Spring 2011 Semester Medical Tutorials

When contacting these physicians, please follow the guidelines on the Semester Tutorial website: http://web.jhu.edu/prepro/health/tutorials.html

You may want to consider applying for the following tutorials being offered this spring since they did not have any undergraduate students registered in them during the fall semester:
200, 201, 202, 206, 208, 212, 215, 216, 221, 225, 234-236, 244-246, 249, 251, 255, 257

200. Instructor: Edward Ahn, M.D., Harvey 811, 410-502-7700 or eahn4@jhmi.edu
Department: Neurosurgery
Category: Clinical Research
Title: Pediatric Neurosurgery
Description: The student will shadow in the outpatient clinic and operating room. Opportunities will exist for clinical research as well as laboratory research on an animal model of hydrocephalus.

201. Instructor: Edward Ahn, M.D., Harvey 811, 410-502-7700 or eahn4@jhmi.edu
Department: Neurosurgery
Category: Basic Laboratory Research/Clinical Practicum
Title: Pediatric Neurosurgery (accepting 4-5 students per semester)
Description: This tutorial will be designed to give both clinical and laboratory experience to pre-medical students. The idea is to fully expose students to a career in academic medicine. To clarify the tutorial layout, the schedule should be as follows: Shadowing in Pediatric Neurosurgery clinic once every two weeks in the Johns Hopkins Outpatient Center. Laboratory experience in the Pediatric Neurosurgery Hydrocephalus lab at Kennedy Krieger Institute for 4-8 hours per week. Schedules will be made based upon student availability. Please forward a copy of your CV.

202. Instructor: Esen K. Akpek, M.D., 317 Maumenee, 410-955-5494 or esakpek@jhmi.edu
Department: Ophthalmology
Category: Clinical Issues (Seminar)
Title: Systemic Diseases and the Eye
Description: A discussion of most common systemic diseases that can affect the eyes will be presented in an interactive fashion.

203. Instructor: Dmitri Artemov, M.D., Traylor 217, 410-614-2703 or Dmitri@mri.jhu.edu
Department: Radiology and Oncology
Category: Laboratory Research
Title: Molecular and functional Imaging/Therapy of Cancer
Description: The student will participate in cancer imaging program that is part of JHU IMIC (Molecular Imaging program). Several important areas of research include development of MR imaging technology, chemical synthesis of targeted therapeutic and imaging compounds, and image processing. While we expect that the student will spend majority of the time working on a small contained project, there will be hands-on training on in vivo MRI/MRS with small animal models, tissue culture, and basic image processing and analysis.

204. Not offered
or already
full in spring
205. Instructor: Jeremy Barron, M.D., Beacham Clinic, 410-550-0925 or jbarron5@jhmi.edu  
Department: Medicine/Geriatrics  
Category: Clinical Practicum  
Title: Aging in America  
Description: In an exposure to clinical geriatrics, the student will spend 3 hours per week for 8-12 weeks exploring the continuum of health care for older adults in a geriatric medicine office and nursing & rehab center on the Bayview campus. The practicum will also include visits to a dementia assisted living facility close to the Homewood campus. The student will participate in discussions of clinical care, bioethics, and health policy related to older adults, and will participate in a quality improvement project in a rehabilitation center or in an assisted living facility.

206. Instructor: Eric B. Bass, M.D., 8068, 1830 Bldg., 410-955-9871 or ebass@jhmi.edu  
Department: Medicine  
Category: Clinical Research  
Title: Evidence-Based Approaches to Medical Care  
Description: Our Evidence-based Practice Center conducts systematic reviews of the published medical literature on timely and important topics in health care. Topics to date have included management of atrial fibrillation, comparative effectiveness and safety of oral diabetes medications, treatment and diagnosis of venous thromboembolism, and training for public health events relevant to bioterrorism preparedness. We have opportunities for students to participate in these research projects which lead to publication of a comprehensive evidence report and related journal articles.

207. Instructor: Fred Berlin, M.D., Ph.D., 104 E. Biddle St., Baltimore, MD 21202, 410-539-1661 or fredsberlinmd@comcast.net  
Department: Psychiatry  
Category: Clinical Practicum  
Title: Evaluation and Treatment of Sexual Disorders  
Description: Students can observe evaluation and treatment sessions for persons with paraphilic disorders such as pedophilia or exhibitionism.

