Featuring:

Sally J. Rockey, Ph.D.

Dr. Sally J. Rockey, National Institutes of Health (NIH) Deputy Director for Extramural Research (DDER), leads the NIH extramural research activities. Her role is to oversee the development and implementation of the critical policies and guidelines central to the successful conduct of NIH supported biomedical research.

Dr. Rockey has a Ph.D. in Entomology from The Ohio State University, and has spent the majority of her career in the area of research administration and information technology. In 1986 she joined the US Department of Agriculture, and soon becoming the Deputy Administrator of the Cooperative State Research, Education and Extension Service, overseeing the USDA extramural competitive grants program and served as the Agency’s Chief Information Officer. In 2005, Dr. Rockey moved to NIH as Deputy to her current position and became the DDER in 2008.

Dr. Rocky is also the author of the widely read “Rock Talk” blog and has been recognized for her numerous professional accomplishments including receiving the Presidential Rank Award in 2004, the Joseph F. Carrabino Award in 2013, and the AFI Public Service Award in 2014.
Welcome

Dear Colleagues,

I would like to extend a personal invitation to each of you who are joining us at the 2015 IUPUI Research Day, on April 17th. Our theme this year is Research and Creativity - Fulfilling the Promise. This daylong celebration of IUPUI research and creative activity begins with a morning plenary session from 9:30 am to 11:00 am in the Campus Center lower level theatre. This session will start with the announcement of the 2015 Research Frontiers Trailblazer Award recipients, who will make short presentations, followed by the keynote presentation by Dr. Sally Rockey, National Institutes of Health (NIH) Deputy Director for Extramural Research. In this role, Dr. Rockey leads the NIH extramural research activities, overseeing the development and implementation of the critical policies and guidelines central to the successful conduct of NIH supported research.

Research Day events also include two poster sessions, showcasing the innovative research of our faculty, staff, and graduate, professional and undergraduate students. Also this year, back by popular demand, we will have "Jag Talks," a series of short but highly dynamic and thought-provoking presentations that illuminate the breadth of research and creative activity happening at IUPUI and beyond. Jag Talks is open to all Research Day attendees.

Research Day is a great way for IUPUI faculty, staff, and students, and their academic, industry, and government partners, along with the broader community, learn more about the research enterprise at IUPUI, explore new collaborations, and lay the foundation for new partnerships. This is truly an exciting time for research at IUPUI.

Sincerely,

Kody Varahramyan
Vice Chancellor for Research
IUPUI RESEARCH DAY 2015

Program at a Glance

IUPUI Campus Center Theater

9:30 am - 9:35 am  Opening Remarks and Welcome
9:35 am - 9:40 am  Announcement of 2015 Trailblazer Award Winners
9:40 am - 10:05 am Presentations by the 2015 Trailblazer Award Winners
10:05 am - 10:55 am Keynote Presentation by Dr. Sally Rockey, NIH
Deputy Director

IUPUI Campus Center 4th Floor

11:10 am - 12:00 pm  "Jag Talks" Research and Creative Activity
                        Presentations – Room 405
                        (See inside back cover for speaker information.)
11:10 am - 12:40 pm  Poster Session I - Room 450 A, B, C
12:10 pm - 1:10 pm   Collaborative Research Roundtable Discussions – Room 409 (Designated Faculty Only)
12:40 pm - 1:10 pm   Switch to Poster Session II / Break
1:10 pm - 2:40 pm    Poster Session II - Room 450 A, B, C
Faculty and Student Research Posters and Exhibits – Session 1
11:10 am – 12:40 pm

ARTS AND HUMANITIES

1. The Open Scholarship Project: Creating Sustainable Growth for Open Access Publishing in the Humanities and Social Sciences
   Jere Odell, Jason Kelly
   University Library, IUPUI Arts & Humanities Institute

2. Design for Social Change: A Pedagogical Approach to Prepare Students for Human-centered Design Practice
   Pamela Napier
   Herron School of Art and Design

3. Improv(ing) Learning Environments: How to Foster Belonging through Play
   Jonathan P. Rossing
   Liberal Arts

4. Enriching Group Communication through Applied Improvisation and Meditation
   Kayla B. Najera, Jonathan P. Rossing
   Liberal Arts
   Mentor: Jonathan P. Rossing, Liberal Arts

5. Materials Development in Teaching Chinese as a Foreign Language
   Jing Wang
   Liberal Arts

6. Assessing Frederick Douglass’s 1853 Novella The Heroic Slave
   John R. Kaufman-McKivigan, Bessie House-Soremekun, Jane Schultz
   Liberal Arts

7. The Genetic Portrait Project: An Art Initiative at The American Society of Human Genetics
   Stefan Petranek
   Herron School of Art and Design

PUBLIC AND ENVIRONMENTAL AFFAIRS

8. News and Civic Literacy; What’s the Connection?
   Whitney Fields, Rachel Thelin, Sheila Suess Kennedy
   IU Center for Civic Literacy, Public and Environmental Affairs

9. Assessing the Public’s Perceptions towards Indianapolis’ Sports Imagery
   Nicolette Harrington, Yao-Yi Fu
   Physical Education and Tourism Management

EDUCATION, SOCIAL AND BEHAVIORAL SCIENCES

10. Preparing Post-Secondary Learners for Indiana’s leading Industries
    John Buckwalter, Charles Feldhaus, Brandon Sorge, Dave Byron, Luis Escobar, Grant Fore
    STEM Education Research Institute (SERI)

11. Biracial Students on Campus: The Question of Identity
    Derrian A. Smith, Robert Aponte
    Liberal Arts
    Mentor: Robert Aponte, Liberal Arts

12. A Descriptive Study of Undergraduate Student and Faculty Perspectives of Engagement When Learning About Cultural Content
    Carly Lewis, Whitney Eldridge, Mary Beth Riner
    Nursing
    Mentor: Mary Beth Riner, Nursing

13. The Effectiveness of a Horticulture Therapy Class on Perceived Emotions for College Nursing Students: A Preliminary Study
    Shih-Ni Chen, Mary Beth Riner, Jia-Ling Sun
    Nursing, Kaohsiung Medical University, Yuanpei University

14. Construction of a Database for Socio-Demographic, Medico-Legal, Anatomic, and Genomic Research into Suicide
    Kaitlyn Engle, Shannon Cook, Daniel Levey, Alfarena Ballew, Michael Yard
    Medicine, Marion County Coroner’s Office
    Mentors: Alexander B. Niculescu, George Sandusky, Medicine

15. Investigating the Reasons of Undeliverable Mail Sent to Communicable Disease Patients
    Hassan Shah, Uzay Kirbiyik, Brian E. Dixon
    Informatics and Computing, Fairbanks School of Public Health, Regenstrief Institute
    Mentors: Brian E. Dixon, Uzay Kirbiyik, Fairbanks School of Public Health
16. Here We Come Ready or Not: Occupational Therapy Program to Help Prepare Prisoners for Reentry into Society
Jeffrey L. Crabtree, David Ohm, Jarrod Wall, Joseph Ray, Mackenzie Cheesman, Lainey Goldman, Emilea Ridener, Kelsey Rosswurm
Health and Rehabilitation Science

17. The American Media’s Construction of “Participants” in Cases of Police Killings
Morgan Kristine Johnson
Liberal Arts

18. E-Cigarettes: A Novel Measure for the Expectancies of E-Cigarette Use as Directly Compared to Cigarette Use
Alexandra Hershberger, Kenny Karyadi, Melissa Cyders
Science

19. What Are the Factors that Influence Caregiver/Parent Co-sleeping Education?
Katherine J. Williams, Cassandra R. Vodde, Taylor D. Hartman, Deborah Stiffler, Deborah L. Cullen
Nursing
Mentors: Deborah Stiffler, Deborah Cullen, Nursing

20. Role of Positive and Negative Urgency and Social Context on Problematic Alcohol Use Behaviors
Andree B. Entezari, Kenny A. Karyadi, Melissa A. Cyders
Science
Mentor: Melissa A. Cyders, Science

