



FSM Researcher

Feinberg School of Medicine Research Office

April 2011

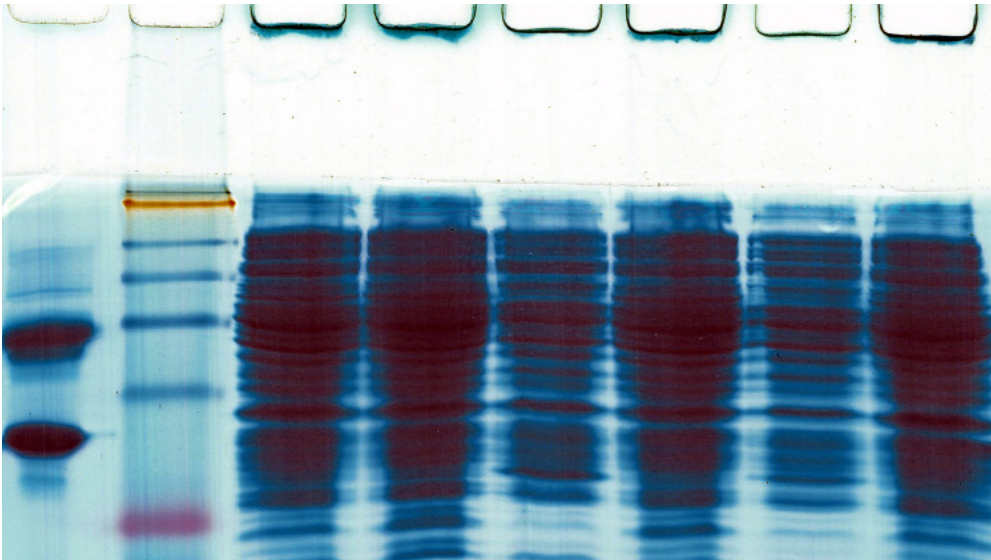
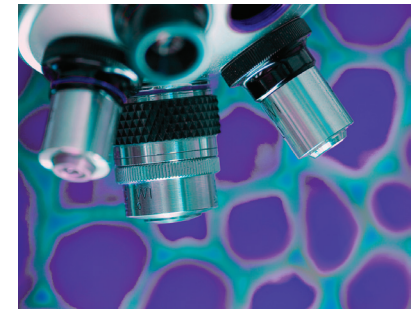


Figure 1. Proteomics, the study of an organism's complete complement of proteins, has major implications for improved diagnostics and drug therapies. Above: Protein samples separated on a SDS polyacrylamide gel.



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New Proteomics Core: Advanced Resources for a Developing Field

A fairly new area of biological study, proteomics — or the large-scale study of proteins — is generating a great deal of buzz amidst members of the research community. To stay current with this emerging field, Northwestern University's Office for Research recently announced plans to launch a new **Proteomics Core** under the direction of [Linda Hicke](#), Northwestern University associate vice president for research, which will serve both the Evanston and Chicago campuses when it officially opens on May 15.

Proteomics proves a natural progression following the widespread growth of the genomics discipline. While genomics looks at genomes in organisms or systems, proteomics studies and maps the quantity and type of protein or protein sets, says Dhaval Nanavati, PhD, managing director of the Proteomics Core.

"Advances in mass spectrometry instrumentation have pushed the study of proteomics from simply profiling proteins to absolute and relative quantification of mass, delineation of post-translational modifications, and other advanced approaches," says Nanavati, adding that the field, which has been around for less than 15 years, has major implications for improved diagnostics and drug therapies.

For instance, under certain disease conditions, the abundance of a specific protein or set of proteins may increase or decrease or an alteration in post-translational modification of the proteins may occur. The identification of

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Story ideas?

Contact the Feinberg Research Office:

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these signatures — commonly referred to as disease biomarkers — may allow for early detection and can also aid in discovering novel drug targets for the development of new therapeutics.

Nanavati came to Northwestern as a proteome specialist more than a year ago, which helped him to understand the needs of the University's researchers in the growing area of proteomics. In this role, he has worked informally alongside investigators requiring proteomics-related assistance. The initial focus of the core will be to serve researchers through robust protein identification. Moving forward, Nanavati plans to evolve the core's range of offerings to include clinical and translational medicine.

"Currently, I'm a one man facility; handling administration, consultation, and machine maintenance," Nanavati says. "Expansion will be completely user-defined. That is, we will happily hire more specialists if the researchers show us that there's a demand for our services."

Nanavati serves as a partner to biologists and chemists — helping individuals from sample preparation (most important due to the intricacy of the process) to data deduction and beyond. Nanavati even works with investigators to determine project expectations and to provide them with publishable data.

