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Supporting National Institutes of Health
Grantees through Collaboration: University
of Michigan Taubman Health Sciences
Library, Medical School Office of Research
& Office of Research and Sponsored Projects

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<https://hdl.handle.net/2027.42/97775>

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Supporting National Institutes of Health Grantees through Collaboration:

University of Michigan Taubman Health Sciences Library, Medical School Office of Research & Office of Research and Sponsored Projects

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Bethany R. Harris, MSI

Agenda

- Collaborators supporting Researchers & Grantees
- Understanding NIH Public Access Policy
- Assisting with NIH Public Access Compliance
 - Manuscript depositing service
 - Compliance workshop
 - Online research guide
 - EndNote workshop
- Assistance with Revised NIH Grant Application Guidelines

Collaborators' Mission Statements

University of Michigan Taubman Health Sciences Library



“The mission of the health sciences library is to be a valued partner, fully integrated into the work of the university and providing leadership in knowledge management for education, research, patient care, and community outreach.” *

*About the Library. University of Michigan Taubman Health Sciences Library.
<<http://www.lib.umich.edu/taubman-health-sciences-library/about-library>>

University of Michigan Medical School Office of Research



“The Office of Research has a long history of supporting the research mission of the University of Michigan Medical School.” “The Office of Research mission is to foster an environment of innovation and efficiency that serves the University of Michigan Medical School research community and supports biomedical science from insight to impact.”*

*Our Mission. Office of Research. University of Michigan Medical School.
<<http://www.med.umich.edu/medschool/research/aboutus.htm>>

University of Michigan Office of Research and Sponsored Projects



“ORSP provides high quality and timely support to faculty and research administrators by overseeing proposal processing and submission; reviewing, negotiating, and accepting agreements on behalf of the University; and working with units across campus to administer awards.” *

*Identity Statement. University of Michigan Office of Research and Sponsored Projects (ORSP).
<<http://orsp.umich.edu/contacts/orsp/mission.html>>

Supporting Grantees

- Understanding the National Institutes of Health Public Access Policy (NIHPAP)
- Resources to Assist with NIHPAP Compliance



U.S. Department of Health & Human Services



National Institutes of Health Public Access

The Public Access Policy ensures that the public has access to the published results of NIH funded research to help advance science and improve human health.

“The Director of the National Institutes of Health shall require that **all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine’s PubMed Central an electronic **version of their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication:**** Provided, That the NIH shall implement the public access policy **in a manner consistent with copyright law.**” *

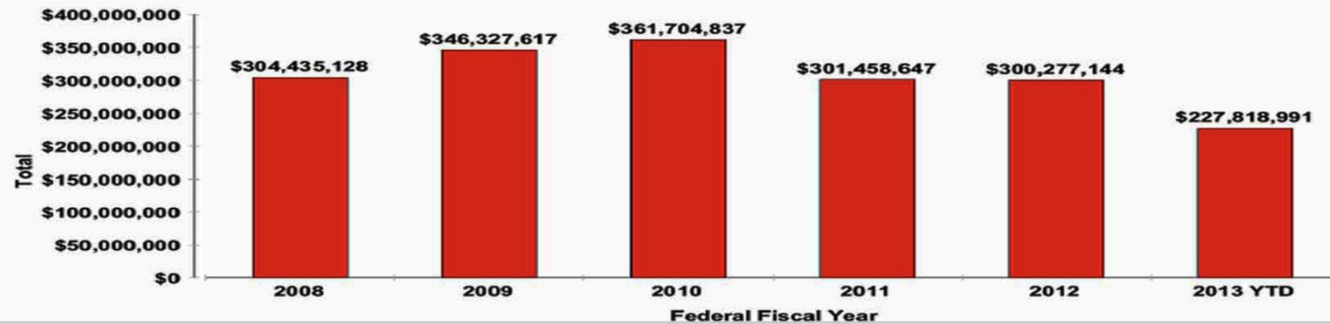
*NIH Public Access Policy Details. U.S. Department of Health & Human Services, National Institutes of Health Public Access. <<http://publicaccess.nih.gov/policy.htm>>