21. A Systematic Review of Family Meal Frequency and Risk Taking Behaviors in Adolescence
Michelle Eads, Jessica Meeks, Morgan Stamper, Kathleen Hanna, Angela M. McNelis
Nursing, University of Nebraska Medical Center
Mentors: Kathleen Hanna, University of Nebraska Medical Center; Angela M. McNelis, Nursing

22. The Relationship Between Sexually Coercive Experience Frequency, Coping, Social Support and Sexual and Mental Health in Adult Women
Allison K. Muzzey, Devon J. Hensel
Liberal Arts, Medicine
Mentor: Devon J. Hensel, Medicine, Liberal Arts

23. Women’s Individual and Relationship-Level Attitudes and Behaviors Regarding Solo Masturbation and Vibrator Use
Ashley R. Sherrow, Devon J. Hensel
Liberal Arts, Medicine

24. Social Support and Well-being: A Quantitative Study of the Effects of Friendship on the Sexual Well-being of Older Adults
Monica M. Williams
Liberal Arts

25. Evidence Based Breast Cancer Interventions Targeting Black American Women
Thomasina Watts, Ronda Henry-Anthony
Liberal Arts
Mentor: Ronda Henry-Anthony, Liberal Arts

26. Addressing Disparity: What Aspects of African American Culture Contribute to an Increased Risk for Sudden Unexpected Infant Death (SUID)?
Brook Ayres, Cheyenne Fauvergue, Deborah Cullen, Deborah Stiffler
Nursing
Mentors: Deborah Cullen, Deborah Stiffler, Nursing

27. Globally, What Affects Primary Caregivers’ Grieving Processes Leading to Subsequent Effective and Ineffective Coping Strategies Following an Infant Mortality
Nicole R. Birch, Hailey N. Campbell, Deborah Cullen, Deborah Stiffler
Nursing
Mentors: Deborah Cullen, Deborah Stiffler, Nursing

28. Child and Infant Mortality; Risk Factors Related to SUID in Marion County
Morgan R. Oberle, Charles D. Elomba, Deborah L. Cullen, Deborah J. Stiffler
Nursing
Mentor: Deborah L. Cullen, Nursing

Victoria MacLain, Kelsey A. Bonfils, Lauren Luther, Kyle S. Minor
Science
Mentor: Kyle Minor, Science
30. Emotional Expression: Novel Measures and Relation to Emotion Recognition in Schizotypy
Kelsey E. Martin, Kyle S. Minor
Science
Mentor: Kyle S. Minor, Science

Science, Arts and Sciences IU Bloomington, Stark Neuroscience Research Institute, Institute for Mathematical Modeling and Computational Sciences, Medicine

32. Effects of EGCG Treatment on Deficits in a Radial-Arm Maze Spatial Pattern Separation Task in a Down Syndrome Mouse Model
Megan Stringer, Kailey Stancombe, Sean Gainey, Zahir Sheikh, Irushi Abeysekera, Charles Goodlett, Randall J. Roper
Science

INFORMATICS, ENGINEERING AND TECHNOLOGY

33. Android APP: Is Your Car Locked
Xiangnan Gong, Moyuan Chen
Engineering and Technology

34. Oh, Snap! The State of E-Discovery as Social Media Goes Mobile via Snapchat, WhatsApp and Other Messaging Apps
Cori Faklaris, Sara Anne Hook
Informatics and Computing

35. Flock of Legals: Designing an Interactive Website to Create a Community for Lawyers
Shilpa Pachhapurkar, Sara Anne Hook
Informatics and Computing

36. What Factors Contribute to the Success and Failure of Latino Outreach and Information Programs in Indianapolis?
Carlos Sosa, Sara Anne Hook
Informatics and Computing

37. The Development of a Wireless Control System for Integration on Drones
Tim Allen, Anders Tovar
Engineering and Technology
Mentor: Andres Tovar, Engineering and Technology

38. Intention Prediction in Search Engines Using Causal Bayesian Networks
James Haarbauber, Jonathan Abdo
Engineering and Technology

39. Enhancing and Implementing Fully Transparent Internet Voting
Kevin Butterfield, Huian Li, Xukai Zou, Feng Li
Science, Engineering and Technology
Advisors: Xukai Zou, Science; Feng Li, Engineering and Technology

40. Timeliness of Chlamydia Laboratory and Provider Reports: A Modern Perspective
Patrick T.S. Lai, Janae E. Johns, Uzay Kirbiyik, B. E. Dixon
Informatics and Computing, Fairbanks School of Public Health, Regenstrief Institute Inc.

41. Designing a Low-Cost, Light-Weight Vehicle Using Additive Manufacturing
Michael Golub, Jing Zhang
Engineering and Technology

42. Density Functional Theory Study of Gas Adsorption on Lanthanum Zirconate Nanostructured Coating Surface
Xingye Guo, Jing Zhang, Yeon-Gil Jung, Li Li, James Knapp
Engineering and Technology, Changwon National University, Praxair Surface Technologies Inc.

43. Geometric Characteristics of Lithium Ion Battery Electrodes with Different Packing Densities
Cheol Woong Lim, Wen Chao Lee, Yan Bo, Zhibin Song, Vincent De Andrade, Francesco De Carlo, Youngsik Kim, Likun Zhu
Engineering and Technology, Argonne National Laboratory, Ulsan National Institute of Science and Technology

44. Modeling and Simulation of Heat of Mixing in Lithium Ion Batteries
Zhibin Song, Yan Bo, Cheolwoong Lim, Likun Zhu
Engineering and Technology, Shanghai JiaoTong University

45. Polarization Analysis Based on Realistic Lithium Ion Battery Electrode Microstructure Using Numerical Simulation
Bo Yan, Cheolwoong Lim, Zhibin Song, Likun Zhu
Engineering and Technology
46. Numerical Simulation of Li Diffusion in 3D Polycrystalline LiCoO$_2$
Linmin Wu, Jing Zhang
Engineering and Technology

47. Sintering Mechanisms and Mechanical Properties of 3D Printed Metals
Yi Zhang, Jing Zhang
Engineering and Technology

48. Nano-imprint Lithography for Top-down Nanoscale Fabrication
David W. Wyman, Jong E. Ryu
Engineering and Technology
Mentor: Jong Ryu, Engineering and Technology

49. Name Disambiguation from Link Data in a Collaboration Graph
Baichuan Zhang, Tanay Kumar Saha, Mohammad Al Hasan
Science

50. Developing Intelligent Negotiation System
Amandeep Singh, GaganPal Singh Dhaliwal, Raviraj Dudani, Suyog Patil, Gahangir Hossain
Engineering and Technology

51. Improving Cross-linking of Degradable Thiol-acrylate Hydrogels via Peptide Design
John C. Bragg, Chien-Chi Lin
Engineering and Technology
Mentor: Chien-Chi Lin, Engineering and Technology

52. A Bipolar SEPIC Converter with Wide Output Voltage Range
Kaiyang Liu, Afshin Izadian
Engineering and Technology

53. Extremum Power Seeking Control of a Hybrid Wind-Solar-Storage DC Power System
Dan Shen, Afshin Izadian
Engineering and Technology

54. Robust Understanding of Motor Imagery EEG Pattern in Voice Controlled Prostatic Arm Design
Parisa Ghane, Divya Maridi, Gahangir Hossain
Engineering and Technology

55. Neural Mechanisms of Pupillary Dynamics and Cognitive Effort
Joshua Elkins, Gahangir Hossain, Ken Yoshida
Engineering and Technology

56. Partially Demineralized Macroporous (PDM) Allografts for Cranial Tissue Engineering
Huseyin E. Arman, Rashed Almousa, Shamber Musgrove, Javed Syed, Caitlin Wunderlin
Engineering and Technology
Mentor: Tien-Min Gabriel Chu, Dentistry

57. Effect of Micro-grating Patterned Substrate on Vascular Cell Behavior in Response to Shear Flow and Strain
Tim Poe, Julie Ji, Jong Ryu
Engineering and Technology, Science
Mentors: Julie Ji, Jong Ryu, Engineering and Technology

PHYSICAL SCIENCES

58. Novel Lanthanum Zirconate Thermal Barrier Coatings for Gas Turbines
Jing Zhang, Xingye Guo, Yeon-Gil Jung, Li Li, James Knapp
Engineering and Technology, Changwon National University, Praxair Surface Technologies Inc.

