**Track: Biomedical Engineering Education (BME)**

**Biomedical Education:**

**Laboratory Modules and Instructional Materials Posters**

**P-Th-15**
Integrating Innovation and Entrepreneurship into the REU Experience
D. SHREIBER, S. ENGELHARDT, T. MAGUIRE, and M. YARMUSH
*Rutgers, The State University of New Jersey, Piscataway, NJ*

**P-Th-16**
Examining the Impact of a Peer-to-peer Mentoring Program Through the Lens of Social Capital Theory
J. LE DOUX
*Georgia Institute of Technology, Atlanta, GA*

**P-Th-17**
Ph.D. Boot Camp: the Kickoff for Training Innovative Leaders in Biofabrication
K. BILLIAR, G. GAUDETTE, F. HOY, M. ROLLE, and T. CAMESANO
*Worcester Polytechnic Institute, Worcester, MA*

**P-Th-18**
Enhancing High School STEM Education Through Research-related Bioengineering Experiences
L. TOSTANSKI, A. JONES, and C. JEVELL
*University of Maryland, College Park, MD, 4Sunshine Labs, Longwood, FL, 5Med Associates, Inc., St. Albans, VT, 6Catamount Research & Development, Inc., St. Albans, VT, 7Florida Research Instruments, Cocoa Beach, FL*

**P-Th-19**
DREAM TEAM & CENTER
Improving Peer-Reviewing of Reports Through Calibration and Direct Instructor Feedback
J. LINNES, N. BAJAJ, A. ABOELZAHAB, A. BRIGHTMAN, and A. RUNDELL
*Purdue University, West Lafayette, IN*

**P-Th-20**
Encouraging Curiosity, Connections, and the Creation of Value in a Materials/Biomaterials Sequence: Part II Biomaterials
S. ZUSTIAK
*Saint Louis University, St Louis, MO*

**P-Th-21**
An Interactive Training Tool to Help Reduce Error Rate Associated with Shared Infusion Volume
K. TSANG, S. PINKEY, C. COVILL, and P. TRBOVICH
*University Health Network, Toronto, ON, Canada, 1University of Toronto, Toronto, ON, Canada*

**P-Th-22**
Bringing Real World Expertise Into Class: An Industry Partnership To Teach Biomedical Design
L. KHUDN, J. B. ZURN, G. HERRERA, and K. ZURN
*Drexel University, Philadelphia, PA, 1University of Pennsylvania, Philadelphia, PA, 2Villanova University, Villanova, PA, 3Sunshine Labs, Longwood, FL, 4Med Associates, Inc., St. Albans, VT, 5Catamount Research & Development, Inc., St. Albans, VT, 6Florida Research Instruments, Cocoa Beach, FL*

**P-Th-23**
Engaging Students to Enrich their Learning through Developing Course Materials
M. POOL and K. GRAY
*University of Illinois at Urbana Champaign, Urbana, IL, 1West Virginia University Institute of Technology, Montgomery, WV*

**P-Th-24**
The ‘Good’, the ‘Bad’, and the ‘Ugly’ Biostatistics for Bioengineering Students
Y. KIM
*Purdue University, West Lafayette, IN*

**P-Th-25**
Flipping the Lab: Introducing a Flipped Classroom Model Into a Laboratory Class
A. ABOELZAHAB and T. KINZER-URSEM
*Purdue University, West Lafayette, IN*

**P-Th-26**
Nanotechnology for Biomedical Engineers and STEM Majors: Bringing Multidisciplinary Nanotechnology into the Classroom
R. PEREZ-CASILLES
*University of Missouri, Rolla, MO*

**P-Th-27**
Educational Videos Help Improve Student Understanding in a Laboratory Course
R. RAMOS, B. GHOSH, and C. LIVINGSTON
*Rice University, Houston, TX*

**P-Th-28**
Assessment of Student Value and Scientific Literacy in an Introductory Biomaterials Laboratory
C. ANKENY and S. STABENFELDT
*Arizona State University, Tempe, AZ*

**P-Th-29**
A Template for Multi-Disciplinary Team-Based Problem Solving, Design, and Assessment: Application in Biomedical Engineering
S. ZUSTIAK, S. SEUW, and G. GAUDETTE
*Saint Louis University, St Louis, MO, 1Worcester Polytechnic Institute, Worcester, MA*

**Track: Bioinformatics, Computational and Systems Biology**

**Computational Modeling and Systems Approaches: Algorithms for Computational/Systems Biology Posters**

**P-Th-30**
A Unified Sparse High-Dimensional Association Test for Quantitative Traits in Complex Relatedness
S. CAO, H. QIN, A. GOSSMANN, H-W. DENG, and Y-P. WANG
*1 Tulane University, New Orleans, LA*

**P-Th-31**
Online Remote Monitoring of Heart Rate Variability
M. THOME, J. SALINET, R. RODRIGUES, and D. GOROSO
*Mogi das Cruzes University, Mogi das Cruzes, Brazil*