"The facility is data-intensive, so it's crucial that there be an educational aspect. The end user needs to be able to understand and interpret the data," says Nanavati, who is in the process of developing a guidebook. "Due to its complexities, transparent communication proves the key to proteomics research."

To perform its work, the core uses state-of-the-art technology, including the LTQ Orbitrap Velos — the most advanced, commercially available ion trap instrument.

"This machine runs with superior scanning speed and mass accuracy, translating into more identification with higher confidence," says Nanavati. "Identification of proteins present at low concentrations is often crucial for hypothesis creation and formation."

Researchers needing more enhanced technological support and collaboration are able to connect with the [Proteomics Center for Excellence](#) (PCE), led by [Neil Kelleher, PhD](#), professor of molecular biosciences, Weinberg College of Arts and Sciences and director of PCE. While the Proteomics



Dhaval Nanavati, PhD, managing director of the Proteomics Core, spends time on the Chicago and Evanston campuses.

Core uses a traditional, bottom-up approach based upon digested protein samples to provide protein identification and quantitation services, the PCE uses highly innovative technologies to provide top-down analysis of intact proteins. Both the Proteomics Core and PCE are affiliated with the [Chemistry of Life Processes Institute](#), which provides administrative services and space on the Evanston campus.

Investigators with proteomics needs are advised to contact either Nanavati or Kelleher, who will evaluate each case and direct users accordingly.

"The relationship between the core and center is fluid and evolving. Some researchers may need to collaborate across the two, while others may have their needs met by one group," Nanavati says.

Nanavati will spend one day per week in the Tarry Research and Education Building on the Chicago campus in order to connect with researchers from Feinberg. The remainder of the week, he will remain at the proteomics laboratory.

"As the core further engages researchers across both campuses, I look forward to enhancing Northwestern's footprint in the field of proteomics," says Nanavati.

For more information about the proteomics core, or to schedule a consultation, contact Dhaval Nanavati, d-nanavati@northwestern.edu or (847) 467-0896. For more information about the PCE, contact Neil Kelleher: n-kelleher@northwestern.edu or (847) 467-4362.

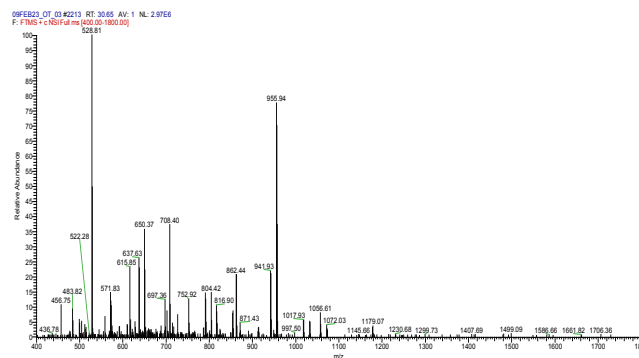


Figure 2. After analyzing gels like those shown in Figure 1, the core's mass spectrometers produce mass spectra images like this for analysis.



Faculty Profile: David Engman, MD, PhD

Professor of Pathology and Microbiology-Immunology



David Engman, MD, PhD, professor of [pathology](#) and [microbiology-immunology](#), and director of the Northwestern Medical Scientist Training Program (MSTP), grew up in Des Moines, Iowa, the eldest of three children. An avid musician and active in sports, he came to Northwestern University as an undergrad and found a sustaining passion for research in the Morimoto Lab. Upon graduation, Engman enrolled in the

MSTP at the University of Iowa and graduated in 1990 with a focus on genetics.

Today, Engman is respected scientist, serving as an established investigator and fellow of the American Heart Association (AHA), a member of the American Society for Clinical Investigation, a fellow of the American Academy of Microbiology, and a Member of the Pluto Society of Academic Pathologists. He has been honored as the Amgen Outstanding Investigator of the American Society of Investigative Pathology, and has been named a finalist for the George Joost Teacher of the Year Award at Feinberg for basic science teaching every year since the mid-1990s – his most proud and most gratifying accomplishment.

When not at Feinberg, Engman, his wife Luz, and their two young children enjoy typical young family activities, especially those involving Buzz Lightyear, princesses, or ice cream. Engman's personal hobbies remain music and sports, and he has set a goal to win men's 50-and-over tennis tournaments when he becomes eligible later this year.

Q&A [What brought you to Feinberg?](#)

When I was a senior MSTP student, I had the option of a traditional residency and fellowship training at other top-ranked pathology departments. I chose to come to Northwestern to pursue a unique opportunity to establish an independent research laboratory and do residency in clinical pathology on a part-time basis. I was 28 years old when I started. This opportunity is similar to that supported by the new National Institutes of Health (NIH) Director's Early Independence Award, which permits new PhD graduates to start research labs without having completed a postdoctoral fellowship.