59. Circadian Variability of Body Temperature Responses to Methamphetamine (Meth)
Abolhassan Behrouzvaziri, Yeonjoo Yoo, Ekaterina Morozova, Maria Zaretskaia, Dmitry Zaretsky, Yaroslav Molkov
Science, Medicine

60. DHA Alters Raft-like Membrane Domains as Revealed by Solid State $^2$H NMR Spectroscopy
Jacob J. Kinnun, Justin A. Williams, William Stillwell, Robert Bittman, Saame Raza Shaikh, Stephen R. Wassall
Science, Queens College of CUNY, East Carolina University

61. Unique Design of CuInSe$_2$ Nanocrystal decorated Gold Nanoprism Hybrid Conjugates for Advanced Photocatalytic Application
Katie Lawrence, Atanu Jana, Thakshila Liyanage, Rajesh Sardar
Science

62. Zircon Geochronology of Indiana Till as an Indicator of Provenance
Samantha Brickles, Christine Kassab, Kathy Licht
Science
Mentor: Kathy Licht, Science
63. Investigating the Mesoscale Assembly of CH$_3$NH$_3$PbBr$_3$ Quantum Wire Formation
Meghan Teunis, Atanu Jana, Rajesh Sardar
Science

64. Detecting Counterfeit Pharmaceuticals through UV Spectrophotometry
Gabriela Figueroa, Luis A. Palacio, Bruce D. Ray, Horia I. Petrache, Alfredo Lopez-Yunez
Science, Alivio Medical Center
Mentor: Luis A. Palacio, Science, Alivio Medical Center

LIFE AND HEALTH SCIENCES

65. Pancreatic Cancer Signature Center: Providing the Research Tools Necessary to Advance Pancreatic Cancer Patient Care
Murray Korc, Crystal Munson, Mark R. Kelley
Medicine

66. Pathophysiological Role of MicroRNA-29 in Pancreatic Cancer Stroma
Medicine

67. A20 - A Novel TGF-β Regulated Gene
Sudha Savant, Murray Korc
Medicine

68. Quantitative Immunohistochemistry Evaluating APE1 Expression in a Mouse Pancreatic Adenocarcinoma Model
Kyle McElveya, Melissa Fishel, Mark Kelley, George Sandusky
Medicine
Mentor: George Sandusky, Medicine

69. Sirt6 Regulates Insulin Secretion from the Pancreatic Beta Cells
Xiwen Xiong, Gaihong Wang, Rongya Tao, Pengfei Wu, Tatsuyoshi Kono, Xin Tong, Sarah A. Tersey, Robert A. Harris, Carmella Evans-Molina, Raghavendra G. Mirmira, X. Charlie Dong
Medicine, Roudebush Veterans Affairs Medical Center

70. The Role and Therapeutic Potential of miRNAs in Colorectal Liver Metastasis
Ruchi Bansal, Smiti Snigdha Sahu, Sarah C. Nabinger, Jiang Guanglong, Alison Bates, Sangbin Lee, Tanaka Hiromi, Yunlong Liu, Janaiah Kota
Medicine, Center for Computational Biology and Bioinformatics, Simon Cancer Center, Center for Pancreatic Cancer Research

71. Phenotypic Features Effectively Stratify Risk for Advanced Colorectal Neoplasia in Asymptomatic Adults
Thomas F. Imperiale, Patrick O. Monahan, Timothy E. Stump, Elizabeth A. Glowinski, David F. Ransohoff
Medicine, Regenstrief Institute Inc., Roudebush VA Medical Center, Indianapolis Gastroenterology Research Foundation, University of North Carolina at Chapel Hill

72. Critical Role of Phosphorylation of Serine 165 of YBX1 on the Activation of NF-κb in Colon Cancer
Lakshmi Prabhu, Rasika Mundade, Benlian Wang, Han Wei, Antja-Voy Hartley, Kyle McElveya, Constance J Temm, George Sandusky, Yunlong Liu, Tao Lu
Medicine, Case Western Reserve University, Center for Computational Biology and Bioinformatics

73. Interleukin-6/GP80-dependent Pathways Role in Physiologic Cachexia During Liver Regeneration After Partial Hepatectomy
Andris Kronbergs, Teresa A. Zimmers, Leonidas G. Koniaris
Medicine

74. Delayed Effects of Acute Radiation Exposure (DEARE) in a Murine Model of the Hematopoietic Acute Radiation Syndrome: Multiple-Organ Injury Consequent to Total Body Irradiation
Ariel Quickery, Joseph L. Unthank, Steven J. Miller, Christie M. Orschell
Medicine

75. The Signature Center Initiative for the Cure of Glioblastoma
Karen E. Pollok, Aaron Cohen-Gadol
Medicine, Goodman Campbell Brain and Spine

76. Using VBIM Technique to Identify Novel Carboplatin Resistance Gene in Ovarian Cancer
Han Wei, Yun She, George Sandusky, Tao Lu
Medicine
77. LPA Induced FOXM1 Up-regulation in Ovarian Cancer Cells via both the PI3K and YAP pathways
Qipeng Fan, Qingchun Cai, Yan Xu
Medicine

78. Understanding DNA Methylation Patterns in Breast Cancer
Sandra Seby, Meeta Pradhan, Mathew Palakal
Informatics and Computing

79. Pain and Anxiety and Quality of Life in Breast Cancer Survivors
Rebecca Guilkey, Susan Storey, Chia-Chun Tang, Adele Nielsen, Diane Von Ah
Nursing

80. Examining Gender Differences in Pain Treatment Recommendations
Charnelle A. Free, Megan M. Miller, Zina Trost, Tori Wheelis, Adam T. Hirsh
Science, University of North Texas
Mentor: Adam T. Hirsh, Science

81. Associations between Loneliness and Cancer Patients' Pain and Fatigue
Madison E. Stout, Rebecca N. Adams, Catherine E. Mosher
Science
Mentor: Catherine E. Mosher, Science

82. Preventing Incident Delirium in Hospitalized Adults: An Integrative Review
Kelly A. Wassen, Sue Lasiter
Nursing
Mentor: Sue Lasiter, Nursing

83. IUPUI Center for Cancer Population Analytics and Patient-Centered Informatics
David A. Haggstrom, Josette Jones, Layla Baker Roudebush VAMC, Medicine, Regenstrief Institute, Informatics and Computing

84. The First 4 Weeks Postpartum: The Mother’s Breastfeeding Concerns and Support
Stacy A. Rosales, Carol Shieh, Tamilyn Bakas, Katie Busby
Nursing

85. Developing a Targeted English-Language Curriculum and Materials for Latino Caregivers of Infants with Special Needs as Part of a NICU Pre-Discharge Education Program
Ulla Connor, Rylin Rodgers, Ana Traversa, Jennifer Akers, Esen Gokpinar-Shelton, Matt Lorch
Liberal Arts, International Center for Intercultural Communication, Family Voices Indiana

86. Development and Interim Evaluation of WeCare Indiana: a Community-tailored Text Messaging Intervention to Reduce Infant Mortality in East Central Indiana
Gelarden IA, Shieh C, Clark JL, Fry SJ, Smithson GE, Thomas RR, Umoren RA
Medicine, Nursing, Open Door Health Services, IU Health Ball Memorial Hospital, Delaware County Health Department

87. Improving Patient-Health Care Provider End-of-Life Communication Using Improvisational Theater Techniques: Outcome of a Workshop
Chia-Chun Tang, Lucia Wocial
Nursing

88. Dental Students Providing Oral Hygiene Instruction and Supplies to Community Children
Jayme McCormick, Joan Kowolik
Dentistry

89. Residential Tap Water Monitoring of Disinfectant Byproducts to Assess Human Health Risk
Shahid Parvez, Sewit Tedla, Madhura Sundararajan
Fairbanks School of Public Health

