observations of non-verbal signals as long as they are recorded factually and not as conclusions.
- **Overview** – This section outlines the frame of the interview. Generally, you want to list the purpose of the interview, re-state any requirements mentioned in the pre-screen interview and outline the interview steps. If you describe the job, avoid giving too much information about the job.
- **Education, Experience, Knowledge and Skills** – This section lists behavior-based questions that will help you collect information about how well interviewees meet the requirements for education, experience, knowledge and skills. Questions should be prepared to touch on all of the essential tasks of the job. Example: Tell me about a time when you were required to schedule patients.
- **Behavior** – This section lists behavior-based questions that help you collect information about whether or not interviewees possess behaviors that are important to the job. Questions should be prepared to touch on all of the essential behaviors of the job. Example: Describe a time when you had to interact with an unpleasant person. What did you do?
- **Interests** – This section outlines questions to collect information on interests or activities the interviewee does that may demonstrate he or she can handle the job. Your question should be phrased so that the interviewee understands that you only need information that would demonstrate ability or willingness in the context of the job. For example, you might ask, “Are there any interests, activities or professional organizations with which you are involved that demonstrate that you would be successful at this job?”

- **Strengths and Areas for Improvement** – This section lists questions used to get the interviewee to summarize or highlight strengths that would benefit the job and in what ways, as well as areas of development and how they have been dealing with them.
- **Sharing** – This section outlines the information you would like to share about UMHS, your department and the job.
- **Transition to Close** – This section outlines how to approach the close of the interview. It is usually just enough to ask the interviewee if he or she would like to add anything about themselves that would help in your decision making. It is always good to ask if the interviewee has any additional questions.
- **Close** – This section focuses on thanking the interviewee for coming and reviewing next steps.

Things to keep in mind while interviewing:

1. Develop a high tolerance for silence. Give candidates a chance to think and develop thoughtful answers to your questions.
2. Give the candidates an idea of what stage the search is in, what the next steps will be, and when they can expect to hear from you. If delays occur, you should call candidates and let them know where things stand.
3. Complete your notes on the interview.
4. If a team is interviewing candidates, and there is time, debrief with your teammates. It is best to save definitive evaluations of candidates until you have seen them all, but it often helps in the consensus building process to compare notes as to reactions to particular candidate responses, behaviors, etc. immediately after the interview.



Questions You May Not Ask in an Interview...

And Better Options, if Any

1. What is your race?
 - a. There is no “better” way to ask this question.
2. Are there any holidays other than those usually observed which require you to be absent?
 - a. BETTER: Are there any days that you will be unavailable to work?
3. What is the nationality of your parents?
 - a. There is no “better” way ask this question
4. Would you like to be called Miss, Ms., or Mrs.?
 - a. BETTER: How may I address you? (It is illegal to inquire as to marital status)
5. Do you have any disabilities?
 - a. BETTER: Based on the duties of this position, is there anything you cannot do without accommodation?
6. Have you ever been arrested?
 - a. BETTER: Have you ever been convicted of a crime? (People are innocent until proven guilty. Arrests without convictions cannot be considered)
7. Whom should we notify in case of emergency?
 - a. This question cannot be asked until after the position has been offered and accepted.
8. What kind of work does your spouse do?
 - a. BETTER: We have a dual career program here for faculty and their spouses or significant others. Would you like us to explore that program further?
9. Where were you born and raised?

There is no “better” way to ask this question.
10. What was your maiden name?
 - a. There is no “better” way to ask this question.

11. Are you a college graduate?
 - a. BETTER: What is your educational background? (If a college degree is required for the position, you may inquire further if it is not mentioned).

12. What clubs, societies or organizations do you belong to?
 - a. BETTER: Do you belong to any clubs, societies or professional organizations that are relevant to this job?

13. Are you single, married or divorced?
 - a. This may not be asked during an interview. It cannot be asked until the position has been offered and accepted, and then only as it is necessary for benefits, etc.

14. Do you plan to have a family?
 - a. There is no “better” way to ask this question.

15. Of what country are you a citizen?
 - a. BETTER: If not a US Citizen, do you have the proper visa to be able to take this position?