Because I had not done a postdoc, I established a close collaboration and friendship with [Steve Miller, PhD](#), Judy Gugenheim Research Professor of Microbiology/Immunology, who served as co-investigator on my initial grant applications. This strategy worked: in just over a year, I had a staff of one postdoc, three graduate students, and a talented technologist and now lab manager Cheryl Olson, who has been my partner in research for 20 years.

Our first extramural research funding came in fall 1990 as part of [Richard Pope's](#) Multipurpose Arthritis Center, and we began securing local and NIH research grants shortly after.

[What are your research interests?](#)

I am interested in science at every level. Over the years, my favorite topics have been transposable elements, planetary science, mitochondrial biogenesis, and molecular mechanisms of human disease.

My research lab has studied various aspects of molecular genetics, cell biology, and pathogenetic mechanisms of trypanosomes – single-celled eukaryotic parasites that cause African sleeping sickness – and Chagas disease. My lab is roughly divided into two halves, with one focusing on the biogenesis of eukaryotic cilia, membrane dynamics, trafficking, and signaling, and the other focusing on the pathogenesis of and drug discovery for trypanosomiasis. During the past three years, through collaborations, we have expanded our research into mechanisms of pathogen tissue tropism and transendothelial migration of both lymphocytes and parasites.

Overall, though, I have a lifelong love of trypanosomes. They are fascinating cells in their complex structures and life cycles involving human and insect hosts, mechanisms of proliferation and differentiation, and especially their varied strategies for evading the host immune response. African sleeping sickness is essentially cancer – unregulated proliferation of eukaryotic cells (trypanosomes) in the blood which can reach parasitemias of a billion per milliliter. Interestingly, these eukaryotic pathogens are highly susceptible to a number of cancer chemotherapies. We have had surprising success approaching this hematologic infection as leukemia.

[What is the ultimate goal of your research?](#)

The long-term applied goal of our research is to develop vaccines and effective new drugs for trypanosomiasis, which causes tremendous morbidity and death among millions. I have

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Cameron, continued from page 3

considered moving into malaria vaccine development for some time and still hope to do this.

The more readily achievable goals, however, involve understanding how cell structures form and function at the most fundamental levels. How are discrete surface membrane domains established and maintained? How does a cell sense its environment and make structural and physiologic modifications to adapt to that environment? For trypanosomes, there are special challenges, since they need to thrive in a low temperature insect (midgut, hindgut, or salivary gland) and a higher temperature human (bloodstream, extracellular matrix, or inside a host cell), and make proliferation and differentiation decisions along the way and avoid host immune clearance.

A second goal is to understand how and why the American trypanosome induces cardiac autoimmunity during infection and the relative roles of anti-parasite and anti-self immunity in Chagas disease pathogenesis.

A final goal that has occupied nearly half of my professional life is training the next generation of scientists and physician-scientists. I have had the good fortune to train dozens of students and postdocs and to mentor 89 MD-PhD graduates and 98 current MSTP students as director of the Northwestern MSTP program. In addition, as one of the longest serving MD-PhD program directors in the country (I was appointed when I was 33), I have had the privilege of leading our National MD-PhD program association and chairing the MD-PhD section of the Association of American Medical Colleges.

How is your research funded?

Our research is primarily funded by NIH R01 grants on flagellum structure/function, Chagas disease, and autoimmune myocarditis.

Nearly all of my students and postdocs have received individual fellowships from the NIH or AHA, or have been appointed to training grants. We have maintained a group of approximately 10 to 15 scientists on two to four research grants, plus fellowships. Other funding sources for our group include the American Cancer Society, Crohn's and Colitis Foundation, Arthritis Foundation, Merck & Co., and Abbott Laboratories.

What types of collaborations or research teams are you engaged in across campus (and beyond)? What are the challenges and benefits?

I believe that the successful scientist of today has both independent and collaborative research. I have a number of collaborators at Northwestern and at other institutions, such as the University of Texas at El Paso, the Pasteur Institute, and University of California – Irvine.

At Feinberg, I am part of a new research partnership with [Conrad Epting](#). Conrad and I have formed a true scientific team; we co-advise all of our students and fellows, have mostly joint research projects, hold joint group meetings, and a host joint [Engman-Epting Lab](#) web site.

The benefits outweigh the challenges: Our group of 16 scientists has two advisors, and our teams work together on grant applications and papers. Among a dozen papers we published in 2009-2010, Conrad was co-author on six and corresponding author on two; if he were not part of our team, he may not have published so early in his professorship. The challenge, of course, is to assure Conrad develops his own independent research for promotion and tenure. To that end, I am happy to say that two of the most exciting projects in our group now are his. We believe that our approach to career development, an assistant professor having significant clinical duties, can serve as a model for others.