90. Ghrelin is Not Related to Hunger or Calories Consumed at Breakfast in Lean and Obese Women
Rachel C Morgan, Anthony J Acton, Cheryl LH Armstrong, William JA Eiler, K Rose Case, Christina M Soeur, Mario Dzemidzic, David A Kareken, Robert V Considine
Medicine

91. Brain Activation Patterns during Visual Scene Encoding and Recognition fMRI Tasks in Early Phase Psychosis
Nawead Z. Ayoubi, Nicole F. Mehdiyoun, Matthew G. Yung, Tom Hummer, Michael M. Francis, Alan Breier
Medicine
Mentors: Michael M. Francis, Nicole F. Mehdiyoun, Medicine
92. A Double-Blind Trial of Adjunctive Valacyclovir to Improve Cognition in Early Phase Schizophrenia
Kamilah Walters, Nicole Mehdiyoun, Michael Francis, Alan Breier
Medicine
Mentor: Michael Francis, Medicine

93. Association Analysis of MAPT with Cerebrospinal Fluid Tau Using Targeted Sequencing Data in Older Adults with Mild Cognitive Impairment or Alzheimer's Disease
Medicine, Alzheimer Disease Center, University of California, San Francisco, University of Pennsylvania School of Medicine, Harvard Medical School, University of Southern California, Los Angeles

94. Interaction of Synchronized Dynamics in Cortical and Subcortical Circuits in Parkinson's Disease
Sungwoo Ahn, S. Elizabeth Zauber, Robert M. Worth, Thomas Witt, Leonid L. Rubchinsky
Science, Medicine, Stark Neurosciences Research Institute

95. Estimation of the Co-prevalence of Age-related Macular Degeneration and Glaucoma
Evan N. Dunn, Lyne Racette, Jason D. Rupp, Lorraine A. Myers, Lawrence C. Ozobu Jr, Anh-Danh T. Phan
Glick Eye Institute, Medicine

96. Identifying Inconsistencies and Reporting Deficits in Therapeutic Massage and Bodywork (TMB) Case Reports: A Systematic Review and TMB Adapted CAse REport (CARE) Guidelines Audit
Niki Munk, Sarah Shue, Emilee Freeland, Rick Ralston, Karen Boulanger
Health and Rehabilitation Sciences, Physical Education and Tourism Management, Medicine, Stanford University School of Medicine

97. Effect of Low Dose of Amphetamine on Thermoregulation System and Performance of Rats Running on Treadmills
Abolhassan Behrouzvaziri, Yaroslav Molkov, Ekaterina Morozova, Yeonjoo Yoo, Maria Zaretskaia, Dmitry Zaretsky
Science, Arts and Sciences IU Bloomington, Medicine

98. Cardiac and Skeletal Muscle Lipotoxicity in a Rat Model of Pulmonary Arterial Hypertension
Priya Dave, Sean Cooney, Tim Lahm, Mary Beth Brown
Health and Rehabilitation Sciences, Medicine
Mentors: Mary Beth Brown, Health and Rehabilitation Sciences; Tim Lahm, Medicine

99. Effect of Exercise on Right Ventricle Inflammation in a Rat Model of Severe Monocrotaline-Induced Pulmonary Arterial Hypertension
Tsungai J Chingombe, Tim Lahm, Mary Beth Brown
Health and Rehabilitation Sciences, Medicine, Roudebush VA Medical Center
Mentors: Mary Beth Brown, Health and Rehabilitation Sciences; Tim Lahm, Medicine

100. Investigating Skeletal Muscle Metabolic Adaptations Underlying Aerobic Fitness Gains Following High Intensity Interval Training in a Rat Model of Pulmonary Arterial Hypertension
Mary Talley, Rachel Novack, Tsungai J Chingombe, Tim Lahm, Irina Petrache, Mary Beth Brown
Health and Rehabilitation Sciences, Medicine
Mentors: Mary Beth Brown, Health and Rehabilitation Sciences; Tim Lahm, Medicine

101. Effects of Thrombopoietin (TPO) on Longitudinal Mouse Hind Limb Crush Injury Model
Greg Rothchild, Kelsey Lipking, Todd McKinley, Melissa A. Kacena, George E. Sandusky
Medicine
Mentor: George E. Sandusky, Medicine

102. The Effect of Active Gaming on Cardiovascular Outcomes
Dania Aqeel, Tom Ohlman, Alan E. Mikesky, Keith E. Naugle, Kelly M. Naugle
Physical Education and Tourism Management

103. Validity of IPhone Apps to Measure Knee Range of Motion in Clinical Settings
Eric Evans, Jake Streepey, Rafael Bahamonde
Physical Education and Tourism Management
Mentors: Rafael Bahamonde, Jake Streepey, Physical Education and Tourism Management

104. Shock Absorption Properties of Soccer Headgear
Samantha Deer, Jared Riley, Jake Streepey, Rafael Bahamonde
Physical Education and Tourism Management
Mentors: Rafael Bahamonde, Jake Streepey, Physical Education and Tourism Management
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<td>Medicine, University of Torino, Sanford-Burnham Medical Research Institute, Simon Cancer Center</td>
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<td>Shamsa Mohamud, Anna Bogun, Gina Gough, Stephanie Shi, Michelle Surma, Jianjian Shi, Lei Wei</td>
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<td>Mentors: Scott McDougall, Park Tudor High School; Mark Goebi, Medicine; Luis Palacio, Alfredo Lopez-Yunez</td>
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118. **Evaluation of Various Properties of Novel Urethane-Based Resin Composites**
A. Al-Zain, J.A. Platt, D. Xie
Dentistry, King Abdulaziz University, Engineering and Technology

119. **Effect of Caffeine on the Growth of *Streptococcus mutans***
Aubrey E. DuBois, Richard L. Gregory
Science, Dentistry
Mentor: Richard L. Gregory, Dentistry

120. **Effects of Nicotine on Aerobic and Anaerobic Serotype K *Streptococcus mutans* Biofilm Formation**
Nicole Quint, Grace Gomez, Richard L. Gregory
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121. **Streptococcus mutans** Binding to Collagen and Fibrinogen in Nicotine
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122. **Volatile Sulfur Compounds and their Effects on *Streptococcus mutans* Biofilm**
Caitlin Whitaker, Ruijie Huang, Richard L. Gregory
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Mentors: Richard L. Gregory, Ruijie Huang, Dentistry

123. **Effects of Epigallocatechin-3-gallate in Novel Object Recognition of Ts65Dn Down Syndrome Mice**
Saniya Minhas, Irushi Abeysekera, Fatima Delgado, Hardeep Dhillon, Charles R. Goodlett, Randall J. Roper
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Mentor: Randall J. Roper, Science

124. **Effects of Increased Dosage EGCG Treatment on Cognitive Deficits in the Ts65Dn Down Syndrome Mouse Model**
Hardeep Dhillon, Irushi Abeysekera, Megan Stringer, Charles Goodlett, Randall Roper
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125. **Multivariate Concentric Square Field Unveils Behavioral Exploratory Categories of Locomotor Activity in Mouse Model of Down Syndrome**
Kailey E. Stancombe, Charles R. Goodlett, Robert J. Stewart, Megan Stringer, Randall J. Roper
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Mentors: Charles R. Goodlett, Rob Stewart, Megan Stringer, Science

126. **Extended Treatment with a High Dosage of EGCG to Rescue Appendicular Bone Abnormalities in a Down Syndrome Mouse Model**
Prabhjot Singh, Randall J. Roper, Irushi Abeysekera
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127. **Genomic Analysis of Gene Dysregulation Sites Related to Craniofacial Development in Ts65Dn Down Syndrome Mouse Embryos**
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128. Expand your research: Next-Gen Sequencing, Genotyping, Gene Expression, and Epigenetics at the Center for Medical Genomics at IUSM
Xiaoling Xuei, Jeanette McClintick, Yunlong Liu, Howard J. Edenberg
Medicine, Center for Medical Genomics
129. IUPUI Imaging Research Initiative
Mark L. Holland
Medicine

130. Research Center for Quantitative Renal Imaging
Mark L. Holland
Medicine, Science, Engineering and Technology, Indiana Clinical and Translational Sciences Institute (CTSI)