208. Instructor: Jeff Bulte, Ph.D., BRB 659, 443-287-0996 or jwmbulte@mri.jhu.edu  
Department: Radiology/Institute for Cell Engineering  
Category: Basic Laboratory Research/Basic Science Seminar  
Title: Stem Cell Imaging  
Description: Student will spend 5-6 hours per week for 10-12 weeks in the lab learning basic cell culture techniques, cell labeling techniques, and MRI and bioluminescent imaging techniques as related to stem cell therapy.

209. Instructor: Ali Bydon, M.D., Meyer 5-109, 443-287-4934 or abydon1@jhmi.edu  
Department: Neurosurgery  
Category: Clinical Research/Clinical Practicum  
Title: Introduction to the Operation Room and Spinal Neurosurgery  
(2 students accepted per semester)  
Description: Student will be spending some time in a clinical neurosurgical setting. They will shadow us in the clinic and operating room. Students interested may get involved in our clinical research concerning spinal neurosurgery and biomechanical studies.

210. Instructor: Patrick Byrne, M.D., JHOC, 410-955-4985 or pbyrne2@jhmi.edu  
Department: Otolaryngology-Head and Neck Surgery  
Category: Clinical Research  
Title: Facial Plastic and Reconstructive Surgery
Description: Exposure to clinical practice of academic facial plastic and reconstructive surgery. Observation in clinic and operating room will lead to opportunity to contribute to clinical case report/research paper.

211. Instructor: Aravinda Chakravarti, Ph.D., BRB 579, 410-502-7525 or aravinda@jhmi.edu
Department: Institute of Genetic Medicine
Category: Basic Laboratory Research
Title: Genetics of Complex Cardiovascular Disease
Description: The trainee will learn genetic technologies and perspectives that enable the identification of genes whose function(s) is compromised in cardiovascular disease.

212. Instructor: Aravinda Chakravarti, Ph.D., BRB 579, 410-502-7525 or Aravinda@jhmi.edu
Department: Institute of Genetic Medicine
Category: Basic Laboratory Research/Clinical Research/Basic Science Seminar
Title: Mutation Distributions in Patients with Genetic Disease
Description: We will examine the distribution of mutations across 200 human genes in patients with a variety of genetic diseases. Besides providing information on which protein domains are involved in human disease this will provide fundamental data on the human mutation rate.

213. Instructor: Shukti Chakravarti, Ph.D., Ross 935, 410-502-7627 or schakra1@jhmi.edu
Department: Medicine
Category: Basic Laboratory Research
Title: Investigate Extracellular Matrix-Cell Signaling Mechanisms to Understand Development of the Cornea, a Refractive and Protective Barrier of the Eye Essential for Normal Vision
Description: The student will learn the following techniques in this project. 1). Culture primary cells from the corneal stroma. 2). Protein-protein interactions by immunoprecipitation. 3). Flow cytometry to determine presence of specific proteins on the cell surfaces.

214. Instructor: Subroto Chatterjee, Ph.D., 1383 Blalock, 410-614-2518 or schatte2@jhmi.edu
Department: Pediatrics
Category: Basic Laboratory Research and Basic Science Seminar
Title: Inflammation and Heart Disease
Description: Lectures/paper reading relevant to topic. Laboratory research with human cell cultures, animal models of atheroscleroids and some patient studies.

215. Instructor: Janelle Coughlin, Ph.D., Meyer 101, 443-287-8315 or 410-550-7988 or jwilder3@jhmi.edu
Department: Psychiatry and Behavioral Science
Category: Clinical Research
Title: Obesity Clinical Research (1 to 2 students accepted per semester)
Description: Students will be involved in ongoing clinical research investigating psychological and behavioral aspects of obesity. Participation will include database management.

216. Instructor: Ted Dawson, M.D., Ph.D., BRB RM 731, 410-614-3359 or tdawson@jhmi.edu
Department: Inst for Cell Engineering
Category: Laboratory Research
Title: Mechanisms of Neuronal Survival and Neurogenesis
Description: The student will spend 10-15 hours a week for 8-12 weeks learning laboratory techniques including preparation of buffers and reagents, preparation of brain tissue for labeling, animal behavior tasks, scoring behavioral tasks, scoring brain injury in animal models of Parkinson’s disease and data analysis.
217. Instructor: Valina Dawson, Ph.D., BRB RM 711, 410-614-3361 or vdawson@jhmi.edu
Department: Inst for Cell Engineering
Category: Laboratory Research
Title: Mechanisms of Neuronal Survival and Neurogenesis
Description: The student will spend 10-15 hours a week for 8-12 weeks learning laboratory techniques including preparation of buffers and reagents, preparation of brain tissue for labeling, animal behavior tasks, scoring behavioral tasks, scoring brain injury and data analysis following experimental stroke.