NIH Funding to UM Medical School

Committed NIH Awards by Federal Fiscal Year

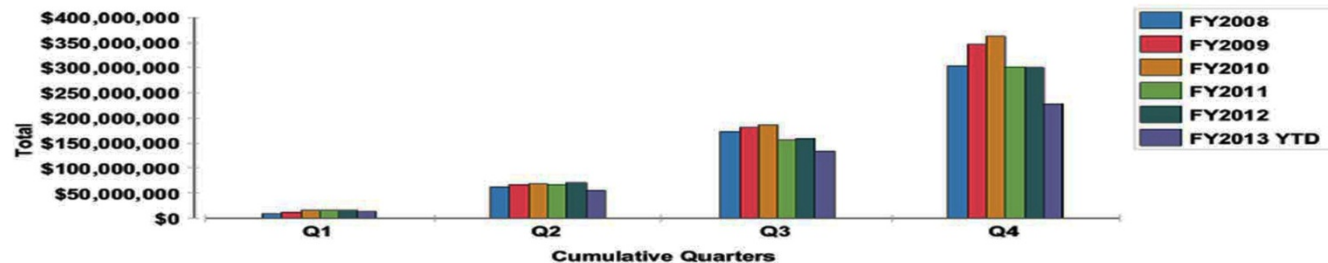
Medical School

5 Year Trend plus Current FY as of: Jan 21, 2013



Total Dollars by Quarter and Federal Fiscal Year

Federal FY	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
2008	\$8,995,607	\$53,288,471	\$110,342,014	\$131,809,036	\$304,435,128
2009	\$12,600,346	\$54,984,897	\$112,762,789	\$165,979,585	\$346,327,617
2010	\$15,468,191	\$52,850,343	\$117,750,796	\$175,635,507	\$361,704,837
2011	\$15,037,432	\$52,255,535	\$88,194,578	\$145,971,102	\$301,458,647
2012	\$15,775,516	\$54,666,657	\$87,627,787	\$142,207,184	\$300,277,144
2013 YTD	\$12,976,908	\$41,895,699	\$78,729,310	\$94,217,074	\$227,818,991



Committed budgets based on dollars from external sponsors whether or not received. Received budgets based on actual confirmed dollars. For units which have always allocated to them in NIH ranking outside of their university unit. The report will give a good trend indication, but not a complete calculation.

Assisting with NIH Public Access Policy Compliance

- Depositing Service
- Lectures
- YouTube Video
- Online Research Guide
- EndNote Workshop

Depositing Service

- Library set up access to the NIH Manuscript Submission System (NIHMS) to deposit publications falling under NIHPAP into PMC
- An email address
nihms-library-support@umich.edu
was developed for our researchers to contact us with requests for assistance
- Five librarians share depositing duties on a rotating schedule

NIHMS Library Support Totals

Numara FootPrints 9.5

Global Tickets

Actions: 121 - 140 of 644

Number	Pri	Title	Status	Assignees	Last Updated
568	1	how can I obtain PMCID numbers for Dr. Donato? Dear Jennifer, PMCID numbers are obtained after an article has been submitted to the National Institutes of Health Manuscript Submission [more...]	Closed	Jean Song	2 yrs ago
567	1	Deposit needed to PubMed to get PMCID number Dear Pat: We have completed the submission, and its NIHMSID # is 297115. Dr. Mancuso will receive a request for approval shortly. Best, Jim [more...]	Closed	Jean Song	2 yrs ago
566	1	deposit Already submitted - verified by Jean with NIHMSID 295177 [more...]	Closed	Jean Song	2 yrs ago
565	1	[Fwd: deposit] This request never appeared in footprints until I forwarded it. Has this happened before? From: "Dunkle, Ruth" <redunkle@umich.edu> Date: [more...]	Closed	Merle Rosenzweig	2 yrs ago
564	1	[Fwd: deposit] The manuscript has been deposited. You will receive an email message from NIHMS asking that you approve the deposit. After approval a PMC [more...]	Closed	Merle Rosenzweig	2 yrs ago
563	1	RE: article for deposit The manuscript titled Stress and Depression among the Oldest-Old: A Longitudinal Analysis has been deposited in accordance with the NIH [more...]	Closed	Merle Rosenzweig	2 yrs ago
562	1	article for deposit The manuscript has been deposited. Please let Dr. Dunkle know that she will receive an email message from NIHMS asking that she approve the [more...]	Closed	Merle Rosenzweig	2 yrs ago
561	1	Help obtaining PMCID Numbers Thanks so much, Scott. I received notification that I needed to confirm each of the manuscript submissions. When I followed the link, they [more...]	Closed	Scott Martin	2 yrs ago
560	1	RE: PMCID It's my week for answering submissions. I'm on vacation today, and hadn't expected anything urgent to come in. I've already replied to Laura [more...]	Closed	Scott Martin	2 yrs ago
559	1	Re: PMCID Whose taking this? Laura Guitekin wrote: > Good morning! >> I am a Ph.D. student in the school of nursing on a T32 training grant. > There [more...]	Closed	Merle Rosenzweig	2 yrs ago