Medicine, Alzheimer Disease Center, Arts and Sciences IU Bloomington, Network Science Institute

132. Model-Free Estimation of Time-Varying Correlation Coefficients and Their Confidence Intervals with an Application to fMRI Data
Maria Kudela, Jaroslaw Harezlak, Martin Lindquist
Fairbanks School of Public Health, Johns Hopkins Bloomberg School of Public Health

133. Endodontic Obturation: A Volumetric Analysis Using 3D Imaging Technology
M. Daetwyler, K. Riad, Y. Ehrlich, A. Ghoneima
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134. Hybrid Diffusion Imaging (HYDI) of Acute Mild Traumatic Brain Injuries (mTBI): A Comparison of Diffusion Measures between DTI, PDF and NODDI
Chandana Kodiweera, Thomas W. McAllister, Yu-Chien Wu
Dartmouth College, Medicine
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1. **Rivers of the Anthropocene**  
   Jason M. Kelly  
   IUPUI Arts & Humanities Institute

2. **New Oxford Shakespeare**  
   Terri Bourus  
   Liberal Arts

3. **Big Tent: an Immersive Inter-Media Performance Environment**  
   Benjamin Smith, D.M.A.  
   Engineering and Technology

4. **Migrating for a Better Life: Rethinking Social Service Design from a People Centered Perspective**  
   Youngbok Hong  
   Herron School of Art and Design

   George Edwards  
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6. **Solving the Problem with Problem Solving: Increasing Leadership Self-efficacy in Female Professionals through Problem Solving**  
   Kaelyn M. Donnelly  
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   Isaiah R. Horne  
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8. **Global Synthesis of Drought Effects on Food Legume Production**  
   Stefani Daryanto, Lixin Wang, Pierre-André Jacinthe  
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9. **From Public City to “Philanthropolis”: The Making of the Indianapolis Cultural Trail**  
   Jeremy Lahey, Elliot Boyle, Jessica Inabnitt  
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   Mentors: Susan Hyatt, Liberal Arts; Drew Klacik, Public and Environmental Affairs

10. **Canal Pride: When the Public Sector Drove Downtown Development**  
    Lynette A. Taylor, Troy A. Kennedy  
    Liberal Arts, Public and Environmental Affairs  
    Mentors: Susan B. Hyatt, Liberal Arts; Drew Klacik, Public and Environmental Affairs

11. **Civic Awareness and Community Satisfaction**  
    Alexus D. Brown  
    Public and Environmental Affairs  
    Mentor: Sheila Kennedy, Public and Environmental Affairs

12. **Neighborhood Development Team**  
    Christopher Moeller, Phillip Mitchell, Abigail Parham  
    McKinney School of Law, Social Work, Public and Environmental Affairs  
    Mentors: John Clark, Public and Environmental Affairs; Richard Ward, Liberal Arts; Karen White, Office of the Vice Chancellor for Research

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    Brandie L. Bohney  
    Liberal Arts

14. **Using Chess as a Mathematics Teaching Tool**  
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    Education  
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15. A Case Study of Extracurricular Activities in Central Indiana
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16. More Than Just Fun: Engaging African American and Latina Females in Relevant STEM Curriculum
   Brianna A. Starks, Crystal Hill Morton
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17. Systems-Based and Integrated Stem Alternative Education Models: The Role of Applied Anthropology
   Christina Marie Chapman
   STEM Education Research Institute (SERI)

18. Understanding the Experiences of STEM Mentors: Evaluating Indianapolis’ US2020 initiative
   Caitlin Sheesley
   STEM Education Research Institute

19. Understanding the Motivations and Experiences of STEM Students in a Study Abroad Program
   Melanie Scheive
   STEM Education Research Institute

20. By Chance or By Design? How Clerkship and Course Directors Navigate Academic Medicine
   Krista Hoffmann-Longtin
   Medicine

21. Academic Success of English Language Learners: Are Mainstream Teachers Underprepared?
   Maritza Covarrubias, Annela Teemant, Cathy Bhathena
   Education
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22. Establishing Community Collaborations in Marion County: Benefits and Challenges
   Stephanie Boys, Carrie Hagan
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23. Visualizing Trials with Large DNA Databases
   Nicholas L. Georgakopoulos
   McKinney School of Law

24. Factors that Influence Mass Incarceration among African-Americans
   Ayobami Egunyomi, Carlton Waterhouse
   Liberal Arts, McKinney School of Law
   Mentor: Carlton Waterhouse, McKinney School of Law

25. The Impact of a Resilience-Building Intervention with Indianapolis Latino Teenagers
   Manuela Roa Gonzalez, Silvia Bigatti, Katrina Conrad
   Science, Fairbanks School of Public Health
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26. Antecedents of Job Satisfaction among Intimate Partner Violence Shelter Staff: Coworker Relational Maintenance Strategies, Communication Satisfaction, Burnout and Organizational Commitment
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   Liberal Arts

27. Thou Shalt Not: Experiences of Contraceptive Use and Religious Identity Negotiation Among Married Catholic Women
   Brianna McCaslin
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28. A Conceptual Model of Mental Illness Stigma Constructs
   Erin L. Adams, Michelle P. Salyers
   Science

29. Behavioral Measurement of Sensation Seeking Shows Positive Association with Risky Behaviors
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   Science, Medicine
   Mentors: Melissa A. Cyders, Science; Brandon G. Oberlin, Medicine

30. Impact of Disruptive Behavior Disorder on Siblings Living with Affected Adolescents
   Elizabeth A. Richardson, Ukamaka M. Oruche, Katherine M. Parker
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   Mentor: Ukamaka M. Oruche, Nursing
31. Adverse Childhood Events, Empathy, and Altruism
   Ava Le, Emily Mahurin, Sasha Zarins
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32. Dying Mothers: An Exploration of Maternal Mortality Rates Among African Female Refugees
   Hadyatoullaye Sow
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   Mentors: Michael Snodgrass, Ronda C. Henry-Anthony, Liberal Arts

33. The Effect of Parenting Styles on Smoking in Adolescents: A Systematic Review of the Literature
   Schyler C. Nelson, Celeste R. Phillips-Salimi
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34. The Impact of Family-Based Interventions on Adolescent Glycemic Control: A Systematic Review of the Literature
   Emily N. Schad, Stephanie R. Strickland, Jade J. Thomas, Celeste R. Phillips-Salimi
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35. The Effect of Parental Monitoring on Diabetes Management in Adolescents: A Systematic Review of the Literature
   Samantha Pugh, Amber Reaper, Kayla Hart, Celeste R. Phillips-Salimi
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36. The Health of the Serbian Roma/Gypsies: A Research Report
   Rizwana Biviji-Sharma, Jelena Cvorovic, Kathryn Coe
   Fairbanks School of Public Health, Serbian Academy of Sciences and Arts

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37. Implement Human-Centered Design Methods to Develop a Sharing Economic Application Prototype “Help2Buy”
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38. Serious Health Educational Games and Their Effectiveness Among Children
   Jacqueline Hill, Joseph Defazio
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   Mentor: Joseph Defazio, Informatics and Computing

39. Strategies for Engaging Urban Youth in “Informatics Thinking”
   Vincent R. Medina
   Informatics and Computing
   Mentors: Steve Mannheimer, M. Pauline Baker, Informatics and Computing

40. Creating the Well-Rounded Student: The Merging of Experiential Learning, Civic Engagement & Media Practice
   Christian Rogers
   Engineering and Technology

41. JagWaRz Junior: Cyber Security Education for Young Adolescents
   Jasmine Herbert, Rushabh Vyas, Connie Justice, Vicky Smith
   Engineering and Technology
   Mentors: Connie Justice, Vicky Smith, Engineering and Technology

42. Using MaxMSP to Integrate Learning of Physics and Music
   Alan B. Tyson II, Scott Deal
   Engineering and Technology
   Mentors: Scott Deal, Engineering and Technology; Cristine Czachowski, Science