218. Not offered or already full in spring

219. Not offered or already full in spring

220. Not offered or already full in spring

221. Instructor: Charlotte Gaydos, Ph.D., 1147 Ross, 410-614-0932 or cgaydos@jhmi.edu
Department: Medicine-Infectious Disease
Category: Basic Laboratory Research – Clinical Research
Title: A Laboratory Based Diagnostics Course for STD, Respiratory Pathogens
Description: Laboratory work for diagnostics of sexually transmitted diseases and respiratory diseases.

222. Not offered or already full in spring

223. Instructor: Marco Grados, M.D., M.P.H., CMSC 346
Department: Psychiatry
Category: Clinical Research
Title: Child Psychiatry and Developmental Disabilities (OCD, Tourette, Autism, Intellectual Disability)
Description: The student will spend 6 or more hours per week in research projects in genetics of OCD (obsessive-compulsive disorder), Tourette Syndrome (TS) or a genetic disorder with autism features (CdLS). Genetic causes of psychiatric disorders are investigated through clinical and epidemiology methods.

224. Not offered or already full in spring

225. Instructor: Hans Hammers, M.D., Ph.D., CRB I, 1M46, 410-502-4658 or hhammer2@jhmi.edu
Department: Medical Oncology
Category: Basic Laboratory Research/Clinical Research
Title: Tumor Angiogenesis: New Drug Targets and Therapeutic Strategies
(2 students accepted per semester)
Description: The students will have the opportunity to work with cutting models of tumor angiogenesis. We are using a high-content in vitro angiogenesis sprouting assay to identify and validate new targets, test new drugs and drug combinations. In vivo mouse models are then used to test these molecules for tumor growth inhibitory activity. Confocal angiography is used to reconstruct the tumor vasculature and to assess for changes in the microvascular anatomy and the tumor microenvironment. We are also working with biopsy samples to study the pharmacodynamic effects of antiangiogenics in patients. This is an ideal environment to gain skills in cell culture, cell biology, molecular biology with plasmid construction, protein expression and purification as well as immunofluorescence and microscopy.

226. Instructor: Daniel Hanley, M.D., CRBII RM 55, 410-614-6996 or abistra1@jhmi.edu
Department: Neurology-Bios
Category: Clinical Research
Title: Assessing Patient Stroke Recovery through Medical Focus Groups
Description: Student will be responsible for the organization of focus groups for stroke recovery patients.

227. Instructor: Adam Hartman, M.D., Meyer 2-147, 410-955-9100 or ahartma2@jhmi.edu
Department: Neurology
Category: Basic Laboratory Research
Title: Metabolism and Mitochondrial Dynamics in Epilepsy Therapy
(1 student accepted per semester – offered first semester only)
Description: The student will spend 4 to 5 hours a week for 8-12 weeks learning and performing basic lab techniques including tissue culture, preparation of tissue for protein analysis (including Western blot and microscopy), basic animal handling, and reagent preparation as the basis for experiments designed to study how metabolic shifts affect neuronal excitability via changes in mitochondrial dynamics.

228. Instructor: Stephen Heishman, Ph.D., Bayview Campus, 443-740-2458 or heishman@nih.gov
Department: Psychiatry and Behavioral Sciences
Category: Clinical Research
Title: Clinical Research in Tobacco Addiction
Description: Students will observe and then assist in testing human research volunteers in studies investigating (a) the effects of medications on laboratory measures of tobacco craving and nicotine reinforcement or (b) the effects of nicotine on tests of attention and cognition. Students can learn about tobacco addiction by reading articles and participating in lab meetings.

229. Not offered or already full in spring

230. Not offered or already full in spring

231. Instructor: A.D. John, M.D., Bayview, 410-550-0942 or Ajohn1@jhmi.edu
Department: Anesthesiology
Category: Clinical Practicum
Title: Introduction to the Operating Room and Anesthesia
Description: Introduces students to the operating room and to anesthesia and demonstrates the importance of physiology and pharmacology in actual patient care.