16. What is your native language?
 - a. BETTER: Do you speak any languages other than English?

17. Have you ever had a serious illness?
 - a. There is no “better” way to ask this question.

18. What military experience have you had?
 - a. This can only be asked if it is relevant to the position.

19. How old are you?
 - a. BETTER: This position requires someone to be at least 21 years of age. Do you meet that qualification? (Only if it is relevant to the job – age may vary)

20. Do you have a good credit rating?
 - a. There is no “better” way to ask this question.

From: Foundations for Successful Leadership Manual, 2004, UM-HRD, UMHS

101 Ways To Celebrate People

In tight financial times, ongoing, meaningful rewards and recognition provide an effective, low cost way of raising morale and encouraging higher levels of performance. Here are 101 ideas to help you embed employee recognition into your everyday work.

1. Create a Hall of Fame wall with photos of outstanding employees.
2. Give employees time off to give blood.
3. Arrange for a team to present the results of its efforts to upper management.
4. Encourage, enable and empower staff to excel.
5. Plan a surprise picnic.
6. Answer your assistant's telephone for a day.
7. Encourage and recognize staff who pursue continuing education.
8. Post a thank you note on an employee's door.
9. Wash the employee's car in the parking lot during the lunch hour.
10. Create and post an "Employee Honor Roll" in reception area.
11. Acknowledge individual achievements by using employee's name when preparing a status report.
12. Make a photo collage about a successful project that shows the people that worked on it, its stage of development and its completion and presentation.
13. Bring an employee bagged lunches for a week.
14. Find out the person's hobby and buy an appropriate gift.
15. Make a thank-you card by hand.
16. Cover the person's desk with balloons.
17. Make and deliver a fruit basket.
18. Inscribe a favorite book as a gift.
19. Establish a place to display memos, posters, photos and so on, recognizing progress towards goals and thanking individual employees for their help.
20. Swap a task with an employee for a day – his/her choice.
21. Establish a "Behind the Scenes" award specifically for those whose actions are not usually in the limelight.
22. Give the person a copy of the latest best-selling management or business book or a subscription to a trade magazine.
23. Nominate the employee for a University formal award program (UMatter or Workplace Award).

24. Keep in mind that managers should serve as coaches to indirectly influence rather than demand desired behavior.
25. Take time to explain to new employees the norms and culture of your department.
26. Give special assignments to people who show initiative.
27. Give out Felix and Oscar awards to people with the neatest and messiest desks.
28. Design a “Stress Support Kit” that included aspirin, a comedy cassette, wind up toys and a stress ball – or design your own.
29. Present “State of the Department” reports periodically to your employees acknowledging the work and contributions of individuals and teams.
30. At a monthly staff meeting, award an Employee of the Month and have everyone at the meeting stand up and say why that person is deserving of the award.
31. Set up a miniature golf course in your office, using whatever materials you have on hand. Set aside an afternoon or evening to hold a mini golf tournament. Have each area design their own “hole” and give a prize.
32. If your team is under pressure, bring a bag of marbles to work and take a break to have a contest – a sure stress reliever.
33. Serve ice cream sundaes to all of your employees at the end of a project.
34. Once a year, have a “Staff Appreciation Day” where the managers supply, cook and serve food.
35. Recognize employees who actively serve the community.
36. Serve a team a hero party sandwich at the end of an assignment, for a job well done.
37. Give employees an extra long lunch break.
38. Have staff vote for top manager, supervisor, employee and rookie of the year.
39. Name a continuing recognition award after an outstanding employee.
40. Include an employee in a “special” meeting.
41. Give a shiny new penny for a thought that has been shared.
42. Send flowers to an employee’s home as a thank you.
43. Allow employees to attend meetings in your place when you are not available.
44. Purchase a unique pin to serve as a memento for a task well done.
45. Wear color-coded name tags in a staff meeting to indicate significant achievements – such as length of service, successful project completion, etc.
46. Create an Above and Beyond the Call of Duty (ABCD) Award.

