Message from APT Committee Chair

Criteria and Review Process for Promotion and Tenure with an Emphasis on Research Accomplishments

Thea Sawicki, Ph.D.
Professor, Medical Microbiology and Immunology
Chair, APT Committee

The standing committees of the College of Medicine and Life Sciences include the Appointment, Promotion and Tenure Committee that is composed of Tenured, Full Professors (Committee membership can be found on the Office of Faculty Affairs website), representing most departments in the College. The Committee meets monthly to consider applications. Each application is evaluated and presented by three Committee members assigned to it, after which the entire Committee votes by secret ballot; any member in conflict with an applicant must leave the room and does not take part in the discussion or ballot. After each meeting, the APT Committee provides its recommendations to the Dean of the COMLS. The Dean’s recommendations go to the President and then to the Board of Trustees for final approval. The Board grants faculty promotions and tenure in June and December, with the promotion/tenure effective July 1st or January 1st each year.

Faculty in the College of Medicine and Life Sciences may select or be appointed (initially) to one of 6 tracks, four of which are tenure-eligible (Academic Basic Scientist; Basic Science Educator; Clinical Scholar; Clinical Educator), and two of which are for non-tenure eligible (Practitioner Track and Research Track). Faculty may change their track once after approval by their chair and the Dean. The APT Committee does not change a faculty’s track; this must be done before the application documents for promotion/tenure come to the Committee. Two other non-tenure tracks are also available for our community-based volunteer faculty members and adjunct faculty members.

Scholarship (research) is one of the three major areas evaluated for each promotion and grant of tenure. For the Academic Basic Scientist, Clinical Scholar and Research tracks, it is the major criterion; for the other tracks, Scholarship (Research) is an area that all faculty are expected to engage in to some extent as part of their academic roles. The major criterion is education for the Educator tracks and is service for the Practitioner track. Faculty members are expected to show evidence of excellence in their major criterion and one other for promotion and/or an award of tenure. Tenure also considers the applicant’s track record, value to the institution, and the applicant’s potential to sustain activities at the excellent level in the areas of education, scholarship and/or service.

The “Criteria for Promotion and Faculty Tracks” document ([https://www.utoledo.edu/depts/facaffairs/medicine/pdf/faculty_track_criteria_for_promotion.pdf](https://www.utoledo.edu/depts/facaffairs/medicine/pdf/faculty_track_criteria_for_promotion.pdf)) outlines criteria needed for each of the faculty ranks.
Scholarship (research) excellence is demonstrated by accomplishments such as investigator-initiated funding, co-investigator roles on educational or research grants, collaborative research efforts, involvement in administrative aspects of education and/or research (e.g., organization and direction of education and/or research initiatives), significant self-development activity to increase educational and/or research effectiveness (e.g., faculty development programs), clinical trials, and national or international recognition from the award of grants, publications of peer-reviewed articles, development and/or dissemination of intellectual properties, invitations to present at national/international meetings and participation on national peer review panels and editorial boards.

The members of the APT Committee and the Office of Faculty Affairs, under Ms. Wafaa Hanna, are available to assist faculty with questions regarding the processes for promotion and/or tenure.

New Investigator

Tammy Morrish, Ph.D.  
Assistant Professor  
Department of Biochemistry & Cancer Biology

I have been an Assistant Professor in the Department of Biochemistry & Cancer Biology for less than two years. The focus of my lab is to understand how non-LTR retrotransposons, also known as LINE-1 elements, impact telomere recombination, particularly in tumors and primary cells lacking telomerase. My postdoctoral training was at Johns Hopkins University in the Department of Molecular Biology and Genetics. Here I focused on understanding how certain recombination proteins, such as Rad50, contributed to telomere maintenance, using the telomerase knockout mouse. These findings, which can be accessed with the following link, suggest subtelomere recombination is frequent in tumors lacking telomerase (http://www.plosgenetics.org/article/info%3Adoi%2F10.1371%2Fjournal.pgen.1000357). My interest in studying the impact of retrotransposons on telomere recombination mechanisms was motivated from my graduate school studies at the University of Michigan in the Department of Human Genetics. While in graduate school, I studied the mechanism of human non-LTR retrotransposons. These studies identified that when certain components of non-homologous end-joining are disrupted, non-LTR retrotransposons integrate into DNA breaks and dysfunctional telomeres (http://www.ncbi.nlm.nih.gov/pubmed/17344853).