232. Instructor: A.D. John, M.D., Bayview, 410-550-0942 or Ajohn1@jhmi.edu
Department: Anesthesiology
**Spring 2011 Semester Medical Tutorials**

**Category:** Clinical Practicum  
**Title:** Applied Physiology in the Operation Room (prerequisite: Introduction to the Operating Room and Anesthesia)  
**Description:** Applied physiology in the operating room with special emphasis on cardiovascular, pulmonary and renal physiology.

233. Not offered or already full in spring

234.  
**Instructor:** Minori Koga, Ph.D., Meyer 4-137, 410-614-5995 or mkoga3@jhmi.edu  
**Department:** Psychiatry and Behavioral Sciences  
**Category:** Laboratory Research  
**Title:** The Role for Glutathione in Neuronal Glutamate Metabolism and Schizophrenia  
**Description:** The tripeptide, glutathione, is synthesized from the amino acids L-cysteine, L-glutamic acid (glutamate), and glycine and exists at millimolar amounts in cells, participating in antioxidant defense and drug detoxification. Glutathione synthesis is governed by a set of enzymes known as the glutathione cycle. Schizophrenia is a chronic debilitating mental illness affecting 1% of the world’s population and extracting heavy economic tolls. Recently, multiple investigators have found schizophrenia patients to have decreases in glutathione levels. We explore roles of glutathione and its associations with schizophrenia.  
In the tutorial, changes of expression levels of enzymes in the glutathione cycle will be tested via western blot and real time PCR in neuron cells which are treated with several drugs for inhibiting the enzymes.

235.  
**Instructor:** Michael Lim, M.D., CRBI RM 424, 410-614-1627 or mlim3@jhmi.edu  
**Department:** Neurosurgery, Oncology  
**Category:** Laboratory Research  
**Title:** Applying Immunology in the Treatment of Cancer: Determining and Modifying the Immunological Characteristics of Gliomas  
**Description:** The student will spend 4 to 5 hours a week in the basic science lab over two semesters. For the first 12 weeks, the student will learn basic lab techniques, including tissue processing, immunohistochemistry, quantitative real-time PCR, and western blotting. Outside of the basic science lab, they will be provided with 1 review paper every two weeks on a topic pertaining to their research. This will be discussed at every other weekly lab meeting. In the second 12 weeks, they will apply the principles learned previously. They will develop new assays to identify other immunological characteristics of their choice (determined by the student based on readings, with guidance from the primary investigator and research team). For example, the student may choose to test the expression of a novel biomarker candidate that may distinguish patients who will respond to immunotherapy. They would then adapt the assays learned in the first 12 weeks to detect the marker of interest or develop new assays as necessary.

236.  
**Instructor:** Arik Marcell, M.D., Rubinstein Bldg., Room 2062, 443-287-8946 or amarcell@jhsph.edu  
**Department:** Pediatrics  
**Category:** Clinical Research  
**Title:** Systemic Literature Review of Men’s health and Family Planning  
**Description:** The student will spend 4 to 5 hours a week for 8-12 weeks learning about performing a systematic literature review and synthesizing existing and new research on men’s reproductive health-related across the lifespan.

237.  
**Instructor:** Zoltan Mari, M.D., Meyer 6-119B, 410-502-0133 or zmari@jhu.edu  
**Department:** Neurology  
**Category:** Clinical Research  
**Title:** Neuroprotective Trials in Parkinson Disease
**Spring 2011 Semester Medical Tutorials**

**Description:** The student will spend 4 to 5 hours a week for 8-12 weeks learning methods of clinical research in Parkinson disease. The student will participate in conduction study visits, review clinical trial designs, communicate with study patients, and have review sessions with the study team, including investigators and coordinators.

**238. Not offered or already full in spring**

**239. Instructor:** Ed McFarland, M.D., 410-503-2050 or emcfarl@jhmi.edu
**Department:** Orthopedic Surgery
**Category:** Clinical Practicum
**Title:** Clinical Observership in Sports Medicine and Shoulder Surgery
**Description:** **NOTE: LOCATED @ GREENSPRING – Students need own transportation.**

**240. Instructor:** Dale Needham, M.D., Ph.D., Phipps 197, Michelle.kho@jhmi.edu
**Department:** Physical Medicine and Rehabilitation
**Category:** Clinical Research
**Title:** Early Physical Rehabilitation in the Intensive Care Unit
(1 student accepted. Spring semester only)
**Description:** Learning about clinical research within the rapidly emerging field of physical rehabilitation in the intensive care unit (ICU) setting, specifically focusing on a CIHR-funded randomized controlled trial of neuromuscular electrical stimulation therapy to prevent ICU-acquired muscle weakness. The tutorial experience will include theoretical and practical learning about implementation of a research protocol, and introduce methods for collection, management, and analysis of clinical data. The student will receive mentorship, training, and supervision. Learning methods include readings, observation, and direct experience with fundamental research skills. Students will have opportunities to observe rehabilitation interventions/therapy in the ICU to understand the medical and scientific basis of the data.