47. Hold informal retreats to foster communication and set goals.
48. Ask your boss to attend a meeting with your employees during which you thank individuals and groups for their specific contributions.
49. Pop in at the first meeting of a special project team and express your appreciation for their involvement.
50. Provide a lunch for project teams once they have made interim findings. Express your appreciation.
51. Send a letter to all team members at the conclusion of a project, thanking them for their participation.
52. Start an employee recognition program. Give points for attendance, punctuality, teamwork, etc. Provide gift certificates to employees who reach certain point goals.
53. Find ways to reward department-specific performance.
54. Give a personalized coffee cup.
55. Plan a surprise achievement celebration for an employee or group of employees.
56. Start a suggestion program.
57. Give Mr. Goodbar (candy bar) Awards
58. Recognize employee's personal needs and challenges.
59. Give an employee a blue ribbon for achievement.
60. Write a letter of praise recognizing specific contributions and accomplishments. Send a copy to senior management and the employee's personnel file.
61. When you hear a positive remark about someone, repeat it to that person as soon as possible (Face-to-face is best, e-mail or voice mail are good in an pinch).
62. Call an employee to your office to thank them (don't discuss any other issue).
63. If you have a department newsletter, publish a "kudos" column and ask for nominations throughout the department.
64. Publicly recognize the positive impact on operations of the solutions employees devise for problems.
65. Acknowledge individual achievements by using employee names in status reports.
66. Video tape a special event and share copies with participants.
67. Express an interest in employee's career development goals.
68. Post a large "celebration calendar" in your work area. Tack on notes of recognition to specific dates.
69. Design and give magnets with appropriate messages.

70. Create and string a banner across the work area.
71. Give a deserving employee a mug filled with treats.
72. Give a framed poem (poster or card) as a thank you.
73. Greet employees by name.
74. Practice positive nonverbal behaviors that demonstrate appreciation.
75. Support “flex-friendly” schedules.
76. Encourage employees to identify specific areas of interest in job-related skills. Then arrange for them to spend a day with an in-house “expert” to learn more about the topic.
77. Encourage employees to participate in community volunteer efforts.
78. Share verbal accolades – forward positive voice mail messages.
79. Actively listen to co-workers, especially when discussing their accomplishments and contributions.
80. Use 3x5 cards to write “You’re special because...” statements. People can collect the cards and refer to them when things aren’t going perfectly.
81. Have a recognition event created by a peer group that decides what they will give and why they will give it.
82. Keep a supply of appropriately funny notes that can be given as immediate rewards. Keep the supply visible – in a basket or box in your office.
83. Widely publicize suggestions used and their positive impact on your department.
84. When someone has spent long hours at work, send a letter of thanks to his/her home.
85. Throw a pizza lunch party for your unit.
86. Acknowledge and celebrate birthdays.
87. Give a note reading, “Thank you. You are a _____!” Attach a roll of Lifesavers.
88. Make a necklace of lifesavers and give it to someone “For being the “lifesaver of _____.”
89. Serve popcorn and lemonade on Friday (especially after a particularly hard week).
90. Allow an employee to choose his/her next assignment.
91. At an employee meeting, randomly tape gift certificates to the bottom of chairs (for the first time, choose chairs only in the front row).
92. Recognize a team accomplishment by designating that team as consultants to other teams.
93. Give a puzzle as an award to a problem solver.
94. Recognize those committed to personal health and wellness.

95. Have weekly breakfasts with groups of employees.
96. Treat an employee to lunch.
97. Give out gold coins for a job well done.
98. Bake a gift (cookies, bread, etc.) for an outstanding employee or team.
99. Send birthday cards to employees' homes, signed by dean or director.
100. Have an outstanding employee spend a day with a dean or director.
101. Smile. It's contagious.

