Dr. Paul Wood has joined the LMU-DCOM team with over 30 years of teaching, research and pharmaceutical development experience. This has included teaching and research at McGill University, Northwestern University and the Mayo Clinic. Dr. Wood’s research and development work in pharmaceutical and biotechnology companies has also resulted in the development of several successful drugs. His research over the last 5 years has been focused in the field of metabolomics. This is a technology platform that is used to discover and validate biomarkers of disease and disease progression. Metabolomics research is generally done by measuring 400 to 800 metabolites in the serum of a group of volunteers with a defined disease and then comparing the results to that obtained with normal volunteers.

Dr. Wood is currently establishing a Metabolomics Unit to be housed in the research facilities in the new Math and Science building. This facility will have the technology platforms needed to undertake complex metabolomics research programs. The following is a brief overview of the initial research programs that will be ongoing in the Metabolomics Unit.
Chronic Low Back Pain
We are initiating a study at LMU to evaluate the effects of osteopathic manipulative therapy (OMT) on the metabolomics of patients with chronic low back pain. This involves a number of our talented clinicians, including Drs. Stephen Miller, Gregory Thompson, Michael Wieting and Warren Wisnoff. This study is designed to discover biomarkers that define low back pain and determine the effects of OMT on those biomarkers. This study will also be strengthened by patient samples we have obtained from a study of low back patients receiving OMT therapy at the Osteopathic Research Center, University of North Texas Health Science Center. The availability of these valuable clinical samples comes from a five-year clinical study and this collaboration was made possible by Dr. Miller’s close working relationship with Dr. John Licciardone, the Executive Director of this Texas research center.

Alzheimer’s Disease (AD)
The focus of our AD research is to understand the biochemical events that lead to cognitive decline in AD patients, by comparing their metabolomics with nonagenarians. Nonagenarians are individuals who live well into their late 90’s and early 100’s with little or no cognitive decline, but still demonstrate the brain neuropathology of an Alzheimer’s patient. We are collaborating with Dr. Joseph Quinn and Dr. Randy Woltjer at the Layton Aging and Alzheimer Disease Center, Oregon Health Sciences University in an attempt to define the underlying biochemistry of cognitive dysfunction that occurs in AD but not in nonagenarians.

Peroxisomal Disorders
We are collaborating with Dr. Nancy Braverman at McGill University, to find optimal lipid precursors to replenish a complex lipid deficiency in children with devastating peroxisomal disorders. We are using metabolomics to define the best therapeutic candidate in cell and animal models of this diease. Our next step will be to obtain clinical trial support from the NIH division of Rare and Neglected Diseases to advance a therapeutic candidate into clinical evaluation.

Continued on page 3.
Researcher Profile: Dr. Paul Wood Continued

Glioblastoma

We are also initiating a new research program with MD Anderson Cancer Center and the University of Texas Medical Branch to study the metabolomics of glioblastoma patients. This is an aggressive cancer with a very poor prognosis for most patients. We hope to define new points of potential therapeutic intervention in this cancer.

This is an exciting time for building our research programs at LMU, with the Metabolomics Unit working hard to contribute to translational research, namely moving research findings into clinical practice. Dr. Wood is grateful to LMU for their strong support of the Metabolomics Unit and will work to assure that the research, education and training provided by the unit will contribute to the mission of LMU-DCOM.

Alzheimer’s Research & Therapy Publication

Dr. Paul L. Wood recently published an article in Alzheimer’s Research & Therapy entitled “Lipidomics of Alzheimer’s Disease: current status.”