**241. Instructor:** Dale Needham, M.D., Ph.D., 1830 Monument St. 5th Floor, Dale.needham@jhmi.edu
**Department:** Pulmonary and Critical Care
**Category:** Clinical Research
**Title:** Clinical Research in Critical Care Outcomes (5 students accepted per semester)
**Description:** Learning about clinical research within the realm of critical care medicine – including methods for collection, management and analysis of clinically focused data, and related readings, training, supervision and mentorship. Also, observation in the ICU to understand the clinical basis for the above data.

**242. Instructor:** Dolores Njoku, M.D., Blalock 906A, 410-955-2393 or dnjoku1@jhmi.edu
**Department:** Anesthesiology and Critical Care Medicine
**Category:** Basic Laboratory Research
**Title:** Mechanisms of Experimental Drug-Induced Hepatitis (1 student accepted per semester)
**Description:** The long-term objective of this proposal is to uncover mechanisms responsible for the development of idiosyncratic drug-induced acute liver failure (Id-ALF) in susceptible patients. Id-ALF is the third most common cause of acute liver failure in the United States. Susceptible individuals develop anesthetic Id-ALF following halogenated volatile anesthetics exposure. The student will spend 4 to 5 hours a week for 16 weeks learning basic lab techniques including in vivo mouse experiments, and will also be introduced to immunohistochemical and immunoblotting experiments designed to study immune-mediated mechanisms responsible for Id-ALF.

**243. Instructor:** Dolores Njoku, M.D., Blalock 906A, 410-955-6412 or dnjoku1@jhmi.edu
**Department:** Anesthesiology and Critical Care Medicine
Spring 2011 Semester Medical Tutorials

Category: Clinical Research
Title: Short-Term Medical Outcomes in Spine Fusion and Reconstruction (First semester only)
Description: Scoliosis is one of the more common procedures requiring perioperative management that is encountered by pediatric anesthesiologists. In this project we will focus our investigation of short term outcomes on patients following spine fusion. The student will assist in the maintenance of our spine fusion database and be exposed to the clinical practice of pediatric anesthesiology including opportunities to observe interactions with patients in the perioperative period.

244. Instructor: Frances J. Northington, M.D., CMSC 6-114, 410-502-6794 or frances@jhmi.edu
Department: Pediatrics
Title: Neonatal Brain Injury Research Experience
Description: The student will spend 4–5 hours a week for 8-12 weeks learning basic lab techniques including tissue processing, use of cryostat and microtome, reagent preparation, immunoassays, immunoplotting and immunocytochemistry technique designed to study signal transduction following neonatal brain injury.

245. Instructor: Jennifer Payne, M.D., 550 N. Broadway Room 308, 410-502-2334 or tring1@jhmi.edu
Department: Psychiatry and Behavioral Sciences
Category: Clinical Research
Title: Research Studies in Bipolar Disorder and Major Depression
Description: This tutorial will focus on doing brief phone interviews with prospective patients interested in clinical trials and other studies for mood disorders, scheduling patients, and reminding them of upcoming appointments. Other tasks may include entering data and helping with subject recruitment. In addition to hands on research experience, we will provide opportunities for education. Research volunteers are encouraged to observe research study appointments conducted by the psychiatrists and other research staff. These visits involve mood rating scales, diagnostic assessments, and medical and psychiatric histories. Volunteers may also observe Women’s Mood Disorders Center consultations depending on their schedule. Other opportunities include Department of Psychiatry Grand Rounds, weekly research conferences along with teaching rounds on the mood disorders inpatient unit and lectures.

246. Instructor: Michelle Petri, M.D.M.P.H., 410-955-9114 or mpetri@jhmi.edu
Department: Medicine/ Rheumatolog,1830 East Monument, Suite 7500
Category: Clinical Research
Title: Clinical Research in SLE
Available throughout the year including summer (for summer session tuition charges will be assessed)
Description: This is best in the summer. It is an extensive exposure both to lupus (by seeing patients with the disease) and an introduction to how to design, carry out, and analyze a research study that will answer an important question in clinical care in lupus.