From: Foundations for Successful Leadership Manual, 2004, UM-HRD, UMHS

Employee Information

- Benefits
www.benefits.umich.edu
Complete information regarding your employee benefits
- Center for the Education of Women
<http://www.umich.edu/~cew/>
CEW provides counseling and educational programs to women and men regarding academic, career and life issues; conducts social research on policy and gender issues; and advocates for improved policy and practice.
- Faculty and Staff Assistance Program/Employee Assistance Program
http://www.hr.umich.edu/mhealthy/programs/mental_emotional/understanding/tools/faq.html
Support services for faculty and staff
- Faculty Handbook
<http://www.provost.umich.edu/faculty/handbook/>
Policies and Procedures for Faculty
- Medical School Staff Handbook
<http://med.umich.edu/medschool/staff/handbook.html>
Policies and Procedures for Medical School Staff
- MLearning
<https://mlearning.med.umich.edu>
A catalog of assorted learning opportunities provided by the Medical School for faculty and staff. Tracking of continuing education activities and certification of compliance completion.
- Wolverine Access
<https://wolverineaccess.umich.edu/>
Database for University and Employee Information, including payroll, withholding, appointment information, eProcurement, and other resources.
- Work/Life Resource Center
<http://www.hr.umich.edu/worklife/>
Our services include help in locating childcare and eldercare, educational programs, consultation on flexible scheduling and child care leaves of absence. Our newest service —U-M Family Helpers—is a listing of University of Michigan students who are available to perform various services, including child care, yard work, tutoring, housekeeping, and pet sitting.

Research Support & Services: Research Resources

(The information in this section is from the New Faculty Research Orientation Package as well as websites for the various links provided.)

Quick Reference / Contact Sheet

A goal of the Office of Research is to facilitate research in innovative areas of biomedical science and help translate this knowledge into practice. We are here to provide resources and information you need for conducting basic, clinical and/or translational research. Here is a quick reference guide for some of the major activities.

<http://www.med.umich.edu/medschool/research/support/quickreference.pdf>

Other Resources for Faculty

Vodcast: Winter Faculty Meeting: Promotion & Tenure Strategies for Success

<http://www.med.umich.edu/medschool/faculty/tenure.asx>

(can be viewed with Windows Media Player)

Download slides from the meeting

http://www.med.umich.edu/medschool/faculty/winter_meeting.ppt

Useful Websites

Department of Pathology:

Department of Pathology - Home

<http://www.pathology.med.umich.edu/>

Academic Human Resources System

<http://141.214.4.213/accounts/login/?next=/hr/>

Your CV, appointment and promotions materials all reside in this database.

Forms: Faculty, Resident, Staff, Clinical, Research

<http://www.pathology.med.umich.edu/forms/index.html>

Forms for absences, travel, clinical use – anything you need!

Pathology Research

<http://www.pathology.med.umich.edu/research/research.html>

Overview of research conducted in the Department, list of research faculty, research seminar calendars, societies and conferences.

Pathology Departmental Directory

<http://www.pathology.med.umich.edu/directory/>

Directory of all faculty and staff in the Department of Pathology

Pathology Faculty Pages

<http://www.pathology.med.umich.edu/faculty.html>

Michigan Center for Translational Pathology (MCTP)

<http://mctp.path.med.umich.edu/mctp/main/index.jsp>

MLabs Outreach Reference Laboratory

<http://www.pathology.med.umich.edu/MLabs/index.html>

Pathology Residency and Fellowship Programs

<http://www.pathology.med.umich.edu/residency/index.html>

Graduate Program in Molecular and Cellular Pathology

<http://www.pathology.med.umich.edu/phd/phd.html>

University of Michigan Tissue Core

<http://www.pathology.med.umich.edu/translational/tcpamphlet.pdf>

Office of Research:

The Office of Research is an important and valuable resource for many research-related services and information found on each of the pages below.

Office of Research - Home

<http://www.med.umich.edu/medschool/research/index.html>

Office of Research - Directory

<http://www.med.umich.edu/medschool/research/about/directory.htm>

Listing of all of the Office of Research staff.

Office of Research - Research FAQs

<http://www.med.umich.edu/medschool/research/faq.htm>

Office of Research - Research Support & Services

<http://www.med.umich.edu/medschool/research/support.htm>

Services available from Office of Research staff members.

Office of Research - Funding

<http://www.med.umich.edu/medschool/research/support/funding.htm>

Contains a link to M-Quest (a database of opportunities for grants, honors, prizes and fellowships created and maintained by the Office of Research) as well as information on email alert groups, internal grant programs, upcoming limited submissions, and links to extramural funding search engines.