According to the abstract, Alzheimer’s disease (AD) is a cognitive disorder with a number of complex neuropathologies. The role of underlying pathological processes in the evolution of the cholinergic deficit responsible for cognitive decline has not been elucidated. Furthermore, generation of testable hypotheses for defining points of pharmacological intervention in AD are complicated by the large scale occurrence of older individuals dying with no cognitive impairment despite having a high burden of AD pathology. To further complicate these research challenges, there is no animal model that reproduces the combined hallmark neuropathologies of AD. These research limitations have stimulated the application of ‘omics’ technologies in AD research with the goals of defining biologic markers of disease and disease progression and uncovering potential points of pharmacological intervention for the design of AD therapeutics. The article further investigates and discusses lipid alterations and their potential roles in the pathophysiology of AD.
Dr. Adam Rollins and Dr. Ron Caldwell submitted a preliminary proposal to the National Science Foundation (NSF) to further research the microbial diversity of canopy microhabitats in Neotropical forests and the role of terrestrial snails as ground-to-aerial vectors of microorganisms. Dr. Rollins also submitted a preliminary proposal to NSF to further research microbial ecology and biodiversity in Kenyan grassland ecosystems.

Elissa Graff, Assistant Professor of Education, Instructional Technology / Director, Clinical Practice, submitted a proposal to the Tennessee Arts Commission (TAC) through their Rural Arts Project Support (RAPS) Grant entitled “Crafts Enrichment Program for the Cumberland Gap Region”. If funded, the program would support weekend and week-long classes in traditional Appalachian arts and crafts.

Dr. Roy Wilcox and Dr. Joe Pole submitted a proposal through the NSF Major Research Instrumentation (MRI) Program entitled “MRI: Acquisition of a Modular Compact Rheometer (MCR)”. The MCR will be used to determine the dynamic mechanical and rheological properties of viscoelastic solids and complex fluids of systems currently under study by Dr. Wilcox.

David Wilhoit, Director of LMU Upward Bound Program, submitted the renewal application for LMU’s Upward Bound Program through the Department of Education. The primary goal of the Upward Bound Program at Lincoln Memorial University is to assist participants (around 89 each year) to generate the skills and motivation necessary to complete a program of secondary education and to enter and succeed in a program of postsecondary education.

Dr. Paul Wood, in conjunction with MD Anderson Cancer Center and the University of Texas Medical Branch, submitted an RO1 to the National Institutes of Health (NIH) to study the metabolomics of glioblastoma patients. This is an aggressive cancer with a very poor prognosis for most patients. Dr. Paul Wood, Dr. Mark Emmett (University of Texas Medical Branch), Dr. Carol Nilsson (University of Texas Medical Branch), Dr. Rovshan Sadygov (University of Texas Medical Branch), and Dr. Charles Conrad (MD Anderson Cancer Center) submitted the grant proposal to develop new analytical and computational methods to improve the speed and precision of metabolomics analytical platforms. These methods will then be validated with metabolomics studies of biofluids and tumor tissue from glioblastoma patients.
Graff and Evans Present in Vancouver.

Elissa Graff, Instructional Technology / Director, Clinical Practice, and Jessica Evans, Instructor of Biology, recently attended the Eighth International Conference on Environmental, Cultural, Economic, and Social Sustainability in Vancouver.

More than four hundred delegates from twenty-nine countries met to share their work on pressing challenges facing our world. Plenary addresses by Marie-Claire Cordonier Segger, John Robinson, and Charles Hopkins plus a welcome talk by Amareswar Galla and a surprise visit from University of British Columbia professor emeritus William Rees served to set the tone for an informative, academically focused meeting.

Graff and Evans, using student narratives, presented a paper entitled “Promoting Environmental and Cultural Awareness through Experiential Learning” showing that two groups of students enrolled at Lincoln Memorial University (Harrogate, Tennessee, USA) were able to develop greater environmental and cultural awareness of their own community by observing various environmental issues and cultural practices of Belizean communities. A multidisciplinary course was taught by an Graff and Evans during March of 2010 and 2011. During the 10 day course, students were exposed to issues related to invasive species, pollution, and organic farming techniques. Furthermore, students were engaged in art activities that promoted environmental and cultural awareness, including art practices that focus on the use of natural resources. The paper demonstrated that upon return to the home state, the knowledge gained by the student has had a positive sustained impact.