NIH Manuscript Submission System

Login Options

The NIH Manuscript Submission allows you to submit an electronic version of your peer-reviewed final manuscript for inclusion in [PubMed Central](#). Eligible manuscripts must have been funded by one of the participating groups listed in the login table below.

Choose a login route:

Route	Users	Policy
NIH & eRA Commons	NIH intramural and extramural scientists NOTE: eRA Commons account holders now enter login credentials on the "NIH Login" screen.	
publisher	publishers	
HHMI	Howard Hughes Medical Institute investigators	
myNCBI	others	

You should use the same login for all subsequent visits.

NIHMS does not maintain these login routes. If you experience problems with your login, please contact the institution that is responsible for the account.

If you do not have an account, myNCBI allows users to create new accounts; click on the myNCBI route to create one.

If you are a PI, you can register for an eRA Commons account at <https://commons.era.nih.gov/commons/registration/registrationInstructions.jsp>.

For more information on how to use this system to submit your manuscript see [User's Guide](#).

The National Institutes of Health Manuscript Submission (NIHMS) system is a service of NCBI.

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[National Center for Biotechnology Information](#) | [U.S. National Library of Medicine](#) | [National Institute of Health](#) | [United States Department of Health and Human Services](#) | [USA.gov: Government Made Easy](#)

Manuscript List for University of Michigan Library

Start Here [Submit New Manuscript](#)

[Find Manuscripts](#)

Attention (16) Optional (0) In process (5) Stalled (14) Completed (4) Published (353)

#	Title	Status	
254121	A role for IL-1 Receptor-associated kinase-M in Prostaglandin E(2)-induced immunosuppression post-bone marrow transplantation.	Managing manuscript files	x
232602	RANKL inhibition is an effective adjuvant for docetaxel in a prostate cancer bone metastases model.	Managing manuscript files	x
201083	Social work practice with lesbian adoptive couples	Managing manuscript files	x
246574	Bioengineered internal anal sphincter derived from isolated human internal anal sphincter smooth muscle cells.	Managing manuscript files	x
191144	Antecedents of physical activity among family caregivers	Managing manuscript files	x
262094	Slit2 regulates attractive eosinophil and repulsive neutrophil chemotaxis through differential srGAP1 expression during lung inflammation.	Managing manuscript files	x
324595	Experimental approaches to the human renal transcriptome	Managing manuscript files	x
298645	Lupus-prone New Zealand Black/New Zealand White F1 mice display endothelial dysfunction and abnormal phenotype and function of endothelial progenitor cells	Managing manuscript files	x
222612	The impact of sociodemographic, treatment, and work support factors on the amount of missed work after breast cancer diagnosis	Managing manuscript files	x
222863	Why Do Women Get Mastectomy?: The Role Of Patients And Their Surgeons In Treatment Decision-Making	Managing manuscript files	x
288762	The class A scavenger receptor MARCO is the major phagocytic receptor for Clostridium sordellii expressed by human decidual macrophages	Managing manuscript files	x
266498	Mammary epithelial-specific ablation of the focal adhesion kinase suppresses mammary tumorigenesis by affecting mammary cancer stem/progenitor cells	Awaiting grant/project information	x
262843	Induction of Transforming Growth Factor-β1, not Regulatory T cells, Impairs Anti-Viral Immunity in the Lung Following Bone Marrow Transplant	Awaiting grant/project information	x
143070	Cutting edge: Negative regulation of dendritic cells through acetylation of the nonhistone protein STAT-3.	Managing manuscript files	x
112736	Weekend admission and treatment of patients with renal colic: a case of avoidable variation?	Managing manuscript files	x
112724	The causal role of cigarette smoking in bladder cancer initiation and progression, and the role of urologists in smoking cessation.	Managing manuscript files	x

Lecture & YouTube Video

All THL Videos: Newest List by umlibrary

National Institutes of Health Public Access Policy*

U.S. Department of Health & Human Services www.hhs.gov

www.nih.gov

National Institutes of Health Public Access
The Public Access Policy ensures that the public has access to the published results of NIH funded research to help advance science and improve human health.