Office of Research - Awards

<http://www.med.umich.edu/medschool/research/support/awards.htm>

Listing of honors and recognition awards at the Medical School and UM campus.

Office of Research - Proposal Preparation

<http://www.med.umich.edu/medschool/research/support/proposal.htm>

Links to guides for grant writing as well as internal and external resources for grant submission.

Office of Research - Lab Management

<http://www.med.umich.edu/medschool/research/support/lab.htm>

Links to lab management and new faculty guides and references to published materials.

Office of Research - Regulatory Affairs

<http://www.med.umich.edu/medschool/research/regulations.htm>

An introduction to Regulatory Affairs and who to contact.

Office of Research - Regulatory Resources

<http://www.med.umich.edu/medschool/research/regulations/regresources.htm>

Links to various policies and regulations regarding human use, animal use, radiation, biosafety, etc.

Office of Research - Education & Training

<http://www.med.umich.edu/medschool/research/education.htm>

Listing and links to training courses and workshops offered by service units on various research topics. Also links to training programs and educational units for graduate students and fellows.

Office of Research - News & Communications

<http://www.med.umich.edu/medschool/research/news.htm>

Links to seminar and event calendars, research newsletters and various communication and publication avenues at the Medical School and campus.

Office of Research - Associate Chairs for Research

<http://www.med.umich.edu/medschool/research/rosters/acr.htm>

Listing of faculty representatives for each medical school department who act as a liaison between the Dean's office and the individual departments for exchange of information on Medical School policies, programs, and research enterprise.

Major Core Services and Resources

(Also see M-CORES searchable database below under "Web-based Tools" for complete listings.)

- Biomedical Research Core Facilities (BRCF)
<http://www.brcf.med.umich.edu/>
Includes links for services such as DNA sequencing, flow cytometry, and transgenic mice.
- Unit for Laboratory Animal Medicine (ULAM)
<http://www.ulam.umich.edu/>
Provide animal care and health services as well as procurement and research services. Also provide training courses and workshops in animal use protocols.
- Center for Statistical Consultation and Research (CSCAR)
<http://www.umich.edu/~cscar>
Staff provides statistical services to faculty, primary researchers, graduate students and staff of the University such as study design, dataset consultation and interpretation of results.
- Center for Chemical Genomics (CCG)
<http://www.lsi.umich.edu/facultyresearch/centers/chemicalgenomics>
The High Throughput Screening (HTS) facility is a central component of the Center for Chemical Genomics (CCG). This core facility is designed to assist academic researchers in carrying out high-throughput screens of chemical libraries and to identify new tools for biological research. The shRNA Core is also housed in this Center
- Michigan Institute for Clinical and Health Research (MICHR)
(formerly the Center for the Advancement of Clinical Research (CACR))
<http://www.michr.umich.edu/>
Provide support and services for all stages of clinical and/or translational research.
- MICHR Biorepository
<http://www.michr.umich.edu/biorepository/index.html>
Hosted and operated by the Michigan Institute for Clinical & Health Research (MICHR), the biorepository provides a controlled storage environment for biological samples.

- Michigan Clinical Research Unit (MCRU)
(formerly the General Clinical Research Center (GCRC))
<http://www.michr.umich.edu/programs/mcru.html>
Provide the clinical research infrastructure to investigators who receive their primary research funding from other components of the NIH. The unit also serves as an institutional resource for investigators to perform pilot studies that may result in further agency funding.
- UM Medicinal Chemistry Core Synthesis Laboratory
http://www.pharmacy.umich.edu/medchem_coresynlab
- IT Core Services
<https://www.umms.med.umich.edu/msis/support/infrastructure.php>
List of services available to faculty through the Medical School Information Systems.
- Faculty Exploratory - Computer Technology and Software Training
<http://www.lib.umich.edu/exploratory/>
Provides training/support to help faculty use computer technology and software through: (1) One-on-One Consulting; (2) Free Hands-on Workshops for such software applications as Sitemaker, PowerPoint, and Photoshop; and (3) Multimedia Workstations to digitize video, audio, photographs and slides for presentations.