Prior to attending graduate school, I worked as a technician in the Department of Cellular & Structural Biology at the University of Texas Health Science Center in San Antonio (UTHSC). Here I contributed to physical mapping of Human chromosomes during the early stages of the Human Genome Project. I also participated in research while an undergraduate and a high school student at the University of Texas @Austin, the UTHSC Institute for Biotechnology, and NASA Johnson Space Center. Overall I think it is important that individuals at various stages of their research training develop both a positive and a critical perspective on pursuing basic research. This encourages individuals to stay involved in science and develop the skill sets to pursue scientific questions. This is critical if we are to continue to train future scientists. In addition I think it is important that students learn how to develop questions relating to basic fundamental questions. In some cases such studies may help us understand underlying mechanisms that impact human disease or lead to new innovations that have a greater impact. What may seem like an obscure mechanism to some, we think understanding the mechanism of endonuclease independent (ENi) LINE-1 retrotransposition will provide insight into how telomeres are maintained when telomerase is deleted. In support of this possibility, findings from additional labs indicate that ENi retrotransposition is frequent in certain types of human cancers.

An estimated 17% of the human genome is comprised of non-LTR retrotransposons, however only a portion of these sequences can mobilize to new locations, since most elements become truncated, rearranged or have acquired mutations during integration. Although polymorphic in the human population, and estimated 80-100 retrotransposons are actively mobilizing in the human genome. LINE-1 elements that mobilize are
6.0kb in length. A full-length LINE-1 element includes an internal promoter, the ability to produce two intact open-reading frames that generate a nucleic acid binding protein, along with an additional protein that includes an endonuclease, a reverse transcriptase, and a C-domain of unknown function. Full-length elements also have transcriptional termination sequences, and end with a poly (A) tail. Initially retrotransposons were considered “junk DNA.” Yet various studies from other laboratories find that these elements are active in germ cells and some types of somatic stem cells, including hippocampus progenitor stem cells. Thus it is arguable whether these elements have a bona fide function, however, there appears to be some epigenetic mechanisms of regulation in normal cells compared to tumor cells. Furthermore, HDAC inhibitors can disrupt the expression of these elements. Additionally, in some organisms such as Drosophila, the telomeres are comprised of non-LTR retrotransposons, which completely lack telomerase. Thus these elements may have functions that are critical for normal cell biology and may have specific regulation mechanisms that allow for retrotransposition to occur in normal cells, which may become disrupted in cancer cells.

We are investigating how certain genes that are known to contribute to telomere maintenance impact the integration of retrotransposons, including ATM (ataxia telangiectasia mutated) and various components of DNA repair by non-homologous end-joining, including Ku80. In our lab we examine how disrupting these various DNA recombination and repair pathways in tumors or primary cells lacking telomerase impact endonuclease-independent LINE-1 retrotransposition. We predominately use a mouse B-cell lymphoma model lacking telomerase, along with repair deficient mouse strains and lentiviral shRNAs to address these questions. We also utilize some human tumor cell lines that lack telomerase to evaluate how our mouse model systems relate to human tumors that lack telomerase. To evaluate the impact of retrotransposons on telomere recombination we utilize various cell culture based assays for retrotransposition along with microarray-based assays to examine copy number changes. Our current hypothesis is that retrotransposons contribute to telomere maintenance by contributing to recombination mechanisms such as break-induced replication (BIR) or by direct integration into subtelomere or telomere repeats. A summary of how we think retrotransposons may be contributing to BIR and telomere maintenance is summarized in the following review (http://www.jscimedcentral.com/CancerBiology/Articles/cancerbiology-1-1012.php). At this time it is uncertain whether this mechanism of ENI retrotransposition is directly responsible for telomere maintenance in tumors lacking telomerase, however we have the tools to investigate this possibility.

The UTMC Stroke Network

Mouhammad A. Jumaa, MD
Director, Stoke Center

Syed F. Zaidi, MD
Director, Neuro-Interventional Services

The University of Toledo Medical Center has always been a regional leader in stroke care, research and education. The UTMC stroke center lead by Dr. Gretchen Tietjen has been a Primary Stroke Center since 2005 and was recognized for a high rate of administration of thrombolytics for acute stroke patients. In July of 2012, additional layers were added through the recruitment of two interventional and stroke Neurologists from the University of Pittsburgh, Dr. Mouhammad A. Jumaa and Dr. Syed F. Zaidi. The UTMC Stroke team provides acute care to more than 400 patients with ischemic and hemorrhagic strokes per year in collaboration with the Emergency Medicine Physicians, Neurological Surgery, Vascular Surgery and Cardiology teams.