**P-Th-32**
Classifying Brain States Using Machine Learning Techniques
A. RAJAN, S. MEYIYAPPAN, L. DIPRI, R. SITARAM, and M. DING
*University of Florida, Gainesville, FL*

**P-Th-33**
NCLX Mitochondrial Exchanger Blocking: Simulation vs Experiment
E. T. DE SILVA, D. GOROSO, and R. RODRIGUES
*Mogi das Cruzes University, Mogi das Cruzes, Brazil*
P-Th-34
Assessing Granger Causality in Electrophysiology: Unipolar vs. Bipolar Signals
B. Nandi1, A. Trongneu1, D. Kang1, B. Kochs2, C. Schroeder2, and M. Ding2
1University of Florida, Gainesville, FL, 2Harvard Medical School, Boston, MA, *Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY

P-Th-35
Use of Smartphone's Accelerometer to Estimate Physical Activity Energy Expenditure
M. Ishizaki3, R. Rodrigues1, and D. Goroso2
1Mogi das Cruzes University, Mogi das Cruzes, Brazil

P-Th-36
NexUser: User Friendly Model-based Design of Experiments Software
A. Sali1, T. Molulu1, A. Rundell1, and G. Blazzard1
1Purdue University, West Lafayette, IN

P-Th-37
Assessing Effects of Sequencing Depth on ChIP-seq Quality and Peak Calling Performance
A. Lo1, B. Phan2, D. Walshen2, R. Karchin2, B. Maher1, and A. Jaffe2
1Johns Hopkins University, Holden, MA, 2Johns Hopkins University, Baltimore, MD, *Lieber Institute for Brain Development, Baltimore, MD

P-Th-38
Use of Existing CAD Models for Radiation Shielding Analysis
J. Barzilla1, K. Lee2, P. Wilson2, A. Davis2, and J. Zachman2
1Lockheed Martin, Houston, TX, 2NASA, Houston, TX

Track: Bioinformatics, Computational and Systems Biology
Computational Modeling and Systems Approaches:
Dynamics of Biological Systems Posters

P-Th-39
Integrative Modeling Identifies VEGFR1 as an Essential Regulator of VEGF-induced Migration
J. Weddell1 and P. Imoukhuede1
1University of Illinois at Urbana-Champaign, Urbana, IL

P-Th-40
A Cross-talk-Based Linear Filter Design in Biochemical Signal Transduction Pathways
M. Laddomada1, D. Mahan2, and M. Pierobon3
1Texas A&M University, Texarkana, Texarkana, TX, *University of Nebraska-Lincoln, Lincoln, NE

P-Th-41
A Quantitative Analysis of Natural Killer Cell Response to IL-15 Stimulation
A. Throm1 and A. Freun1
1Washington University, St. Louis, St. Louis, MO

P-Th-42 DREAM TEAM & CENTER
Characterizing Chemotherapy Effects on Hematopoietic Stem Cell Differentiation
J. Sarker1, S. Robertson2, D. Umulis1, R. Nelson2, and A. Rundell1
1Purdue University, West Lafayette, IN, 2Indiana University School of Medicine, Indianapolis, IN

P-Th-43
Protease Site-directed Mutagenesis Distinguishes Cannibalistic Interactions in Proteolytic Networks
M. Ferrall1, M. Affeer2, and M. Plati3
1Georgia Institute of Technology and Emory University, Atlanta, GA, 2Georgia Institute of Technology, Atlanta, GA

P-Th-44
Regulation of Integrin Activation in Neovascularization by Basement Membrane Proteins and Inhibitors
N. Bajaj1, T.C. Wu2, S. Vojtik-Harbin3, D. Umulis1, and A. Rundell1
1Purdue University, West Lafayette, IN

P-Th-45
Spatiotemporal Kinetic Modeling of the Myocardin-Related Transcription Factor-A Regulatory Axis
B. Spar1 and C. Nelson1
1Princeton University, Princeton, NJ

P-Th-46
Regulation of Cell Motility and Proliferation by Cellular Signaling: Role of STAT3
T. Islam1, Z. Spieth2, K. Banerjee1, and H. Resat1
1Washington State University, Pullman, WA

P-Th-47
Fluorescence Lifetime Mapping of NADH Reveals DNA Repair Activity in Live Cells
M. Murata1, X. Kong1, Y. Koyomori2, and M. Digman3
1University of California, Irvine, Irvine, CA

P-Th-48
Dynamic Indirect Measurement of the Daily Macronutrient Oxidation Rate, Changes of Fat and Fat Free Mass u/u
Z. Oh1
1Duke University Health System, Durham, NC

P-Th-49
Regulation of Oxidative Stress in Endothelial Cells
H. Patel1, C. Presnell1, and M. Kavida1
1Wayne State University, Detroit, MI

P-Th-50
The Role of the Human Amygdaloid Complex in Fear Conditioning: A Functional Connectivity Analysis
S. Yin1, Y. Liu1, A. Keil1, and M. Ding1
1University of Florida, Gainesville, FL, 2University of California, Davis, CA