Philip Greenland, MD, Wins Tripartite Prize



Philip Greenland, MD, Harry W. Dingman Professor of Cardiology and professor of preventive medicine and medicine has been named the winner of the [Tripartite Legacy Faculty Prize](#), presented annually to the faculty member who has demonstrated excellence in research that emphasizes translational approaches, teaching, mentoring, and leadership. Greenland is senior associate dean for clinical and translational research and director of the Northwestern University Clinical and Translational Sciences Institute ([NUCATS](#)). He previously was chair

of the Department of Preventive Medicine from 1991 to 2005.

Donald Lloyd-Jones, MD, associate professor in preventive medicine and medicine and chair of the Department of Medicine, values Greenland as an important career mentor and noted in his nomination letter, "Countless others within and outside Feinberg have benefited from his mentoring and teaching. [Greenland] has served as mentor for all of us while exhibiting tremendous leadership in the field of cardiovascular epidemiology and prevention, becoming a national and international leader in this area."



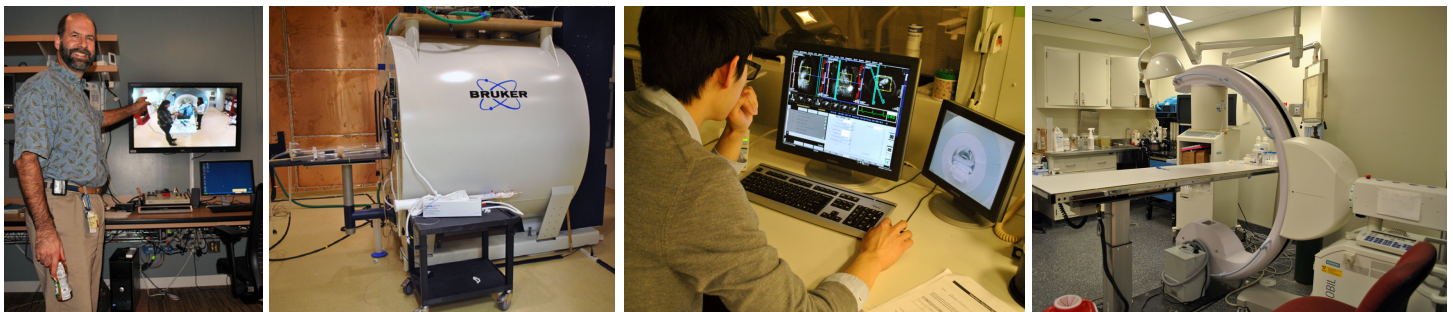
Center for Advanced MRI Doubles its Research Space

Feinberg's Center for Advanced Magnetic Resonance Imaging (CAMRI) recently completed a 6,000 square-foot expansion, more than doubling its original space to 10,500 square feet and creating a high-tech imaging haven for Northwestern researchers.

"CAMRI is the only human imaging facility we have at Northwestern University, and it's 100 percent dedicated for research," says Todd Parrish, PhD, associate professor in radiology, director of CAMRI, and a neuroimaging researcher.

collect data, work with our team for analysis, and then they go away with their results. It's incredibly convenient for researchers."

The expansion, completed in August, resulted from a combination of NIH and private funds. The new 3T whole-body system magnet, as well as the infrastructure for the space, was funded by John Csernansky, MD, chair of the Department of Psychiatry and Behavioral Sciences, through the Warren Wright Fund, which supports the investigation



Above (L to R): Todd Parrish, PhD, in CAMRI; 7T animal magnet; researcher conducting a study using MRI; C-ARM fully equipped for any x-ray angiographic study. See more photos and complete descriptions: [view a slideshow of CAMRI's space.](#)

"Though we have two major divisions within CAMRI – cardiovascular and neuroimaging – anyone can use the space, which includes two 3T magnets and one 1.5T magnet for human use. We can also do animal imaging on the other side of the facility with our 7T animal magnet."

"T" stands for "tesla," a unit for measuring magnetic induction. Higher T numbers indicate stronger magnets and better signals; 1.5T is the intensity used in standard clinical testing and is ~30,000 times stronger than Earth's magnetic field.

Originally built by the Department of Radiology in 2002, Parrish notes that CAMRI is somewhat of a misnomer. "We put MRI in the name long ago, but the center has become more than that; we're expanding into different modalities to investigate the brain. These include Doppler ultrasound, EEG, and transcranial magnetic stimulation (TMS). The TMS was obtained through a collaboration with Robert Levy, MD, PhD, Department of Neurological Surgery, and Nexstim to investigate a non-blood flow based means to non-invasively map brain function."