The UTMC stroke network was established with the addition of tele-stroke technology to serve the needs of community emergency departments. We are using a HIPPA compliant video conferencing application “Vidyo” for immediate evaluation of acute stroke patients in outlying facilities. Real time review of imaging is usually performed after a thorough neurological evaluation. Acute treatments are usually given within minutes including intravenous blood pressure medications, thrombolytics for ischemic stroke and reversal agents for anticoagulation in some patients with hemorrhagic stroke. Also, patients with severe ischemic stroke are considered for intra-arterial stroke therapy. Those patients are usually transported to our facility while patients with mild to moderate strokes get admitted locally in coordination with the staff neurologist. This technology is now widely utilized for stroke management in the United States due to the acute nature of the disease and the necessity for very rapid decision-making. Currently, five hospitals participate in our network: Firelands Regional Medical Center, Fulton County Hospital, Wood County Hospital, Magruder Hospital and Henry County Hospital.

The Stroke team at UTMC routinely performs intra-arterial therapy for stroke patients. This includes mechanical embolectomy and intra-arterial administration of recombinant tissue plasminogen activator (r-tPA). Mechanical embolectomy is an emerging treatment for severe ischemic stroke patients who suffer from occlusion in a large intracranial vessel. Patients are usually selected based on brain physiology at the time of
Patients with small core and large penumbra are usually taken emergently to a biplane cath Lab where this treatment can be performed. Attached is an example of a patient who presented to outlying facility and was evaluated by Tele-stroke but deemed to be outside the time window for IV r-tPA. The patient, who was obtunded and paralyzed on the left side at that time, was flown to UTMC where an emergent mechanical embolectomy was performed for an occluded basilar artery. The patient had a complete recovery with minimal infarction in the brainstem.

Image 1. Vertebral artery angiographic run showing occlusion in the mid basilar artery
Image 2. Same run after embolectomy showing complete recanalization
Image 3. Clot after retrieval

The UTMC Stroke center currently participates in multiple clinical trials:
1. Platelet-Oriented Inhibition in New TIA and Minor Ischemic Storke (POINT): is a randomized, double-blind, multicenter clinical trial to determine whether clopidogrel 75mg/day (after a loading dose of 600mg) is effective in improving survival free from major ischemic vascular events (ischemic stroke, myocardial infarction, and ischemic vascular death) at 90 days when initiated within 12 hours time last known free of new ischemic symptoms of TIA or minor ischemic stroke in subjects receiving aspirin 50-325mg/day.

2. IMPACT-24: a randomized, double-blind, sham-controlled study to assess the safety and efficacy of Spheno-Palatine Ganglion stimulation in a 24 hour window from ischemic stroke symptom onset. ImpACT-24 is a multi-national trial with centers in America, Europe and Asia, and is currently enrolling patients.

3. Effect of Natalizumab on Infarct Volume in Acute Ischemic Stroke: The primary objective of the study is to determine whether one 300 mg dose of intravenous (IV) BG00002 reduces change in infarct volume from Baseline to Day 5 on magnetic resonance imaging (MRI) in subjects with acute ischemic stroke when given at ≤6 hours or at >6 to ≤9 hours from when they were last known normal (LKN).

4. Potential of r-tPA for Ischemic Strokes with Mild Symptoms (PRISMS): Primary objective of this study is to determine whether early administration of IV tPA benefits patients with mild ischemic stroke.
A Journey in Technology Development: From the Laboratory Bench to Clinical Trial

Brent D. Cameron, Ph.D.
Professor, Department of Bioengineering

Individuals afflicted with the condition known as diabetes mellitus commonly experience significant variations in their blood glucose concentration throughout the day, which are often well beyond the levels seen in healthy persons. If left untreated, both short and long term complications can arise. Long term health issues are of special concern as these often appear as secondary complications resulting from extended periods of elevated blood glucose. The associated health issues can include an increased risk of heart disease, kidney failure, nerve damage, problems with vision, and many others. Therefore, as most diabetics know, blood glucose testing becomes an essential part of their daily routine such that proper corrective actions can be taken to regulate blood glucose either through diet, exercise, insulin treatment, or with the use of other pharmaceutical drugs. Sometimes these blood measurements have to be performed multiple times throughout the day, requiring the person to prick their finger to obtain a sample of blood for analysis with a handheld meter. Such measurements are often inconvenient and sometimes are associated with pain, especially in young children. To date, however, invasive glucose meters are the only types of devices approved by the FDA for use in guiding the therapeutic treatment of diabetes.