Cumberland Gap Young Writers Workshop

At their January 2012 meeting, the board of directors of Humanities Tennessee (HT) approved HT’s collaboration with LMU and the Mountain Heritage Literary Festival to develop the Cumberland Gap Young Writers Workshop, a week-long residential writing workshop for rising high school juniors, seniors and just graduated seniors. The workshop will be co-directed by LMU Writer-in-Residence, Darnell Arnoult, and HT Program Officer, Lacey Cook. The first annual workshop is planned for July 22-28, 2012. The students will study with published writers from the region in the following areas: poetry, fiction, creative nonfiction, songwriting, and film treatment. The week-long workshop will also include a class in Appalachian culture in literature. The workshop is open to students from outside the region, but priority for raising scholarship funds will focus on recipients from East Tennessee and the tri-state area.
Dr. Sean Greene, Assistant Professor, Music/Humanities and Fine Arts, has several forthcoming publications from Cimarron Music Press, including his 50 Studies in Major and Minor for Tuba, transcriptions of the JS Bach G minor Sonata for tuba or euphonium, Three W.A. Mozart Arias for tuba and piano and two volumes of jazz duets for tuba and euphonium.

Next month, Dr. Greene will perform a guest artist recital at Tennessee Tech University in Cookeville with the KnoX Brass WorX Co. brass quintet. He is also one of four clinicians working/teaching at the East Tennessee School Band and Orchestra Senior Clinic. He will premier his new original work for concert band titled “Highland Games.” On February 12, Sean will perform Kevin Norbury’s technically demanding solo work “Badinage” with the Southern Stars Symphonic Brass Band in Crossville, TN.

Dr. Greene has been invited to premier his new work for brass quintet and voice titled “Mountain Voices”, settings of poetry by Appalachian writer Sylvia Woods at the 2012 International Women’s Brass Conference in Kalamazoo, MI this June.

Dr. Greene has been elected to head a committee for the International Tuba Euphonium Association to find and select original works for tuba and euphonium to be featured in the quarterly ITEA Journal’s Gem Series.

Dr. Greene is Director and Chair of the Planning Committee for the 2012 Calvin Smith Brass Quintet Competition and Festival to be held in Oak Ridge on July 6&7 of this year. The Competition and Festival are ways to promote brass chamber music among high school and college-aged music students as well as honor the memory and career of Calvin L. Smith (1950 – 2011), principal hornist of the Knoxville Symphony Orchestra and beloved brass pedagogue.
The Abraham Lincoln Library and Museum (ALLM) hosted its annual “Christmas with the Lincolns” event on Friday, December 9 in the Arnold Auditorium of the ALLM. The program included an original play depicting the White House on Christmas Eve 1862 while the President and Tad anxiously await Mrs. Lincoln’s return from visiting soldiers in the Washington area hospitals. Dennis Boggs returned to portray President Lincoln in this year’s presentation. Zachariah Wiles played young Tad Lincoln. Immediately following the “Christmas with the Lincolns” presentation, Ms. Conny Ottway joined with the cast and staff of ALLM in commemorating the Sesquicentennial of the American Civil War by presenting a concert of selected Civil War musical pieces. This special event is designed to incorporate the haunting sounds of music from the Civil War years as well as introduce the history of songs played and sung in those long ago encampments or on the march from battlefield to battlefield during America’s devastating Civil War.

The Abraham Lincoln Library and Museum (ALLM) recently accepted the newly acquired Cumberland Gap collection. This was a major purchase for the research collection to create a new core of materials on Civil War Studies in the western theater. A private collector spent many years assembling the letters, diaries and other materials all relating to Civil War action at Cumberland Gap. The inventory includes Civil War Era maps and letters and will act as a core for future collecting.

April Scheuer of LMU is pictured holding a portion of a new acquisition of military documents, correspondence and images of the Civil War in Cumberland Gap.