Though he says that the name will not change, CAMRI's suite of services and high-end instrumentation have evolved to create a unique destination for researchers across Northwestern and the Chicagoland area for incorporating MRI into any kind of research. The set-up at CAMRI, he notes, is like a docking station, "People come in from any department or group, plug in what they want to do,

of adolescent psychiatric research. Debiao Li, radiology, funded the dedicated small bore 7T animal magnet through a high-end instrumentation grant from the NIH. A third 3T magnet funded by an NIH high-end instrumentation grant is scheduled to arrive at CAMRI in June 2011. Construction has already begun in the Olson Pavilion basement on a secondary expansion.

Along with new space comes a new team for CAMRI: Jennie Chen, PhD, joined CAMRI in March to serve as director of neuroimaging operations and to ensure researchers' needs are met when using the new space. Daniel Procissi joined in January 2010 to run the 7T animal system. Xue Wang joined the CAMRI team in fall 2009 to assist researchers with the implementation of experimental paradigms and post-processing support. Investigators are encouraged to reach out to Parrish, Chen, Procissi, and Wang with questions about using the equipment, data analysis, and conducting studies. Says Parrish, "We try to help people out. If you are starting a new study and aren't sure whether it's going to work, you could request some waived pilot time to work out the kinks and collect preliminary data for grants."

CAMRI is located in the basement of the Olson Pavilion. Researchers can contact Todd Parrish at toddp@northwestern.edu or visit the [CAMRI web site](#) to learn more about the center's services and schedule trainings or set up studies.



Student Q&A: Lou Dore, Integrated Graduate Program in the Life Sciences



Where is your hometown?

I grew up in Teaneck, New Jersey, a suburb of New York City. I moved to Philadelphia for college (at Drexel University) and lived in and around Philadelphia for almost a decade

before coming to Northwestern. So, I spent most of my life on the East Coast, but my last few years in Chicago have really mellowed me out and eased my transformation into a docile and compassionate Midwesterner.

What are your research interests?

I think I'm nerdy enough to be interested in a wide variety of scientific research, but I'm most intrigued by questions involving molecular genetics, chromatin dynamics, and the mechanisms of gene expression and regulation. In general, I'm interested in science that has a modestly recognizable goal of addressing human disease and leverages novel technologies to answer long-standing basic biological questions.

What exciting projects are you working on?

The [Crispino lab](#) is interested in the molecular mechanisms of blood cell development and how alterations of those processes lead to hematological disorders and leukemia. Our group of 12 scientists is fairly diverse in our interests – projects span from studies of the basic mechanisms of red blood cell enucleation to differentiation of hematopoietic cells from pluripotent stem cells to drug discovery and complex mouse models of genetic interplay in blood diseases.

My project uses a very cool and relatively new technique called ChIP-Seq (for chromatin-immunoprecipitation sequencing) to understand how specific transcription factors control the development of megakaryocytes, which are the gigantic multinuclear blood cells that give rise to platelets.

This technique can be used to pinpoint transcription factor binding on a genome-wide scale with fairly high resolution. Using genome-wide occupancy data for transcription factors, I can make generalizations about the genetic networks

each factor controls, the sites each factor occupies, and how the factors work together to control developmental processes.

I've been using profiles for GATA-binding transcription factors and histone methylation patterns along with gene expression datasets to define these transcriptional programs, build mathematical network models, and ultimately understand precisely how GATA factors select their binding sites and control gene expression.

What attracted you to the IGP program?

When I was looking at graduate schools, my wife was a medical student at the University of Chicago, so I knew I wanted to be in Chicago. Ultimately, my decision came down to the quality and quantity of research being done at Feinberg. There is high-level molecular disease research happening in every department here, and based on the students and faculty I met during my interview weekend, I was confident that Northwestern was a place where I could happily pursue and successfully complete my graduate degree – so far, I'm very pleased with my decision.

What do you do in your free time?

Every month or two, I brew a five-gallon batch of beer in my kitchen that I can serve on tap from my kegerator. I'm a fan of nearly all sports, but I prefer to play games that require little physical exertion and thus pair well with beer-drinking – poker, darts, pool, and ping-pong, etc.

I also enjoy the exceedingly rare opportunity to spend time with my brothers, whose jobs often require them to be overseas, and my nephew (seven) and niece (one), who are fantastically entertaining despite their apparent disinterest in molecular biology. In the summer, my wife and I spend a week at Missouri's Lake of the Ozarks, where her family has a house. It's always a very peaceful week of relaxing on the dock, waterskiing, and capsizing jetskis.

What are your plans for after graduation?

Ultimately, I'd like to stay in academia and have an independent lab at a large research-oriented institution. To prepare for that, I plan to get an academic postdoc position after graduation and save my money for the fanciest tweed coat I can find.