247. Not offered or already full in spring

248. Instructor: Irving Reti, M.D., Meyer 3-140, 410-955-1484 or imreti@jhmi.edu
Department: Psychiatry
Category: Clinical Research
Title: Novel Brain Stimulation Therapies for Treatment of Mental Illness
**Spring 2011 Semester Medical Tutorials**

**249.**
**Instructor:** Irving Reti, MBBS, Meyer 3-140, 410-955-1484 or imreti@jhmi.edu  
**Department:** Psychiatry/Neuroscience  
**Category:** Basic Laboratory Research  
**Title:** Molecular Mechanisms of Drug Abuse  
**Description:** Learn about electroconvulsive therapy and newer brain stimulation therapies for treatment of depression and other psychiatric illnesses being introduced at Johns Hopkins, such as transcranial magnetic stimulation. The student will also learn about and assist in experiments helping us understand why these brain stimulation therapies may be effective.

**250.** Not offered or already full in spring

**251.**
**Instructor:** Charles I. Shubin, M.D., Children’s Health Center, Mercy Family Care, 315 N. Calvert St., Baltimore, MD 21202, 410-500-5568 (Office) or cshubin@umaryland.edu  
**Department:** Pediatrics  
**Category:** Clinical Practicum  
**Title:** An Opportunity to Experience an Inner-city Teaching Practice. (7 students accepted per semester)  
**Description:** This is an inner-city, community based, pediatrics program. Student interns selected for this tutorial must commit to entire morning or an entire afternoon each week. Clinic is held between 8:30 and 12:30 on Monday, Wednesday, Thursday and Friday mornings. In the afternoons, clinic is held between 1:00-5:00 on Tuesday, Wednesday and Thursday. Students must be able to commit for the entire shift. If you are interested, you must submit an email to cshubin@umaryland.edu indicating your name, class year, prior clinical experience, and the exact mornings or afternoons that you would be available to participate.

**252.**
**Instructor:** Richard Skolasky, Sc.D., JHOC 5244, 410-502-7975 or rskolas1@jhmi.edu  
**Department:** Orthopaedic Surgery  
**Category:** Clinical Research  
**Title:** Clinical Research in Orthopaedic Spine Surgery (6 students accepted per semester)  
**Description:** The JH Spine Service is pleased to offer a medical tutorial to provide clinical research exposure to undergraduate and post-bac students interested in academic medicine. Students will be exposed to the clinical practice of spine surgeons including an opportunity to observe patient interactions. Students will assist in the collection of patient reported outcomes. The research aspect includes data entry and literature searches to support the researchers. Students will be required to devote approximately 4-5 hours per week. Dress code is business casual.