For many decades, scientists and engineers have sought to replace the current invasive blood glucose monitoring technology with a completely noninvasive approach. This has been commonly described as the “holy grail” in blood glucose sensing, however, the development of such a device has proven to be quite challenging. Of the techniques investigated to date, light/photonic-based approaches have provided the most promise at eventually realizing a truly noninvasive physiological glucose monitor. Beginning this summer, IRISense, LLC (Toledo OH) will be conducting a clinical trial on the Health Science Campus to demonstrate a new noninvasive glucose sensing technology which they have licensed from the University of Toledo. This technology was previously demonstrated in an earlier trial conducted using healthy individuals and will be extended in the upcoming study to include diabetics. The investigation will be supervised and managed by Dr. Michael Kleerekoper, who is the Chief in Endocrinology and Director of Diabetes Management at the University of Toledo on Health Science Campus. The IRISense technology, as its name implies, utilizes the iris of the eye in the measurement of glucose. Specifically, the glucose contained in the aqueous humor of the eye is being measured which is the clear fluid between the cornea and the lens. This fluid can be thought of as a blood filtrate and contains glucose levels that are highly correlated to those in blood. As has been demonstrated, as the glucose levels change, so do the optical properties of the aqueous humor. Through the use of advanced imaging technology coupled with newly developed image processing and modeling techniques, it has been shown that small perceived changes in the structural characteristics of the iris due to the optical properties can be related back to the concentration of glucose in the aqueous humor. The current prototype instrument that was developed for use in the clinical trial is shown above. IRISense, LLC, however, has been working diligently at developing a portable handheld platform capable of being run on a mobile device such as an iPhone. To support the clinical trial work and mobile platform development, IRISense, LLC recently received funding support from the Ohio Third Frontier Commission and the technology was highlighted by TechOhio which can be found at http://weare.techohio.ohio.gov/2014/04/08/founder-story-irisense/.

New Grant

Salivary Biomarkers for Fatigue

David Giovannucci, Ph.D.
Associate Professor, Department of Neurosciences

John Nance Garner, the colorful Vice President of the United States who served under Franklin Delano Roosevelt, once observed that the office of vice president was “not worth a bucket of warm spit”. Perhaps, but we now know that saliva, like blood, contains a treasure trove of chemical markers that contain valuable information about the physiological states of the body. For example, excluding microbial proteins, over 1000 different proteins have been identified in human saliva. Also, saliva is much easier to collect than blood and is being tested by a number of research groups as a source of biochemical markers that can
potentially be used to diagnose a wide array of diseases including cancers and neurodegenerative disorders.

In humans, three major paired, highly vascularized salivary glands constitutively or actively secrete fluid and protein components of saliva. Specialized clusters of cells called acini "filter" water, salts and molecules from the blood to produce the fluid component of saliva. Although distinct from blood plasma, saliva can mirror substances in the blood including brain or immune system directed increases in biochemical markers of stress. Acini cells also secrete saliva-specific proteins that combine with the fluid to make a complex "cocktail" that is important for digestion, oral health and speech. Furthermore, the salivary gland is under autonomic neural control that releases neurotransmitters that directly control fluid and protein secretion. As such saliva output and composition reflects sympathetic tone or the "fight-or-flight" state of the body. This places saliva as an ideal biofluid to assay for biomarkers that may correlate with human performance.

To begin to test this idea we focused on identifying salivary biomarkers of cognitive fatigue. It is generally acknowledged that fatigue on the job contributes to lost productivity and decreased workplace safety. Moreover, levels of fatigue are generally higher among certain groups such as military personnel and health care professionals. These workers experience long workdays, and require individual, decision-making skills and the ability to perform complex procedures. For many reasons, self-reporting of one's level of fatigue is a poor predictor of actual cognitive performance. However, there is currently no universally accepted measure of fatigue that is needed to make an objective correlation between fatigue and performance.