Editor's note: We're pleased to report that Dore was recently named a 2011 Chicago Biomedical Consortium Scholar. Congratulations!



Sponsored Research



Anis Contractor, PhD
Assistant Professor,
Department of Physiology

Project title: “Activating Group I mGluRs to Repress Fear Memory”

Sponsor: McKnight Endowment Fund for Neuroscience

The estimated prevalence of anxiety disorders such as post-traumatic stress disorder and generalized anxiety disorder in the US is approximately 20 percent. Therefore, the neural circuits and molecular mechanisms that underlie an inappropriate response to fear and the adaptive processes which normally inhibit fear are of significant clinical relevance.

Fear extinction is a particularly good animal model for studying anxiety disorders, and a great deal is known about the cellular basis for extinction. Despite this, there are still unanswered questions about the neural circuitry, molecular mechanisms, and synaptic and cellular underpinnings of adaptive learning.

Contractor and his lab received a three-year McKnight Award to study the involvement of metabotropic glutamate receptor 5 (mGluR5) in fear extinction memory. They previously demonstrated that this important synaptic receptor is required for adaptive learning. mGluR5 knockout mice are not easily able to adapt to less aversive situations and remain fearful even after the fear-inducing stimuli is removed. Here, Contractor and his lab will take a comprehensive approach using novel technologies to determine the precise mechanisms and neural substrates through which mGluR5 influences adaptive learning. Novel conditional mutant mice and optogenetic inhibition of subsets of neurons in

the cortex will be used to determine the brain structures involved in adaptive learning. Novel positive allosteric modulators of mGlu receptors will be tested in mouse models of fear extinction to determine whether potentiating mGluR5 signaling can enhance the extinction of fear.

These studies will provide insight into the role of mGluR5 in adaptive learning and help validate pharmacological reagents in animal models for further testing for the treatment of human anxiety disorders.

Jacob I Sznajder, MD
Ernest S. Bazley Professor of Asthma and Related Disorders and Chief, Division of Medicine-Pulmonary

Project title: “Injurious Effects of Hypercapnia on the Alveolar Epithelium”

Sponsor: National Heart, Lung, and Blood Institute



Patients with chronic obstructive pulmonary diseases (COPD) and acute respiratory distress syndrome (ARDS) are exposed to hypercapnia (high CO₂ levels in the blood), which has deleterious effects on alveolar epithelium and high morbidity rate.

This grant proposal focuses on determining the specific mechanisms/signaling pathways that lead to downregulation and impairment in alveolar fluid clearance during hypercapnic conditions. The information generated from the experiments proposed in this grant will provide new insights to the understanding of the pathophysiology of these diseases and possibly in the treatment of patients with COPD and ARDS.

NIH News

NIH has posted the [FY 2010 data](#) for support in 299 research, conditions, and disease categories. The availability of this updated resource was announced in the inaugural issue of the RePORT ReSource newsletter. The Research Portfolio Online Reporting Tools (RePORT) website provides access to reports, data, and analyses of NIH research activities.

Reacting to a letter from a group of extramural scientists expressing concerns about the sunset of the A2 (second amendment) grant applications, NIH has posted a [response](#) online. In the response, NIH says that the policy

“...achieved the intended goals: the number of applications funded as AOs is increasing and there is no queue piling up at the A1 level.”

NIH has released a grant writing podcast to help navigate the human subjects section. Do you need to include this section in your application? Should you include this section if you are using human tissue samples without their personally identifying information? Listen to “[Human Subjects Risk and Protection](#)” for answers to these questions and more.



New Clinical Trial for COPD

Title: “Impact and Mechanism of Pulmonary Hypertension in COPD”

Sponsor: National Institutes of Health

Investigators: Michael Cuttica, MD, assistant professor in Medicine-Pulmonary, with Ravi Kalhan, MD, assistant professor in Medicine-Pulmonary; Lewis Smith, MD, professor in Medicine-Pulmonary and Preventive Medicine; David Green, MD, professor emeritus in Medicine-Hematology/Oncology; Donald Lloyd-Jones, MD, associate professor in Preventive Medicine and Medicine; and Sanjiv Shah, MD, assistant professor in Medicine-Cardiology

Chronic obstructive pulmonary disease ([COPD](#)) recently surpassed cerebrovascular disease to become the third leading cause of death in the United States and the only leading cause of death that is increasing in prevalence.

COPD is a complex disease that has effects not only on the lungs but multiple organ systems throughout the body. Current therapy for patients with COPD, including bronchodilators and inhaled corticosteroids, do not modify disease progression. The next innovation in the management of patients with COPD will be identifying and grouping key elements in the clinical presentation into phenotypes to add useful prognostic information and more targeted therapy. Identifying these phenotypes early in the course of the disease may allow for effective intervention that will alter the course of the disease.