**253.** Not offered or already full in spring

**254.**
**Instructor:** Matt Specht, Ph.D., CMSC 341, 410-409-6751 or mspecht1@jhmi.edu  
**Department:** Child and Adolescent Psychiatry  
**Category:** Clinical Research/Research Seminars/Case Conferences
| Title: | Tourette’s and Tic Disorders Research Experience (up to 3 students accepted per semester) |
| Description: | This is an opportunity to learn more about research regarding behavioral interventions for Tourette’s and Tic Disorders as well as to learn more about the role of psychology in a psychiatry department. Students will help in the recruitment and running of subjects as well as data entry. Interested parties may also have an opportunity to engage in data analysis and paper writing. |
| 255. Instructor: | John Strouse, M.D. Ph.D., Rubenstein 3006, 410-614-6102 or jstrous1@jhmi.edu |
| Department: | Pediatrics |
| Category: | Clinical Research |
| Title: | Introduction to Clinical Research in Hematology |
| Description: | The student will spend 4 to 6 hours a week learning practical aspects of clinical research in hematology with a focus on pediatrics. This will include participating in consent conferences, working with a research assistant on the collection, entry and quality assurance of data, and basics of institutional review board applications. There may be the opportunity to participate in data analysis depending on the interest and background of the student. |
| 256. | Not offered or already full in spring |
| 257. Instructor: | David Tomkins, M.D., Behavioral Pharmacology Research Unit, 410-550-5953 or dtompki1@jhmi.edu |
| Department: | Psychiatry |
| Category: | Clinical Research |
| Title: | Undergraduate Research Assistant |
| Description: | The Behavioral Pharmacology Research Unit is an internationally recognized center for the study of psychoactive drugs located on the Johns Hopkins Bayview Medical Campus. Students will spend 9 hours a week for 12 weeks under the supervision and direction of investigators, research coordinators and research assistants. The undergraduate research assistant will assist with clinical research protocols in the areas of drug addiction, substance abuse, drug development and cognition. Examples of current projects include a vaccine for cocaine dependence and treatment of opioid withdrawal. Students will assist in data collection, data management, and participant recruitment as required by the specific protocols. More information can be found on our website at www.bpru.org |
| 258. Instructor: | Darcy Thompson, M.D., Mason F Lord bldg, Center Tower, Ste 4200, 410-550-8295 or dthomp46@jhmi.edu |
| Department: | Pediatrics |
| Category: | Clinical Practicum |
| Title: | Delivery of Linguistically Appropriate Care of Spanish-Speaking Pediatric Patients |
| Description: | The student, who must be fluent in Spanish, will be exposed to the clinical practice of general pediatrics focused on serving a low-income Spanish-speaking population. The student will assist in the gathering and evaluation of written health education materials targeting this population and the development of a file of such materials, with the main goal of enhancing the delivery of care this population receives. |
| 259. Instructor: | Stanley Vinores, Ph.D., Smith Bldg, M023, 410-502-0807 or svinores@jhmi.edu |
| Department: | Ophthalmology |
| Category: | Laboratory Research |
| Title: | Improved Therapies for Diabetic Retinopathy and Age-Related Macular Degeneration |
We are investigating new targets for prevention blood-retinal barrier breakdown, pathological angiogenesis, neuron degeneration, and inflammation in ocular disease models. These studies will involve the use of transgenic and knockout mice, viral vectors, antibody treatments, animal models, immunohistochemistry and other histochemical techniques, and assay for vascular permeability, leukostasis, genotype, gene expression, and neuron survival. The studies are designed to identify factors involved in the pathogenesis of ocular disease processes and how to most effectively suppress the adverse complications while maintaining a good safety profile. The specific project or techniques the student will be involved with can be customized to the student’s interests and the amount of time that can be devoted to research in the lab.

**Instructor:** Jian Wang, M.D., Ph.D., Traylor 809, 410-955-3640 or jwang79@jhmi.edu

**Department:** Anesthesiology and Critical Care Medicine

**Category:** Basic Laboratory Research

| Title: Preclinical Study of Hemorrhagic Stroke |
| (1-2 students accepted per semester) |

**Description:** The student will spend 4 to 5 hours a week learning basic lab techniques including tissue processing, use of cryostat and microtome, reagent preparation, learning to run neurobehavioral test, learning histology, immunohistology and immunoplotting experiments designed to study signal transduction following hemorrhagic stroke injury in mice.

**Instructor:** T.C. Wu, M.D. Ph.D., CRBl II RM 309, 410-614-3899 or wutc@jhmi.edu

**Department:** Pathology

**Category:** Laboratory Research

| Title: Pathology and Vaccine Develop |

**Description:** Our laboratory is focused on developing cancer vaccines and immunotherapeutic strategies for the treatment of human papillomavirus (HPV)-associated cervical cancer. The student will spend 4 to 5 hours a week for 6-8 weeks participating in a discussion course on immunological concepts including tumor pathology, innate immunity, adaptive immunity, strategies to enhance vaccine potency and immunological techniques useful for vaccine development. Students will then apply the knowledge gained from this immunological foundation to their own ideas for innovating and designing therapeutic HPV vaccines for the control of HPV infections and associated lesions.

**Instructor:** Lonny Yarmus, D.O., 1830 Bldg, 5th floor, 410-502-2533 or lyarmus@jhmi.edu

**Department:** Interventional Pulmonology

**Category:** Clinical Research

| Title: Interventional Pulmonology Research |

**Description:** Exposure to the clinical practice of Interventional Pulmonology which is rapidly growing field in pulmonary medicine that specializes in the diagnosis and management of lung cancer and pleural disease as well as complex airway disorders. The student will have both an opportunity to observe procedures and assist in multiple clinical/translational research projects including airway stenosis after lung transplantation surveillance and tracheostomy research. The student will initially spend 4-5 hours a week on research with the aim to complete a database, abstract and eventual manuscript for submission to a major medical journal.

**263.** Not offered or already full in spring

**264.** Not offered or already full in spring