*Find a Research Guide @ <http://bit.ly/umh2012PAP>

Merle Rosenzweig
oriley@umich.edu

Teubman Health Sciences Library
Library University of Michigan

00:00 / 55:40

National Institutes of Health Public Access Policy (Full Lecture)

*Merle Rosenzweig. National Institutes of Health Public Access Policy [Full Lecture].
<<http://www.youtube.com/watch?v=xPpdXcKlixM&list=PL60C8DEA78D7E8EFD&index=12>>

UM Information about NIH Public Access Policy

NIH Public Access Policy

All investigators funded by the NIH must submit, or have submitted for them, an electronic version of their final, peer-reviewed manuscripts resulting from NIH funding to the National Library of Medicine's PubMed Central upon acceptance for publication. These manuscripts will be made publicly available no later than 12 months after the official date of publication. The NIH shall implement this public access policy in a manner consistent with copyright law.

- [Policy Details from UM](#)
- [Policy as published on NIH website.](#)

Use My Bibliography to Assure Compliance with NIH's Public Access policy

Principal Investigators (PIs) and Program Directors (PDs) now must use My NCBI's online portal "My Bibliography" to manage their bibliographies. Citations must be added to My Bibliography to ensure that they appear in eRA Commons and thereby become associated with future annual progress reports. My Bibliography helps users address NIH Public Access compliance by assigning the appropriate NIH grant(s) with publications and expedites and facilitates their deposit into the National Institutes of Health Manuscript Submission System (NIHMS).

Resources

- Merle Rosenzweig, UM library, provides a **five-part YouTube video lecture** about the Public Access policy, complying, submitting to NIHMS, the grant process, and eRA Commons. [October 2012]
- Merle Rosenzweig, UM Library, has developed a guide, [National Institutes of Health Public Access Policy \(NIHPAP\)](#) You can also contact her for assistance. oriley@umich.edu
- [PMCID Manual: Posting Articles to PubMed Central Pursuant to the NIH Public Access Policy](#)
By Mary Yonkovit/University of Michigan Autism and Communication Disorders Center, February 2011, 19 pages, PDF
- [NIH Public Access eRA Commons Requirements for My Bibliography \[pdf\]](#)

Research Guide

National Institutes of Health Public Access Policy (NIHPAP)

TAGS: [GRANTS AND FUNDRAISING](#), [HEALTH SCIENCES](#), [MICHIGAN RESEARCH COMMUNITY](#), [PUBLISHING](#), [RESEARCH](#), [TAUBMAN HEALTH SCIENCES LIBRARY](#)

This guide is for NIH grantees and their support staff by providing a clear understanding of the National Institutes' Public Access Policy (NIHPAP), how to comply, and how to manage publications in eRA Commons using the My Bibliography portal in My NCBI.

Last Updated: Apr 10, 2013 | URL: <http://guides.lib.umich.edu/nihpublicaccesspolicy> | [Print Guide](#)

[Home](#) [About](#) [Complying](#) [Submitting To NIH Manuscript Submission System \(NIHMS\)](#) [The Policy & eRA Commons](#)

[Home](#) [Comments\(0\)](#) [Print Page](#)

Search: This Guide

Support

For NIHMS support, email:

nihms-library-support@umich.edu

[Comments \(0\)](#)

Contents

About

This tab describes the NIH Public Access Policy, the full-text database known as PubMed Central and its relationship to the policy, and the National Institutes of Health Manuscript Submission (NIHMS) system.

Complying

This tab reviews the steps required to comply with NIH Public Access Policy (NIHPAP). Additional information on what items qualify for deposit, copyright information, journals that automatically submit to NIHMS, and definitions of approved identifiers is also presented.

Submitting to NIH Manuscript Submission System (NIHMS)

This tab provides step-by-step instructions for submitting a manuscript to NIHMS.

The Policy & eRA Commons

This tab describes relationship between the publications appearing in eRA Commons and the My Bibliography feature in My NCBI, the personal online tool for information management provided by the National Center for Biotechnology Information which is fully integrated with the Entrez system that includes PubMed.