Compliance

- Conflict of Interest Management
<https://www.umms.med.umich.edu/oeac/logon.jsp>
A Conflict of Interest exists when your outside activities or interests overlap with your University activities. Disclosures of actual or potential COIs must be completed and approved by the Department and the Conflict of Interest Committee.
- Institutional Biosafety Committee (IBC)
<http://www.drda.umich.edu/policies/um/committees/BRRC/BRRC.html>
The Institutional Biosafety Committee oversees recombinant DNA research at the University of Michigan. The UM adheres to the NIH Guidelines for Research Involving Recombinant DNA Molecules (http://oba.od.nih.gov/rdna/nih_guidelines_oba.html) with regard to all uses of recombinant DNA at the University. The UM requires that all use of recombinant DNA at the University be registered with the Institutional Biosafety Committee even if such use is exempt

from the requirements of the NIH Guidelines. The IBC also oversees Select Agents

(<http://www.drda.umich.edu/policies/um/committees/BRRC/SAintro.html>) and "experiments of concern."

(<http://www.drda.umich.edu/policies/um/committees/BRRC/Expconcern.html>)

- Institutional Review Boards of the University of Michigan Medical School (IRBMED)
<http://www.med.umich.edu/irbmed>
Provide oversight of human subjects research conducted by medical school faculty, students, and staff at any University of Michigan Health System (UMHS) facility or site.
- Investigational Drug Service (IDS) <http://eresearch.umich.edu/>
The Investigational Drug Service (IDS) is a service within the Department of Pharmacy Services and mandated by the University of Michigan Hospitals and Health Centers (UMHHC) and Medical School. The goal of the IDS is to ensure that investigational drug studies and other drug-related research at the UMHHC are conducted in compliance with the requirements of the FDA, study sponsors, Michigan State Board of Pharmacy Regulations, and the Joint Commission (formerly known as JCAHO). The role of this service includes, but is not limited to the following: ensuring acceptable drug storage conditions, drug dispensing, inventory accountability, and providing drug information for investigational drugs being used in human subject research at the UMHHC. IDS receives and reviews new protocols in eResearch. Answering "yes" in Section 7-1.7 in eResearch indicating that drugs or biologics are involved in the study, will prompt completion of Section 15. Selecting "UMHS Investigational Drug Service (IDS) - Fee will apply" in section 15.2 will prompt completion of Section 15-1, which is the Investigational Drug Service (IDS) Information. IDS will automatically receive email notification that a new study requires IDS review in eResearch.
- Health System Legal Office
<http://www.ogc.umich.edu/>
Provides legal advice and analysis to the IRBs. Also available to consult about regulations governing human or animal research, tissue repositories, informed consent, HIPAA regulations governing research, and other research-related issues.
- OSEH/Occupational Safety and Environmental Health
<http://www.oseh.umich.edu>
Regulatory requirements in Biological and Laboratory Safety,

Environmental Protection and Permitting, Emergency Preparedness, Environmental Sustainability, Fire Safety Services, Hazardous Materials Management, Industrial Hygiene and Safety, Operational Safety and Community Health, Radiation Safety Service, and Scientific Diving.

- Program for Education and Evaluation in Responsible Research and Scholarship (PEERRS)
<http://my.research.umich.edu/peerrs/>
PEERRS is a web-based instruction and certification program for members of the University community engaged in or associated with research. All PIs or Co-Is on sponsored projects (including competing renewals) at the UM must be certified in the PEERRS system before spending on newly established sponsored research projects will be authorized.
- Tissue Procurement Services (TPS)
http://www.pathology.med.umich.edu/giordano_lab/tps.htm
Procurement of any tissue that is linked to the patient from whom it was procured requires IRB approval. You will *first* need a letter of approval from the TPS before the IRB approval is granted.
- University Committee on Use and Care of Animals (UCUCA)
<http://www.ucuca.umich.edu/>
The Office reviews vertebrate animal use applications and protocol modifications, conducts inspections, and provides training for people working with animals.
 - Animal Concern Hotline: 734-763-8028, or anonymously at <http://www.ucuca.umich.edu/hotline.htm> to report any concerns with the way animals are being treated.
- UMHS Compliance
<http://www.med.umich.edu/u/compliance>
Introduction to policies and procedures and links to the information to ensure investigators are performing daily duties within the many rules, regulations and policies that regulate the health care industry.