Medical residents, who are required to work 16 hours to 24 hours per day, will be used as participants, and we are still enrolling individuals for the approved study. The choice of the study group is particularly relevant given that the American Medical Association called for re-evaluation of residency training largely based on reducing medical errors by fatigued physicians. However there has not yet been rigorous assessment of these policies. The general design of this study will be to periodically collect quantitative measures of cognitive function using a series of well-established psychometric tests of cognitive state provided as games on personal mobile device at various times during the workday. These tests will be matched with changes in the content of predicted and novel biomarkers in saliva samples collected from residents at the University of Toledo Medical Center over a 3-year period.

Predicted biomarker content will be assessed using standard individual immunoassay plates, 2D gel electrophoresis or by reversed-phase liquid chromatography in combination with mass spectrometric detection (LC-MS). LC-MS is widely used for the identification and structural characterization of biomolecules including hormones, peptides, and proteins in biological fluids such as saliva. With this in mind, we propose to apply LC-MS followed by comparison to MS database protein sequences for discovery of novel biomarkers and validation of biomarkers that correlate with fatigue and performance in saliva.

Following the identification of biomarkers that correlate with cognitive performance, a suitable sensing technology will be developed to enable their widespread use as a diagnostic tool. Although there are many potential approaches that can be used for sensing, most incorporate the use of some type of biomolecular recognition element. Traditionally, antibodies have been used in such sensing platforms. However, identification of a suitable antibody associated to the target can be challenging. More recently, DNA/RNA aptamers have gained significant interest when compared to traditional antibodies. They are very small in size and very chemically stable and can be produced cost effectively. Furthermore, aptamers can be readily identified for a broad range of targets ranging from small molecules to large proteins through in vitro selection methods. They can also be synthesized with a high degree of reproducibility and purity from commercial providers.

This project was recently funded by the Air Force Office of Scientific Research and the University of Toledo.
and brings together a multidisciplinary team from both Health Science and Main campuses with expertise in neurosciences, chemistry and biochemical sensor development. In addition our team will work closely with the BRIM, JCCTR and the IISC to achieve the goals of the study.

UT Students Examine a New Frontier in Medicine

D. Max Smith
PharmD Candidate 2015
President, IPMEO

A survey by the American Medical Association and Medco (a pharmacy benefits management company) found that although 98 percent of physicians know genetic profiles may influence therapy, only 10 percent said they have the knowledge base to use genetic information in practice. Premier institutions such as Harvard Medical School and Duke University School of Medicine have recognized this deficit in medical care and taken initiative to address the lack of clinical genomics training. The rapid progress in our understanding of the genetic code has led to the "concept" of personalized medicine. The National Academy of Sciences defines it as the use of genomic, epigenomic, exposure and other data to discover individual patterns of disease, potentially leading to better individual treatment. The medical education community must put forth a dedicated effort into teaching future physicians, pharmacists, nurses, and other healthcare workers the value of genetics-based medicine.

Healthcare students here at The University of Toledo have recognized this trend in healthcare as a potential core element in medicine and decided to take action. UT’s students have created the nation’s first interdisciplinary student organization focused on personalized medicine: Interdisciplinary Personalized Medicine Education Organization (IPMEO). IPMEO consists of medical (5), pharmacy (14), biomedical engineering (5), and bioinformatics (3) students, and is currently planning on expanding into other related fields. The interdisciplinary nature of this organization allows students to not only benefit from personalized medicine education but to learn how to cooperate with their peers in parallel fields.

Students have focused on learning about key issues the Personalized Medicine Coalition, a respected international organization, first associated with personalized medicine: technology, regulatory policy, medical education, payment, bioinformatics, ethics, and genetics. The wide variety of students allows IPMEO to address each of these components of personalized medicine by breaking them into individual committees. Each committee conducts an exercise or presentation related to their topic in front of IPMEO’s general body every other month.

For example, in March the committee for medical education will teach IPMEO members how to utilize genetic information in a clinical case. The pain medication codeine is known to be ineffective in certain populations. Students will explore how CYP2D6 genotype can predict effectiveness for codeine using clinically derived scenarios. This application-based learning is also an effective method for students to become familiar with typical jargon used in genomics-based medicine.

By the end of this spring semester, IPMEO will have hosted several university professors and researchers from Ohio Northern University and University of Florida. Additionally, a specialty pharmacist who utilizes pharmacogenomics for psychiatric patients will provide an outpatient perspective for our students. The range of guest speakers is a testament to the dedication of advocates of personalized medicine. These high caliber presentations and lectures support IPMEO’s goal of generating innovative healthcare workers with thorough understanding of personalized medicine.