43. Compass Tutoring: Online Tutoring Interface
   Kevin Berkopes, Patrick Burton, Josh Ragsdell, Miriah Remy, Kelly Nauert, Levi Hadley, Stephanie Atallah
   Science, Herron School of Art and Design, Kelley School of Business
   Mentor: Kevin Berkopes, Science

44. Gestchat (A Tool to Support Emotional Communication in Text Messaging)
   Afarin Pirzadeh, Kaelyn Donnelly, Julie Elbin, Ann Marie May Lin, Xing Yu
   Informatics and Computing, Herron School of Art and Design, Kelley School of Business
   Advisors: Mark Pfaff, Informatics and Computing; Terri Wada, Herron School of Art and Design

45. Fit’n Bits: Evaluation of the FitBit’s User Friendliness and Motivation
   Jessica L. Despard, Alex Chambers, Joshua Ward, Stephen Voida
   Science, Informatics and Computing
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46. User-Centric Interactive Collaboration Software (UCICS)  
Naeem Tai, Chris Sergio, Kenny Cook, Kareem Rimawi, James Hill, Chris Rogers, Clayton Nicholas  
Science, Engineering and Technology, Office of the Vice Chancellor for Research  
Mentors: James Hill, Science; Chris Rogers, Engineering and Technology  
Advisors: Clayton Nicholas, Karen White, Office of the Vice Chancellor for Research

47. A Novel Quality Assessment for Visual Secret Sharing  
Feng Jiang, Brian King  
Engineering and Technology

48. Several Fault Attacks on Smart Card Signature Schemes  
Priyam Biswas, Brian King  
Engineering and Technology

49. A Case Study for Massive Text Mining: K Nearest Neighbor Algorithm on PubMed data  
Nhan Do, Murat Dundar  
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Mentor: Murat Dundar, Science

50. A Dynamic, User-centric Big Data Analytics Framework for Genome Data  
Shalini Ravishankar, Meeta Pradhan, Mathew Palakal  
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Kyong-Yup Paik, Md Nazmuzzaman Khan, Ali Tarraf Kojok, M. Razi Nalim  
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52. Development of a Microfluidic Gas Generator from an Efficient Film-Based Microfabrication Method  
Yuanzhi Cao, Jacob Bontrager-Singer, Mahmoud R. Zamani Farahani, Dennis D. Meng, Whitney H. Yu, Likun Zhu  
Engineering and Technology, University of Texas at Arlington

53. Polymer Nano-composite Sensors for Detecting Low-Concentration Acetone  
Ali Daneshkhah, Sudhir Shrestha, Mangilal Agarwal, Kody Varahramyan  
Integrated Nanosystems Development Institute (INDI), Engineering and Technology

54. Trajectory Planning for Additive Manufacturing Based on Mechanical Performance  
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Mentors: Andres Tovar, Guangrong Yan, Lingxi Li, Hazim El-Mounayri, Engineering and Technology

55. Design Optimization of Injection Molds with Conformal Cooling for Additive Manufacturing  
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Engineering and Technology

56. Electrochemical Behavior of Micro-arc Oxidation Coated Magnesium Alloy in Cell Culture Medium  
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57. Designing a Low-cost, Light-weight Electric Snowmobile  
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Mentors: Michael Golub, Jing Zhang, Engineering and Technology

58. Modeling Nanomaterials in Lithium Ion Battery with Experimental Validation  
Chanel Johnson, Andrea Hammans, James Hurtman, David Clyde, Linmin Wu, Yeon-Gil Jung, Jing Zhang  
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Mentor: Jing Zhang, Linmin Wu, Engineering and Technology

59. Advanced Materials for Rechargeable Lithium-Sulfur Batteries  
Yi Cui, Min Wu, Amruth Bhargav, Yongzhu Fu  
Lugar Center for Renewable Energy, Engineering and Technology

60. Electrochemical Model Based Fault Diagnosis of Lithium Ion Batteries  
Md Ashiqu Rahman, Sohel Anwar, Afshin Izadiyan  
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61. Paper-Based Flexible Lithium-Ion Batteries and Electrochromic Displays
Nojan Aliahmad, Daniel Fisher, Sudhir Shrestha, Mangilal Agarwal, Kody Varahramyan
Integrated Nanosystems Development Institute (INDI), Engineering and Technology

62. Method for Evaluating Mechanical Quality and Dimensional Accuracy of 3D Printed Parts
Raveena Patil, Hamza Nawaz, Ali Alkhaleefah, Aquil Janwari
Engineering and Technology
Mentors: Andrés Tovar, Hazim El-Mounayri, Engineering and Technology

63. The Impact of Augmented Virtual Reality Technology on STEM e-learning
Bin Peng, Arman Khamiszadeh, Bilal Ruwala, Ramon F. Souza, Justin Farmer, Robert Jansen
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Mentors: Hazim El-Mounayri, Tamer Wasfy, Christian Rogers, Eugenia Fernandez, Engineering and Technology; Jeanne Peters, Science

64. Assessing the Effectiveness of New Virtual Reality Technology for Inducing Instability during Stance
Nathan Magnuson, Paxton Ott, Cory Lotz, James Roach, Essi Natacha Amefia
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Mentors: Benjamin Smith, Christian Rogers, Engineering and Technology; Jefferson Streepey, Physical Education and Tourism Management

65. Capturing the Perceived Phantom Limb through Virtual Reality
Jonathan Lau, Denver Huynh, Steven Albertson, James Beem, Enlin Qian
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Mentors: Christian Rogers, Ken Yoshida, Dan Baldwin, VG Smith, Engineering and Technology

66. Mechanical Effects of Fine-Wire Climbing on the Hindlimb Skeleton of Mice
Jeffery E. Joll, Ben Vickery, Joseph E. Rupert, Kelly C. Biro, Joseph M. Wallace, Craig D. Byron, Jason M. Organ
Medicine, Engineering and Technology, Mercer College of Liberal Arts
Mentor: Jason Organ, Medicine

67. Development of 3D Bioactive Glass Bone Scaffolds for Bone Tissue Engineering
Amanda Justiniano, Jing Zhang
Engineering and Technology
Mentor: Jing Zhang, Engineering and Technology

68. Analysis of Heart Rate Variability in Male and Female Rats
Tolulope O. Ajayi, Grace Santa Cruz Chavez, John H. Schild
Engineering and Technology
Mentors: John H. Schild, Grace Santa Cruz Chavez, Engineering and Technology

69. Automated Quantitative Analysis of Nerve Fiber Conduction Velocity
Kyle D. Haas, Grace Santa Cruz Chavez, John Schild
Engineering and Technology
Mentors: John Schild, Grace Santa Cruz Chavez, Engineering and Technology

70. Aquaponics
Abdul hadi Ayoub, Dylan Howard, Victor Cuevas Dominguez, Rudolph Frazier
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Mentors: David Goodman, Bob Durkin, Engineering and Technology

71. Implementation of a Person Oriented Nurse Call System Using WEKA
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73. Syntheses, Characterization, Electrochemical and Photocatalytic Activity Studies of CuInSe₂ Nanocrystals
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74. Distance Dependent Resonance Energy Transfer Between Molecular Machine and Plasmonic Nanostructure
Gayatri K. Joshi, Rajesh Sardar
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75. Forensic DNA Phenotyping: Improving the Prediction of Eye, Hair, and Skin Color through Quantitative Measurement
Krystal Breslin, Ryan Eller, Charanya Muralidharan, Susan Walsh
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76. Identifying Metabolic Pathways Producing Alkamides in Echinacea purpurea
Jermell Williams, Alicen Teitgen, Robert E. Minto
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77. An Investigation of Whether Vitamin E Preferentially Interacts with Polyunsaturated Lipids
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Science, Calvin College, Brock University
Mentor: Stephen R. Wassall, Science

81. Isotopic Analysis of Purple Sulfur Bacteria and the Environmental Conditions of Lakes in Indiana and the Pacific Northwest: Water Column Characterizations for Use in Developing a Water Column Profiling Device
Daniel L. Orazi, Brock Mehringer, Shan Khan
Science