Other Important Websites

- Programs in Biomedical Sciences (PIBS)
<http://www.med.umich.edu/pibs>
Graduate students entering the PIBS are offered flexibility in the choice of any of the participating Ph.D. programs. Entering students can immediately begin training in any of thirteen participating programs, or take a course of study compatible with several programs.
- Medical School Grant Review and Analysis Office
<http://www.med.umich.edu/medschool/grants>
Office receives any proposals that involve Medical School faculty or space for compliance review with school, university, and sponsor guidelines - whether primarily held in the Medical School or outside campus units.
- Office of the Vice President for Research (OVPR)
<http://research.umich.edu/ovpr/>
Supports and promotes the efforts of UM faculty, staff, and students to remain in the forefront of research, scholarship, and creative activity; responsible for policies and compliance with ethical conduct of research.
- Division of Research Development and Administration (DRDA)
http://www.drda.umich.edu/contacts/drda/drda_contact.html
Provide assistance with development and processing of proposals for sponsored projects; liaison with sponsors; submission to funding agencies; establishing projects; and other administrative help throughout the life of the project.
- UM Grants.gov Information Page
<http://www.drda.umich.edu/era/grantsgov/>
Grants.gov is the federal web portal for finding grant opportunities from any federal agency and locating application packages, as well as where DRDA submits electronic applications.
- Office of Technology Transfer
<http://www.techtransfer.umich.edu/>
UM Tech Transfer is the University organization responsible for the transfer of University technology to the marketplace.
- Business Engagement Center
<http://www.bec.umich.edu/index/>
The Business Engagement Center helps industry connect with the University. The BEC helps business identify key resources and

facilitates university / industry partnerships in research, student recruiting, technology licensing, continuing education and more.

- Taubman Medical Library
<http://www.lib.umich.edu/taubman>
- Medical School Departments and Centers
<http://www.med.umich.edu/medschool/about/dept.html>
- UM-ADVANCE
<http://sitemaker.umich.edu/advance>
The goals of this program are to improve recruitment and retention of women faculty in science and engineering and to improve the institutional climate.

Web-based Research Tools

- M-Cores
https://www.umms.med.umich.edu/mcores/yp_search.do
M-Cores is a web-based, searchable repository of laboratories that offer UM analytical services.
- eResearch
<http://eresearch.umich.edu>
eResearch is the web-based system that centralizes the review and approval process for human subjects research applications.
- engage
https://www.umms.med.umich.edu/engage/staff_editLogon.do
engage is the online gateway to clinical research throughout the University of Michigan. engage provides "one-stop shopping" for people who want to help medicine move forward by participating in clinical research at UM.
- eRAM
<https://ucuca.umich.edu>
- eRAM is an online research information management system, providing access to IACUC and Animal Care Information. Animal research protocols are filed through this system.
- M-Train (Training Grant Database)
<https://www.umms.med.umich.edu/mtrain/>
The Training Grant Database is designed to facilitate the submission of NIH-type institutional training grants. The database provides a workspace for each training grant director to collect information about faculty mentors

and their trainees.

- M-Quest
<https://www.umms.med.umich.edu/mquest/>
This is a database of opportunities for grants, honors, prizes and fellowships created and maintained by the Office of Research.
 - Research Listservs
<http://www.med.umich.edu/medschool/research/support/listserv.htm>
Two listservs, one for faculty and one for staff, are available for exchanging scientific ideas and making inquiries to the University of Michigan Medical School research community regarding scientific protocols, resources, expertise, and potential collaborators.
 - Faculty Research Profiles
<http://www.med.umich.edu/medschool/research/support/profiles.htm>
This tool serves as a directory of faculty expertise to identify "who" in the organization is working on "what" scientific areas – which can help to build collaborative teams and strong relationships.
-