[Comments \(0\)](#)

Subject Guide



Merle Rosenzweig

Contact Info

Taubman Health Sciences Library
1135 E. Catherine,
Ann Arbor, MI 48109-2038
734-615-8923

[Send Email](#)

Links:

[Profile & Guides](#)

Subjects:

[Genetics](#), [Psychiatry](#), [Urology](#), [Family Medicine](#), [Pulmonary and Critical Care Medicine](#), [PubMed](#), [EndNote](#), [National Institutes of Health Public Access Policy](#)

YouTube Video

[National Institutes of Health Public Access Policy \(Full Lecture\)](#)

- [Lecture, pt 1: About the Policy](#)
- [Lecture, pt 2: Complying](#)
- [Lecture, pt 3: Submitting to NIHMS](#)
- [Lecture, pt 4: NIHPAP & the Grant Process](#)

[Comments \(0\)](#)

Demonstrating Compliance

All communications with NIH relating to the grant process must demonstrate compliance, including:

- All grant proposals, competing & noncompeting
- NIH biosketches
- Annual progress reports

Examples of Citations

Sala-Torra O, Gundacker HM, Stirewalt DL, Ladne PA, Pogosova-Agadjanyan EL, Slovak ML, Willman CL, Heimfeld S, Boldt DH, Radich JP. Connective tissue growth factor (CTGF) expression and outcome in adult patients with acute lymphoblastic leukemia. *Blood*. 2007 April 1; 109(7): 3080-3083. PMID: PMC1852221

Cerrato A, Parisi M, Santa Anna S, Missirlis F, Guru S, Agarwal S, Sturgill D, Talbot T, Spiegel A, Collins F, Chandrasekharappa S, Marx S, Oliver B. Genetic interactions between *Drosophila melanogaster* menin and Jun/Fos. *Dev Biol*. 2006 Oct 1; 298(1): 59-70. PMID: PMC2291284

Examples, before the PMID is available:

For Submission Methods A and B, use "PMC Journal - In Process":

Example: Sala-Torra O, Gundacker HM, Stirewalt DL, Ladne PA, Pogosova-Agadjanyan EL, Slovak ML, Willman CL, Heimfeld S, Boldt DH, Radich JP. Connective tissue growth factor (CTGF) expression and outcome in adult patients with acute lymphoblastic leukemia. *Blood*. [a publication date within 3 months of when the application, proposal or report was submitted to NIH]. PMID: PMC Journal - In Process

For Submission Methods C and D, use the NIHMSID:

Example: Cerrato A, Parisi M, Santa Anna S, Missirlis F, Guru S, Agarwal S, Sturgill D, Talbot T, Spiegel A, Collins F, Chandrasekharappa S, Marx S, Oliver B. Genetic interactions between *Drosophila melanogaster* menin and Jun/Fos. *Dev Biol*. In press. NIHMSID: NIHMS44135

Note: NIH expects NIH applications, proposals and reports to provide the most up-to-date information available on Public Access Policy compliance. The NIH Manuscript Submission reference number (NIHMSID) or "PMC Journal - In Process" should not be used once the PMID is available. Previously submitted applications, proposals and reports need not be updated when the PMID becomes available.

*Include PMID in Citations. NIH Public Access Policy Details. U.S. Department of Health & Human Services, National Institutes of Health Public Access. <http://publicaccess.nih.gov/citation_methods.htm>

EndNote Workshop

[My Sessions](#)[Upcoming Sessions](#)[TTC Members](#)[Enriching Scholarship](#)

Using EndNote for National Institutes of Health Grant Writing

The National Institutes of Health (NIH) Public Access Policy requires that a PubMed Central identification number (PMCID) be added to the end of a journal citation in grant proposals, progress reports, and the NIH biosketch that may accompany these to show compliance for research that is supported by NIH grant funding. This hands-on class will show you how to use EndNote to meet the formatting of documents now necessary for the NIH grant process.

Location:

Taubman Learning Center, 2802 Medical Sciences Building 2
1137 Catherine Street, Medical Campus ([view map](#)) [pop up map](#)

Session level: Beginner

Sponsor(s): Taubman Health Sciences Libraries

Presenter(s): Merle Rosenzweig

Tags for this session: [endnote](#), [Taubman](#).

[Campus maps](#) | [TTC homepage](#) | [TTC members](#) | teachtech@umich.edu

Proudly powered by [WordPress](#)

NIH Style



The screenshot shows a reference management application window. The top toolbar includes a search bar with the text "Quick Search" and a "Hide Search Panel" button. Below the toolbar is a search panel with "Search" and "Options" buttons, and a search scope dropdown set to "Search Whole Library".