82. The Indiana Diabetes Research Center
Robert Considine
Medicine

83. Epigenetic Regulation in Neonatal ECFCs Following Intrauterine Exposure to Gestational Diabetes
Emily K. Blue, BreAnn M. Sheehan, Zia V. Nuss, Cassandra R. Gohn, Kaela M. Varberg, Jeanette N. McClintick, Laura S. Haneline
Medicine, Wells Center for Pediatric Research, Simon Cancer Center

84. Associations between Benign Cutaneous Nevi and Risk of Type 2 Diabetes Mellitus in Men and Women: Results from Two Prospective Cohort Studies
Hongji Dai, Qi Sun, Xi Zhang, JoAnn E. Manson, Frank B. Hu, Yiqing Song
Fairbanks School of Public Health, Simon Cancer Center, Harvard School of Public Health, Harvard Medical School

85. Impaired Autophagy Diurnal Rhythmicity in Rodent Diabetic Retinopathy
Xiaoping Qi, Sayak Mitter, Yuanqing Yan, William Dunn, Juliet Busik, Maria Grant, Michele Boulton
Medicine, Glick Eye Institute

86. Posterior Sub-Tenon Capsule Anesthesia for Photocoagulation Treatment of Diabetic Retinopathy Performed in an Inner-City County Hospital Clinic Setting
Ryan J. Wise, Guruprasad R. Pattar, Jun Xie, Anh-Danh T. Phan
Medicine, Glick Eye Institute, Purdue University
87. A Comparison of Objectively- and Subjectively-Measured Adherence in Glaucoma Patients of African Descent
Nabeel Awan, Ankita Sutaria, Silvia Bigatti, Emily Sirk, Elizabeth Hosty, Chloe Payton, Shelby Grow, Bradley Sutton, Julie Torbit, Lyne Racette
Glick Eye Institute, Medicine, Fairbanks School of Public Health, Indianapolis Eye Care Center, Optometry
Mentors: Lyne Racette, Medicine; Silvia Bigatti, Fairbanks School of Public Health

88. Determining the Impact of Demographic Factors on Adherence to Glaucoma Treatment in Patients of African Descent
Mark Botros, Lyne Racette, Silvia Bigatti
Science, Medicine, Fairbanks School of Public Health
Mentors: Lyne Racette, Medicine; Silvia Bigatti, Fairbanks School of Public Health

89. An Assessment of the Fidelity of Two Different Interventions to Improve Adherence to Glaucoma Treatment in Patients of African Descent
Eniola Idowu, Silvia Bigatti, Lyne Racette
Glick Eye Institute, Medicine, Fairbanks School of Public Health
Mentors: Lyne Racette, Medicine; Silvia Bigatti, Fairbanks School of Public Health

90. Center for Pediatric Obesity and Diabetes Prevention Research
Tamara S. Hannon, Lisa G. Smith, Aaron E. Carroll, David G. Marrero
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91. The Effectiveness of Anklebot in Reducing Motor Impairment and Improving Motor Function for Children with Cerebral Palsy (CP)
Madawi Alotaibi, Peter A. Altenburger, Ryan Cardinal
Health and Rehabilitation Sciences

92. Cyclin-dependent Kinase Inhibitor 3 (CDKN3) Mediates the Antiviral Effect of Alpha Interferon against HBV Replication through Inhibition of Pregenomic RNA Encapsidation
Dawei Cai, Ran Yan, Richeng Mao, Timothy Block, Andrea Cuconati, Haitao Guo
Medicine, Fudan University, Drexel Institute for Biotechnology and Virology Research, Hepatitis B Foundation

93. Genome-wide Analysis Using ChIP-seq Reveals Novel Downstream Targets of Stat3
Kylie A. Corry, Jiliang Li
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94. Activation of Dendritic Cell Function by Soypeptide Lunasin as a Novel Vaccine Adjuvant
Sharena J. Simmons, Chun-Yu Tung, Hua-Chen Chang
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95. Mechanisms of Gene Regulation by Soy Peptide Lunasin in Innate Immune Cells
Félix M. Casiano-Rivera, Chun-Yu Tung, Hua-Chen Chang
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96. Ionizing Radiation Affects Epigenetic Programming in Young Adult Mice
Darryl S. Watkins, Marc Mendonca, Amy Lossie, Feng C. Zhou
Medicine, Purdue University, Science, Stark Neuroscience Research Institute
Mentor: Feng Zhou, Medicine

97. Identifying Potential Proteasomal Assembly Factors and/or Binding Proteins Using the Yeast Saccharomyces Cerevisiae as a Model Organism
Nicole Lindsay, Lindsay Hammack, Andrew Kusmieryczk
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98. Factors Associated With Ostomy Adjustment in People Living With an Intestinal or Urinary Ostomy
Erika I. Lopez, Joyce Pittman, Lavleen Samra, Chelsea Tabor, Susan M. Rawl
Nursing, Indiana University Health, Public Health, Simon Cancer Center
Mentor: Susan Rawl, Nursing

99. An Analysis of Pancreatic Cancer
Pragat Wagle
Science
Mentor: Kathleen A Marrs, Science

100. Cleft Lip and Palate Literature Review Compilation
Abdul Karim Khan, Michael Yard
Science
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101. Improving Adherence in African American Patients through Motivational Interviewing
Shelbi Grow, Nabeel Awan, Mark Botros, Eniola Idowu
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102. Health Care Perspectives from Burmese Refugees
Megan S. McHenry, Avika Dixit, Rachael Holliday, Rachel Umoren, Debra Litzelman
Medicine, Center for Health Services and Outcomes Research

103. The IUPUI Center for HPV Research: Updates 2014-2015
Gregory D. Zimet, J. Dennis Fortenberry
Medicine

104. The Phosphate/Amide I ratio is Reduced by \textit{in vitro} Glycation and may Correlate with Fracture Toughness
Max A. Hammond, Alycia G. Berman, Joseph M. Wallace
Purdue University, Engineering and Technology

105. Using Zebrafish to Implement a Course-Based Undergraduate Research Experience (CURE) to Study Teratogenesis in Two Biology Laboratory Courses
Sarmah S., Chism G.W., Vaughan M. A., Muralidharan P., Marrs J.A., Marrs, K.A.
Science

106. Ethanol-Induced Defects on Zebrafish Retinal Development: Rescue by Nutritional Supplements
P. Muralidharan, S. Sarmah, J. A. Marrs
Science

107. Fetal Alcohol Syndrome Affects in Retinal Cell Gene Expression
Joseph Rodriguez, Christin Kubicek
Science
Mentor: James Marrs, Science

108. Standardizing Methods and Procedures for Mouse Retinal Flat Mounts and Glial Cell Counts
Richard Anderson III, Subramanian Dharmarajan, Teri L Belecky-Adams
Science
Mentor: Teri L Belecky-Adams, Science

109. Morphological Analysis of Retinal Glia
Tyler McCray, Subramanian Dharmarajan, Teri Belecky-Adams
Science
Mentors: Subramanian Dharmarajan, Teri Belecky-Adams, Science

110. Differentiation and Three-dimensional Organization of Retinal Ganglion Cells using Human Induced Pluripotent Stem Cells
Kimberly T. Ho-A-Lim, Sarah K. Ohlemacher, Jason S. Meyer
Science, Medicine, Stark Neuroscience Research Institute
Mentor: Jason S. Meyer, Medicine

111. Repeated Daily Drinking-in-the-Dark Results in Inflexible Ethanol Drinking in C57BL/6J Mice
Michel A. Companion, Stephen L. Boehm II
Indiana Alcohol Research Center, Science
Mentor: Stephen L. Boehm II, Science

112. High Throughput Modeling of Post-Traumatic Stress Disorder
Jhilari I Villegas, David H Arendt, Philip J Johnson
Medicine
Mentors: David Arendt, Philip Johnson, Medicine

113. Phosphorylation State-Dependent Regulation of SAPAP3 and mGluR5 Association
Cameron Morris, AJ Baucum, Mike Edler
Science, Stark Neurosciences Research Institute
Mentors: AJ Baucum, Mike Edler, Science

114. Self-Association of CaMKII-Delta in Low ATP/Low pH Conditions
Ross M. Nelson, Andy Hudmon
IPREP, Center for Research and Learning, Stark Neuroscience, Medicine
Mentor: Andy Hudmon, Medicine