In addition to hosting prominent lecturers, IPMEO has also begun working with students in Ohio Northern University, University of Florida, and University of South Florida. These schools represent a young vibrant network driving personalized medicine education. Students in this network are gaining experience in working in a multi-centered environment, a critical component of the modern healthcare setting. We hope to expand this collaboration of universities over the next year.

IPMEO has many chances for faculty and students to become involved. Every aspect of our organization is designed with the student in mind, and multiple opportunities for participation and leadership roles are available. We are constantly seeking guest faculty speakers in personalized medicine. If you are interested in learning more about IPMEO, please contact IPMEO’s President: D. Max Smith via Donald.Smith@rockets.utoledo.edu.
My Hobby

Travis Taylor, Ph.D.
Assistant Professor, Department of Medical Microbiology & Immunology

I learned early on that nothing gives the scientific mind a periodic reset like raw creative expression. I discovered a strong appreciation for photography a decade ago, and interest swiftly evolved from admiration of others’ work to producing my own. My subject matter spans a broad spectrum, from portraiture to macro, and my favorite being nature photography. I have entered and won several contests and have had shots published in newspapers, websites and magazines, most notably Popular Photography. More recently I had three prints on display in 2014 Health Science Campus Artist Showcase.

Documenting life’s journeys from monumental milestones to small natural wonders that otherwise would be easily dismissed from memory has offered a fantastic creative escape. The satisfaction derived from executing the perfect photo, from vision to initiation to final edit, is unrivaled. I find that the trial and error process behind the lens offers a teaching experience mirrored in the lab. I use the same strategy to image virus-infected cells on the microscope as when visualizing a frost-covered winter landscape. Art and science complement one another, and that idea has become a common presence in all of my endeavors. Or, sometimes I just shoot from the hip and see what develops.

Newly enrolling clinical trials

A Multicenter Ablate and Resect Study of Novilase Interstitial Laser Therapy for the Ablation of Small Breast Cancers
Helen Mabry, MD - Surgery

Registry – American Breast Laser Ablation Therapy Evaluation (ABLATE) of minimally invasive treatment of benign tumors using Novilase interstitial laser therapy system
Helen Mabry, MD - Surgery

A Randomized Comparison of NeoCart to Microfracture for the Repair of Articular Cartilage Injuries in the Knee
David Sohn, MD - Orthopedics

BRIM Connection Conference

"Design of New Drugs to Target Cell Death Pathways in Glioblastoma"

4:00 - 5:00 PM on May 14, 103 Health Education Building

To be presented by:

William Maltese, Ph.D., Professor, Chairman & McMaster Endowed Chair in Biochemistry

Chris Trabbic, Research Associate, Pharm-Med/Bio Chem

RSP Corner
Researchers are often surprised to learn about a free, easy and powerful means to learn about cutting-edge research BEFORE it is published. You can learn about current NIH-funded research projects through a very good search interface by using NIH RePORTER (http://projectreporter.nih.gov/). You create a query by selecting any of a wide range of parameters. Don't be daunted – you can also simply search by text with Boolean logic. As explained below, once you find a single example of interest to you, the system supports finding related projects.

You may narrow by the recipient institution, NIH Institute, dates and much more. To find funded projects in your research area, try starting with a text search. Searching on the broad terms ‘organ’ AND ‘transplant’ produced 1,591 results, but filtering on R21 projects (use the Back To Query button) narrowed results to a manageable 117 Exploratory/Developmental Research awards. (Obviously starting with much more specific terms will yield fewer results more closely matching your interests.) Now it gets interesting! Once you have a reasonable number to scan, use the title and abstract to find something of particular interest to you, and then click the SIMILAR PROJECTS tab.
The NIH RePORTER search engine relies on a large list of Project Terms (viewable on the DESCRIPTION tab for each award) to match projects across institutes and funding mechanisms to give you the 100 closest matches for any project, and it does it rather quickly. Try it! It is very likely that you will learn more in five minutes about new projects and investigators in your specific area, prior to publication or conference presentation, than you imagined possible. You may learn of work like yours that is funded by a program or institute you had not considered. The search engine also makes it easy to stay current by providing a filter for Newly Added Projects Only. I find new reasons to use it each week!