Coagulation system pathways are activated in patients with COPD. Whether coagulation abnormalities play a role in the pathogenesis of pulmonary hypertension (PH) in COPD is not known. We found that PH occurs frequently in patients with advanced COPD and has been associated with decreased functional status and increased mortality independent of severity of lung function impairment.

Given this unique contribution to outcome, PH in COPD appears to represent a distinct phenotype. Most descriptions of PH in COPD are in patients with advanced COPD awaiting lung transplant. Data are sparse regarding the functional impact of PH in mild and moderate COPD. There is, however, evidence that pathologic changes to the pulmonary vasculature consistent with pulmonary hypertension occur at all stages of COPD severity.

The underlying cause and natural progression of PH in COPD remains undescribed. Thus, there is a critical, unmet need to determine the proportion of patients with mild and moderate COPD who have early evidence of PH and how its presence correlates with functional endpoints. It is also vitally important to better understand the causal pathway of PH development in COPD.



An X-ray of a male smoker's lungs. Smoking is a leading cause of COPD.

Our overarching hypotheses are: (1) In patients with mild and moderate COPD, the development of PH is mediated through abnormal coagulation; and (2) The presence of PH in COPD has adverse consequences on patient-centered endpoints.

Our research aims are: (1) to determine whether markers of abnormal coagulation in patients with mild and moderate COPD are associated with the presence of an elevated tricuspid regurgitant jet velocity (TRV) as well as other markers of right heart structural changes consistent with PH. (2) To determine whether PH in patients with mild and moderate COPD is independently associated with impairment in patient-centered functional endpoints, such as a shorter six-minute walk distance. (3) To determine whether markers of abnormal coagulation in patients with mild and moderate COPD are associated with accelerated decline in patient-centered functional outcomes and to determine whether markers of abnormal coagulation are associated with worsening echocardiographic evidence of right heart structural changes.

If our hypotheses are true, it would identify the coagulation system as a potential therapeutic target in patients with COPD as a way to modify the onset and progression of PH. This in turn could lead to reduced morbidity and improved quality of life.

To learn more about the trial, contact Michael Cuttica at m-cuttica@northwestern.edu.



Research in the News

Forbes.com March 21
Can science eliminate disease?

WBEZ-FM (NPR Chicago) March 17
How an uncommonly driven researcher made an Alzheimer's breakthrough

Chicago Tonight March 14
Scientific Chicago: Alzheimer's Disease

WGN-TV (Chicago) March 9

Pouplar Science March 7
Using stem cells, scientists re-create memory neurons that succumb to Alzheimer's

Dr. Jack Kessler and Christopher Bissonette were quoted.

WebMD.com March 21
Stem cell transplants may treat aggressive MS

Dr. Richard Burt was quoted.

WGN TV (Chicago) March 18
Sudden cardiac arrest

Dr. Robert Bonow was interviewed.

USA Today March 14
Alzheimer's carries heavy toll on 15M unpaid caregivers

Darby Morhardt was quoted.

Los Angeles Times March 8
Chicago Tribune March 8
Colleges urged to screen more for depression

Dr. Michael Fleming's research was featured.

Los Angeles Times March 7
WGN-TV (Chicago) March 7
The debate over prostate cancer tests

Dr. William Catalona was quoted.

Associated Press March 7
USA Today March 7
Chicago Tribune March 7
Doctors aim to save fertility of kids with cancer

Dr. Teresa Woodruff is featured.

[More headlines](#)

Core Fact

Applications for FY 2012 Feinberg support of shared facilities are due by Friday, April 15. Required documents include the narrative report, a spreadsheet of services provided, and the budget spreadsheet. Templates for each of these documents can be found on the [Cores Program web site](#).

Please note that the documents have been updated since last year. In particular, note that the budget spreadsheet now contains an equipment depreciation schedule, which is a required part of the application. Please return the completed applications to jeff-weiss@northwestern.edu.

Welcome New Faculty



Timothy Pearman, PhD, joins as associate professor in medical social sciences and psychiatry and behavioral sciences.

He most recently served as director of the Tulane Cancer Center and clinical associate professor in the Departments of Psychiatry and Neurology at Tulane Medical Center, New Orleans. He earned his bachelors degree from Penn State University, his masters and his doctorate degrees in clinical psychiatry and health psychology from the University of Florida, Gainesville, and completed his clinical internship at Tulane University School of Medicine.

Pearman's research interests are in the area of psychosocial oncology. He has published articles on quality of life in gynecologic malignancies and lung cancer and has lectured nationally and internationally on these topics.