News and Publications

- Basic Science Seminar Calendar
<http://www.med.umich.edu/medschool/research/seminars/currentbasic.htm>
A weekly listing of upcoming seminars throughout campus on basic science research and other seminars of broad interest as well as announcements for major symposia and other major events.
 - Biomedical News
<http://www.med.umich.edu/medschool/research/biomednews/index.htm>
A monthly publication of short articles relating to research activities at the Medical School as well as research compliance, training and education, various funding and award opportunities, and a list of recently awarded grants and research publications by UMMS researchers.
-

Useful Documents

Contacts:

- Departments and Centers Contacts
http://www.med.umich.edu/medschool/research/support/depts_centers_contacts.pdf
A spreadsheet containing the names of each Medical School Department's and Division's Chair/Chief, Administrator, Associate Chair for Research, and Grant Contact.

Related website: Medical School Departments and Centers
<http://www.med.umich.edu/medschool/about/dept.html>

Compliance:

- *Playing It Safe with Research Risk*
http://www.med.umich.edu/medschool/research/support/playing_it_safe.pdf
An article discussing the consequences of research non-compliance.
- *On Being a Scientist: Third Edition* (free downloadable pdf)
<http://www.nap.edu/catalog/12192.html>
Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. ISBN:0-309-11971-5, 82 pages, (2009).

Laboratory Management:

- Grant Routing Flowchart
<http://www.med.umich.edu/medschool/research/routemap.htm>
- A flowchart outlining the grant routing process at the Medical School.
- *Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty.*
<http://www.hhmi.org/resources/labmanagement/>
Howard Hughes Medical Institute and Burroughs Wellcome Fund. Second Edition. 2006. 256 p.
- *Lessons for New PIs: Time Management, Grantsmanship, and Leading Your Group*
http://www.med.umich.edu/medschool/research/support/new_pi_handout.pdf
Slides from a PowerPoint presentation made to junior faculty giving them

an overview in getting started with your first faculty position.

- *The Handbook of Research Laboratory Management* by Virginia P. White. ISI Press (Philadelphia) 1988. 240 pages. ISBN 10: 0894950657.
- *Laboratory Management: Principles and Processes*, 2nd Edition, by Denise M. Harmening. University of Maryland School of Medicine, Baltimore, MD, 2007. 350 pages. ISBN 13: 978-0-8036-1599-1

Publishing/Printing:

- Poster Production and Printing Options:
 - On-Campus (Word Document)
<http://www.nursing.umich.edu/gro/poster.doc>
 - Off-Campus
<http://www.nursing.umich.edu/gro/printing.pdf>
- Research Editors
<http://www.med.umich.edu/medschool/research/support/editors>
For assistance in preparing grants and manuscripts for publication.

Career Development and Mentoring:

- *Giving and Getting Advice: A Guide for Junior and Senior Research Faculty*. ADVANCE Program, Office of the Vice President for Research, University of Michigan, November 2007, 17 p.
- *Career Development in Academic Medicine*. William B. Applegate, Mark E. Williams, *The American Journal of Medicine*, March 1990, 88:263-67.
- *Picking a Research Problem – The Critical Decision*. C. Ronald Kahn, *The New England Journal of Medicine*, May 26, 1994, 330:1530-33.
- *Five Potential Pitfalls for Junior Faculty at Academic Health Centers*. R. Kevin Grigsby, *Academic Physician & Scientist*, May 2004, pp. 2-3.
- *The Real Final Exam*. Donald S. Coffey, *The Prostate* 1999, 39:323-25.
- *Nature's Guide for Mentors*. Adrian Lee, Carina Dennis, Philip Campbell, *Nature* June 14, 2007, 447:791-97.
- *Adviser, Teacher, Role Model, Friend: On Being a Mentor to Students in Science and Engineering*.

http://books.nap.edu/catalog.php?record_id=5789

National Academy of Sciences, National Academy of Engineering,
Institute of Medicine. Washington, DC: National Academy Press; 1997. 84
p.

**If you have any additions or changes for this manual, please contact Lynn
McCain at 734-763-6384 or lmccain@umich.edu**