The main area displays a table of references:

Author	Year	Title	Rating	Journal	Ref Type	URL	Last Upda
Aziz, N. A.; Roos...	2012	CAG repeat expansion in Huntington disease d...		Neurology	Journal Article		3/18/201
Chang, K. H.; Che...	2012	Downregulation of genes involved in metaboli...		PLoS One	Journal Article		3/18/201
Cloud, L. J.; Rose...	2012	Seizures in juvenile Huntington's disease: freq...		Mov Disord	Journal Article		3/18/201
Dumas, E. M.; va...	2013	A review of cognition in Huntington's disease		Front Biosci (Sc...	Journal Article		3/18/201
Engle, E. A.; Paw...	2011	Depression in the pathogenesis of Huntington d...		Neurodegener...	Journal Article		2/18/201

Below the table, there are tabs for "Reference" and "Preview". The "Reference" tab is active, showing the following text:

1. Chang KH, Chen YC, Wu YR, Lee WF, Chen CM. Downregulation of genes involved in metabolism and oxidative stress in the peripheral leukocytes of Huntington's disease patients. PloS one. 2012;7(9):e46492. Epub 2012/10/03. doi: 10.1371/journal.pone.0046492. PubMed PMID: 23029535; PubMed Central PMCID: PMC3459918.



PMC

Assistance with Revised NIH Grant Application Guidelines*

*NIH Notice Number: NOT-OD-09-149 Restructured Application Forms and Instructions for Submissions for FY2011 Funding <<http://grants.nih.gov/grants/guide/notice-files/not-od-09-149.html>>

The Changes

- New “Research Strategy” section
 - Condenses **3** individual sections from the previous form into a **single** section
- The “Research Strategy” now includes:
 - Background and Significance
 - Preliminary Studies/Progress Report
 - Research Design & Methods
- New page limit for “Research Strategy”
 - Limited to 6 or 12 pages

Previous Page Limit (Section 2-5 of the Research Plan)	New Page Limit (Research Strategy)
<25	6
25	12

**OER Table of Page Limits http://grants.nih.gov/grants/forms_page_limits.htm*

Inserting Graphics into Grant Applications & Other MS Word Documents

Workshop & Instructional Video



Inserting Graphics into Grant Applications and Other Word Documents

This workshop offers instruction on the efficient and proper placement of images, charts, and graphics into grant proposal applications. The session will cover basic features in Microsoft Word such as image placement, captioning, and text wrapping. Following a brief presentation and hands-on instruction, instructors will assist you with specific issues you're encountering in formatting your grant application. The session will cover all versions of Microsoft Word and applies to placement of graphics into any Word document. Please feel free to bring sample documents!

If you are having problems registering please send an email to oriley@umich.edu

You can also view a video of this workshop and related documentation online at this url from the Medical School's Office of Research :

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

The video itself can be accessed from:

|<http://hdl.handle.net/2027.42/90854>!

Location:

Learning Resource Center, Medical School, 3950 Taubman Health Sciences Library
1135 Catherine Street, Medical Campus ([view map](#)) [pop up map](#)

Session level: Beginner

Sponsor(s): Taubman Health Sciences Libraries

Presenter(s): Merle Rosenzweig

Tags for this session: [NIH Grants](#), [Taubman](#).

Workshop Recording

Inserting Images Into Grant Applications



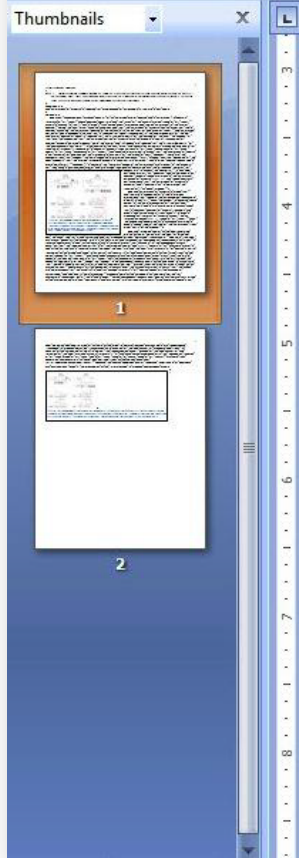
© Regents of the University of Michigan 2012