Steven Wilson recently spoke on the ALLM’s purpose and duty to the Lion’s club of Lafollette TN at the First Presbyterian Church. Civic club talks like this keep the Museum connected to the regional public.
Thomas Mackie, Director of ALLM, Set for Busy Schedule of Speaking Engagements

*Let's Talk About It: Making Sense of the American Civil War.*
Sponsored by the American Library Association
Mr. Mackie was selected to be the visiting scholar for this program at Laurel County, Kentucky, Public Library. Each event will be in the evening so not to disturb regular office hours. The sessions are:

- January 5th—Introductory session
- January 16th
- February 20th
- March 19th
- April 16th
- May 21st

Mr. Mackie is also the final visiting scholar at the East Tennessee Historical Society Library. His talk concluded the joint exhibit *Abraham Lincoln and the Constitution in the Civil War.* This event is in partnership with Knoxville County Library’s program *Let’s Talk about it: Making Sense of the Civil War.*

- January 11 noon to 1 at the Tennessee Historical Society

On February 11 Mr. Mackie will present *How Lincoln Is Depicted in Museums and Memorials* to the Lincoln Group of Boston, Stonehill College in Easton, MA

*Thomas Mackie is the Director of the Abraham Lincoln Museum at Lincoln Memorial University. With over 25 years of experience, Mr. Mackie is a long-term veteran in both conventional history education and in history museums. His current research considers the commemoration and interpretation of Lincoln through exhibitions and museum programming. Mr. Mackie is presently completing work on his Ph.D. from Western Michigan University in U.S. history with a concentration in public history.*
Foundation Corner

By Martha Scheidler, Director of Foundations

What’s the worst part of grant writing? I’m sure the answer to that question is different for everyone, but nearly everyone has issues with the budget. It can be very difficult to foresee all the needs of a project or new program. The easiest way to prepare a budget is by thinking through the proposed project step by step. Here are some of the basics:

- **Personnel, including salaries and benefits**
- **Equipment**
- **Marketing and PR including design and printing**
- **Postage**
- **Office supplies**
- **Meeting supplies or food**
- **Travel**

In other words, what exactly do you need to be successful? You may not need any additional equipment or plan on any travel, but a realistic assessment of project implementation is critical to success. Once you know the project budget, it’s good to check the foundation’s granting guidelines. Some funders will not underwrite salaries or other overhead costs.

Recently there was some discussion on the CASE listserv regarding unspent grant money. What to do? The majority of people responded that a frank discussion with the funder resulted in an extension of the grant term, however one funder did ask for their money back. That is a good reminder to build a budget that is realistic and a project that you feel can be successful.

We can help you think through these and other questions. Make sure you call or email us first before beginning a project.

Recent Submissions and Awards

Kathy Francisco and Floyde Anne Gardner have submitted a request to the Peyback Foundation for equipment to support the Aquatic Explorations Program for children.

Jack McCann has submitted a request to the Smithfield-Luter Foundation for a continuation of the highly successful Learners to Leaders Program. Dr. McCann has also submitted six LOI’s to the NASDAQ OMX Education Foundation in support of several research, dissertation and curriculum initiatives.

January Awards

Congratulations to Curt Klinghoffer, Evelyn Smith and JoAnn Russell for a $7,000 grant from the US-Japan Foundation in support of the Kanto Program.

The LMU Community Organic Garden has received $11,000 from Grow Appalachia to support garden expansion and education classes.
A Note From the LMU Institutional Review Board

Please remember that all research proposals and projects involving human subjects, must have IRB approval prior to the presentation of any information gathered during the course of the research.

Under federal policy, the IRB cannot grant retroactive IRB approval.

For more information regarding the LMU IRB, please visit http://www.lmunet.edu/curstudents/ORGSP/IRB.shtml.

ORGSP Contact Information

pauline.lipscomb@lmunet.edu
or call (423) 869-6214

carolyn.gulley@lmunet.edu
or call (423) 869-6291

melissa.miracle02@lmunet.edu
or call (423) 869-6834

If your grant award, application, presentation, or publication has not been mentioned in this edition, please forward your information to us using the contact information listed.

The ORGSP is located in Duke Hall, Suite 304

As a reminder, all applications for external funding must first begin by contacting the ORGSP.

Thank You!

The ORGSP staff would like to thank everyone for their submissions to the newsletter!