115. Variants in the Mitochondrial Intermediate Peptidase (MIPEP) Gene are Associated with Gray Matter Density in the Alzheimer’s Disease Neuroimaging Initiative Cohort
Kelly N.H. Nudelman, Shannon L. Risacher, John D. West, Brenna C. McDonald, Su Gao, Andrew J. Saykin, Alzheimer’s Disease Neuroimaging Initiative
Medicine, Center for Neuroimaging, Indiana Alzheimer’s Disease Center, Simon Cancer Center
116. Effects of the Calcineurin/NFAT Pathway in Skeletal Abnormalities Associated with Down Syndrome
Jared Thomas, Rushiv Patel, Randall Roper
Science
Mentor: Randall Roper, Science

117. Effects of Trisomic Dyrk1a and EGCG Treatment on Craniofacial Development in Ts65Dn Down Syndrome Mice
Mariyamou Diallo, Emily Haley, Danika Tumbleson, Randall J. Roper
Science
Mentor: Randall J. Roper, Science

118. The Effects of Trisomic Dyrk1a on Ts65Dn Embryonic Craniofacial Development
Emily Haley, Mariyamou Diallo, Randall J. Roper
Science
Mentor: Randall J. Roper, Science

119. Evaluation of Osteoclastogenesis in the Ts65Dn Down Syndrome Mouse Model
Irushi S. Abeysekera, Kimaya Raje, Randall J. Roper
Science, Carmel High School

120. Effects of EGCG Treatment of Ts65Dn Down Syndrome Mice on a Balance Beam Task
Maria Fatima Delgado Taboada, Megan Stringer, Randall J. Roper, Charles R. Goodlett
Science
Mentors: Randall J. Roper, Charles R. Goodlett, Science

121. Effect of EGCG on Granule Cell Proliferation in the Adult Dentate Gyrus of the Ts65Dn Mouse
Zahir Sheikh, Charles Goodlett
Science
Mentor: Charles Goodlett, Science

122. Role of Hemin and Growth Media on the Autofluorescence of Streptococcus mutans
Grace F. Gomez, George J. Eckert, Richard L. Gregory
Dentistry, Medicine

123. Nicotine Kill Time of Streptococcus Mutans
Ana Cavazos, Richard L. Gregory
Dentistry
Mentor: Richard Gregory, Dentistry

124. Rapid Development of Clinical Trial Candidates Using Cancer Systems Pharmacology: a Lymphoma Case Study
Matthew Arkenberg, Kylee Johnson, Palakpreet Kaur, Kelly Moors, Michael Weisman
Science, Engineering and Technology, Butler University, Liberal Arts
Mentors: Jake Chen, Xiaogang Wu, Center for Systems Biology and Personalized Medicine; Walter Jessen, Covance

125. How to Request and Obtain Feasibility Numbers and Data for Research through the Regenstrief Data Core and the Indiana CTSI Informatics and Data Analysis Core (CIDAC)
Sarah Hoover, Joe Kesterson, Faye Smith, Brenda Hudson
Indiana Clinical and Translational Sciences Institute (CTSI), Regenstrief Institute Inc.

126. Chemical Genomics Core Facility
Lan Chen, Li Wu, Andrea Gunawan, Zhong-Yin Zhang
Medicine

IMAGING

127. Brain Rehabilitation, Advanced Imaging, and Neuroscience (BRAIN): An IUPUI Signature Center Initiative (SCI)
Flora Hammond, Andrew Saykin, James Malec
Medicine, Rehabilitation Hospital of Indiana, Center for Neuroimaging

128. Variance of $[^{18}\text{F}]FDG$ and $[^{64}\text{Cu}]PTSM$ Uptake in Mouse Brain
Evgeny J. Chumin, Paul R. Territo, Scott Persohn, Naikui Liu, Brian P. McCarthy, Amanda A. Riley, Xiao-Ming Xu, Gary D. Hutchins, Karmen K. Yoder
Medicine

129. Functional MRI Assessment of Renal Fibrosis in Rat Models
Lei Jiang, Chen Lin, Paul R. Territo, Amanda Riley, Brian McCarthy, Bruce A. Molitoris, Gary D. Hutchins
Medicine

130. In Vitro Organ Culture for the Recapitulation of Coronary Artery Pathology
Ayeeshik Kole, Alyssa Panitch, Ji-Xin Cheng, Michael Sturek
Medicine, Purdue University
131. Characterization of a Type 1 Collagen Targeted PET Tracer  
J.A. Meyer, J.C. Peters, P.R. Territo, M.A. Green,  
B. Molitoris, G.D. Hutchins  
Medicine

132. Magnetic Resonance Diffusion Tensor Imaging and Diffusion Compartmental Modeling in an Animal Model of Chronic Kidney Disease  
Sourajit M. Mustafi, Paul R. Territo, Brian P. McCarthy, Amanda A. Riley, Jiang Lei, Chen Lin,  
Bruce A. Molitoris, Gary D. Hutchins, Yu-Chien Wu, Research Center for Quantitative Renal Imaging  
Medicine

133. Mucosal Thickening of Maxillary Sinuses of CLP vs non-CLP patients  
K. Kula, J. Starbuck, L. Hale, S. Tholpady, A. Ghoneima  
Dentistry, Medicine

134. Three-Dimensional Evaluation of Jaw Positions after Rapid Maxillary Expansion Using Two Different Activation Rates  
JKA Rose, K Kula, KT Stewart, B Moser, A Ghoneima  
Dentistry, Medicine
IUPUI CAMPUS CENTER

Research Day Facilities

4th Floor, 10:55am - 2:40pm

To Cavanaugh Hall

LEVEL 2 SKYWALK
JagTalks Presenters
11:10 AM – 12:00 PM, Campus Center Room 405

**Director Troy Riggs**
Director of Public Safety for the city of Indianapolis
Department of Public Safety

**JagTalks Topic: Homicide and Shooting Comparisons- being more sophisticated in the way we understand data**
Too often, the public’s perception of crime and violence in the community is based exclusively on murder statistics. A community is deemed safe or unsafe by narrowly looking at murder trends. However, Director Riggs will share how there are many other data points that must be taken into consideration when truly understanding crime, violence and what is happening within our community.

**Professor Eric R. Dannenmaier**
Professor of Law, Dean’s Fellow and Grimes Fellow
Director, Environmental and Natural Resources Law Program
School of Law

**JagTalks Topic: Seeing Down River**
Justice Oliver Wendell Holmes once wrote that “a river is more than an amenity—it is a treasure that offers a necessity of life…” Professor Dannenmaier will discuss the complex and vital relationship between rivers and the people that call them home. Rivers serve as drinking water supply, transportation channel, irrigator, electricity source, recreation area, cultural icon, and also dumping ground. In a complex democracy, where communities drive lawmaking and policy priorities, too few of us see far enough downriver to manage these conflicting demands and conserve our common treasure.

**Professor Meredith Setser**
Assistant Professor, Printmaking, Herron School of Art and Design

**JagTalks Topic: Terra Felted: The Art of Fabriculture**
Professor Setser will discuss the use of traditional and contemporary developments in printmaking and textile media in the creation of large scale environments that reference various habitats and ecological situations. She is intrigued by the historical and social relevance of felt, especially since it is the oldest textile known to mankind and is still used in many industrial processes today. The time-honored medium and substrate of felt making is simple, but the process is also “magical.”

**Dr. David Craig**
Associate Professor, Religious Studies, School of Liberal Arts

**JagTalks Topic: Making Health Care a Social Good: Obamacare and HIP 2.0**
Dr. Craig will provide a brief snapshot of his research on the ethics of health care reform, asking whether national and state reform policies are compatible with the values Americans have invested in health care. His research is based on an interview study with 100 subjects who worked for religious health care nonprofits or were active in an interfaith coalition in Massachusetts. Dr. Craig has also convened conversations among local congregations and provider organizations on how to promote healthier communities in central Indiana.
RESEARCH AND CREATIVE ACTIVITY...FULFILLING THE PROMISE

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