Shari Lynn Meyerson, MD, joins as associate professor in surgery —thoracic surgery and medicine — pulmonary.

She previously was director of general thoracic surgery, associate program director of thoracic surgery residency, and assistant professor of surgery at the University of Arizona, Tuscon. She received her Doctor of Medicine degree from the University of Chicago Pritzker School of Medicine and also completed her surgical internship and residency, serving as chief resident, and her research fellowship there. She completed her thoracic surgery residency at Duke University Medical Center.

Meyerson has authored or co-authored more than 30 published articles and has worked on or served as the principal investigator on multiple grants and research protocols. She specializes in thoracic surgery, including benign and malignant conditions of the lungs, esophagus, mediastinum, pleura, and chest wall. Her research interests focus on resident and postgraduate education and the development and use of simulation.



Funding Opportunities

New opportunity: GlaxoSmithKline is now accepting applications for its new Center for Translational Innovation Pilot Grants request for proposals. Information is available via [NUCATS web site](#). Deadline for proposals is April 22, 2011 at 5 p.m.

Resource Program Grants in Bioformatics (P41)

[More information](#)

Submission Deadline: May 25, 2011

Upper Amount: \$8.75 million

Synopsis: This Funding Opportunity Announcement announces grants supporting the continued operation, enhancement, and dissemination of databases or software tools that are unique and of major importance to research using animal models of embryonic developmental processes. The Eunice Kennedy Shriver National Institute of Child Health and Human Development Biomedical Informatics Resource Program grant will support ongoing research, maintenance, and enhancement of the tool or resource, user training and services, and wide dissemination of the tool or resource. To qualify for support, bioinformatics resources — software, algorithms, or knowledge resources — must be of demonstrable value toward advancing research utilizing animal model systems in the biomedical sciences and must also be of particular importance to those seeking to understand the biological basis of human and animal development and the etiology of structural birth defects.

National Institute of Biomedical Imaging and Bioengineering Program Project (P01) Applications

[More information](#)

Submission Deadline: May 25, 2011

Upper Amount: \$1.4 million per year for up to five years

Synopsis: This Funding Opportunity Announcement, issued by the National Institute of Biomedical Imaging and Bioengineering, encourages investigator-initiated Program Project Grant (P01) applications from institutions and organizations in the broad areas of biomedical imaging and bioengineering enabled by relevant areas of the physical sciences, engineering, computer sciences, information science, and the medical and life sciences. P01 grants are to support broad-based multidisciplinary research programs which have a well-defined major objective or central theme, but which are addressing a range of imaging or bioengineering questions in contrast to the traditional research project (R01).

[View more funding opportunities](#)

Featured Events

a15 “Circadian Oscillation of Hippocampal MAPK activity and Calcium-Stimulated Adenylyl Cyclase Activity: Implications for Memory”

Presented by Daniel Storm, PhD, professor, University of Washington

Date: Friday, April 15 Noon to 1 p.m.

Location: Ward Building, Room 5-230
303 E. Chicago Ave. (Chicago campus)

Contact: kirsten-byers@northwestern.edu
[More information](#)

a18 Third Mondays: Evolving the Translational Research Career

Group peer mentoring event moderated by William Schnaper, MD, co-director, Center for Education and Career Development

Date: Monday, April 18 Noon to 1:30 p.m.

Location: Rubloff, 11th Fl. Lakeview Conference Rm.
420 E. Superior St. (Chicago campus)

Contact: nucats-ed@northwestern.edu
[More information](#)

a21 “Molecular Physiology of the Control of Body Weight”

Presented by Rudy Leibel, MD, professor, Division of Molecular Genetics, Columbia University

Date: Thursday, April 21 4 to 5 p.m.

Location: Lurie Medical Research Center — Baldwin
303 E. Superior St. (Chicago campus)

Contact: p-yim@northwestern.edu
[More information](#)

a28 “Analysis of Social Networks Part III: Beyond Basics”

Presented by Dr. Robert Hanneman, University of California - Riverside

Date: Thursday, April 28 Noon to 1 p.m.

Location: Wieboldt Hall, Room 421
339 E. Chicago Ave. (Chicago campus)

Contact: t-crawford@northwestern.edu
[More information](#)

m5 17th Annual Alzheimer Day

Hosted by the Cognitive Neurology and Alzheimer's Disease Center

Date: Thursday, May 5 11:30 a.m. to 4 p.m.

Location: Feinberg Pavilion - 3rd Floor Conf. Center
251 E. Huron St. (Chicago campus)

Contact: k-zachrich@northwestern.edu
[More information](#)

[More events](#)

Event organizers are encouraged to submit calendar items on [Plan-It Purple](#) for consideration. Please contact the Research Office with further questions.