Welcome to the tutorial. This video will
show you how to insert images in



Taubman
Health Sciences
Library

*Rosenzweig M, Harris B, Mahraj K. Inserting Images into Grant Applications.
<http://www.youtube.com/watch?v=F-GV3tNq_78>



that time, we suggested that the N-terminal portion of MYO15 may be involved in signal transduction or another essential hearing process, while the motor and tail regions are required for the structural integrity of the neurosensory hair cells. In the course of the past grant cycle several investigators presented evidence for rapid actin turnover (treadmilling) in cochlear explants (Belyantseva et al., 2003; Belyantseva et al., 2005; Delprat et al., 2005; Rzadzinska et al., 2004). This could be interpreted to mean that the N-terminus of MYO15 is not essential for lengthening the stereocilia in explants of the organ of Corti. However, there are two considerations that suggest this data should be interpreted cautiously. First, a recent abstract presented at the ARO suggests that the protein turnover in explants is substantially different than in intact animals (discussed in more detail later). Secondly, it is possible that isoforms including the N-terminus are present in the explants, but they have a dysfunctional motor and are made functional by dimerizing with the introduced isoform that contains only the motor and tail. Further studies would be necessary to assess this possibility. In any case, our collaborator, Dr. Friedman, and his colleague Dr. Ahmed, recently found mutations in the N-terminal extension of MYO15 (Fig. 1). This finding confirms our hypothesis that the N-terminus of MYO15 is essential, and it compels us to determine the function of it by gene targeting.

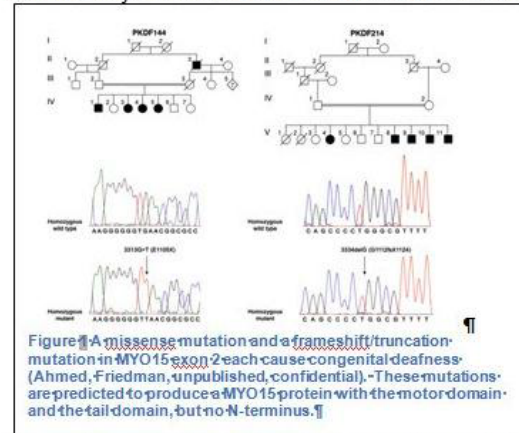



Figure 1 A missense mutation and a frameshift/truncation mutation in MYO15 exon 2 each cause congenital deafness (Ahmed, Friedman, unpublished, confidential). These mutations are predicted to produce a MYO15 protein with the motor domain and the tail domain, but no N-terminus.

→ The N-terminus of MYO15 is proline rich. This feature is suggestive of a role in protein-interactions that regulate the cytoskeleton (discussed in detail in aim 2). Thus, we expect to observe some defect in the actin organization of the hair cells. Northern blots and in-situ hybridization assays show that a significant number of *Myo15* transcripts skip exon 2 and splice directly from exon 1 to exon 3 producing an isoform of MYO15 without the N-terminal extension (Fig. 1, (Liang et al., 1999)). Thus, the phenotype generated by a missense mutation in exon 2 should isolate the role of the N-terminus from other parts of the molecule.

→ The targeting vector will be electroporated into R1 ES cells, which are the best of all the cell lines we have tried for stable karyotype and for producing efficient germ-line transmission. Following treatment with G418, clones will be picked into 5 x 96 well plates and screened for homologous recombinants by PCR. A reverse PCR primer in neo will be paired with a forward primer that will anneal to the endogenous *Myo15* locus, but not the targeting vector, i.e. 5' of the targeting vector end (Fig. 2, primers a, b). A forward primer in neo will be paired with a reverse primer between the *NcoI* site and the *KpnI* site (primers c, d). Positive control templates will be made and used to establish the sensitivity of one copy detection in ES cell DNA from 96 well plates (Kendall et al., 1995). We have been successful with PCR screens over larger arms than the 4.8 kb pieces in this design (Nasonkin et al., 2004), but if we encounter problems with sensitivity we will screen the



Tutorials on Grant Proposal Preparation Offered by the Office of Research

- **["Inserting Graphics into Grant Applications & Other Word Documents"](#)** 
 - This document offers instruction on the efficient and proper placement of images, charts, and graphics into grant proposal applications. Basic features in Microsoft Word such as image placement, captioning, and text wrapping are explained. Workshops on this topic are offered through the [Taubman Health Sciences Library](#), and you can [view a video of the workshop online](#). Contact [Merle Rosenzweig](#) for information on upcoming workshops.