Track: Cancer Technologies
Computational Modeling and Systems Approaches:
Computation Modeling of Cancer Growth and Treatment Posters

P-Th-51
Parametric Analysis of Cancer Dynamics: An Evaluation of Environmental Contributing Factors
R. Abiri1, J. Zeller1, and X. Zhao1
1The University of Tennessee, Knoxville, Knoxville, TN

Track: Respiratory Bioengineering
Computational Modeling and Systems Approaches:
Computational Modeling of the Airway Posters

P-Th-52 DREAM TEAM & CENTER
3D Agent-based Models of Airway Remodeling to Investigate Treatment Courses for Asthma
H. Kaul1, M. Burkitt2, C. Newby3, and R. Smallwood1
1University of Sheffield, Sheffield, United Kingdom, 2University of Leicester, Leicester, United Kingdom
P-Th-53
A Computation Model of Airflow in the Main Airways of the Lung
P. Gama1 and H. Mansy1
1University of Central Florida, Orlando, FL

P-Th-54
Non-Stationary Analysis for Tracking Temporal Variations In Impedance During Oscillimetry.
H. Hanafi1, G. Maksym2, and K. El-Sankary2
1Dalhousie University, Halifax, NS, Canada, 2Dalhousie University, Halifax, NS, Canada

P-Th-55
A Complete CFD Model of Pharmaceutical Aerosol Deposition in the Lungs: Validation with In Vivo Data
W. Longesi1, G. Tian1, and M. Hinkle1
1Virginia Commonwealth University, Richmond, VA

P-Th-56
A Statistical Mechanical Model of Spontaneous Airway Constriction
B. Sun1, A. Chang1, J. Pillow1, and P. Noble1
1Boston University, Boston, MA, 2University of Western Australia, Perth, Australia

P-Th-57
Experimental and Numerical Analysis of Micro-beads Velocity in a Flow Induced by Cilia Motion
M. Bottier1, M. Peña Fernandez2, G. Pelle1, E. Bedouington1, D. Isabey1, A. Coste1, E. Escudier1, M. Manolidis1, J. B. Grotberg1, J. F. Papin1, B. Louis1, and M. Filocci1
1Inserm U955, Creteil, France, 2Inserm U955, Créteil, France, 3Inserm U933, Paris, France, 4University of Michigan, Ann Arbor, MI, 5Ecole Polytechnique, Palaiseau, France

P-Th-58
Increased Variability in Airway Wall Thickness Can Explain Ventilation Defects (VDefs) at Lower Levels of Airway Smooth Muscle Stimulation
T. Winkler1 and J. G. Venegas1
1Massachusetts General Hospital and Harvard Medical School, Boston, MA

P-Th-59
Pressure and Velocity Relationships of Inspired Air into the Human Lung
P. Aghasifard1, I. Bin M. Ibrahim1, R. Arambaram1, and R. Patapart1
1University of Georgia, Athens, GA

P-Th-60
A Novel Computational Fluid-particle Dynamics (CF-PD) Model for Multicomponent Droplet-vapor Aerosol Mixture Transport: Phase Change and Deposition in an Idealized Trachea-to-G1 Airway
Y. Feng1 and C. Kleinstrauber1
1North Carolina State University, Raleigh, NC

Track: Bioinformatics, Computational and Systems Biology
Computational Modeling and Systems Approaches:
General Approaches Posters

P-Th-61
Optimizing Normalization Feature for Volumetric Brain Measurement
N. Soborin1, M. Markey1, and N. Verma1
1The University of Texas at Austin, Austin, TX

P-Th-62
Theta-Rhythmic Drive Between Medial Septum and Hippocampus in Slow Wave Sleep and Microarousal: A Granger Causality Analysis
D. Kang1, M. Ding1, J. Topchy1, L. Shiffley1, and B. Kocsis1
1University of Florida, Gainesville, FL, 2BDMC, Harvard Medical School, Boston, MA

P-Th-63
High-Throughput Assessment Algorithm to Predict Skin Sensitization Using In Vitro Alternatives to Animal Testing
S. Lee1, T. Greenstein1, T. Maguire1, R. Schloss1, and M. Yarmush1
1Rutgers University, Piscataway, NJ

P-Th-64
Automatic Cell Selection Method for Pap Smear Test
Q. Miao1, J. Derbas1, A. Eid1, H. Subramanian2,3, and V. Backman1,2
1Northwestern University, Evanston, IL, 2Nanocytomics LLC, Evanston, IL

P-Th-65
Protein Osmotic Pressure in the Presence of Sodium-based Salts at Moderate Ionic Strength
C. Hale1, D. Ornelas1, L. Chang1, and V. Rodgers1
1University of California - Riverside, Riverside, CA

Track: Bioinformatics, Computational and Systems Biology
Computational Modeling and Systems Approaches:
Multiscale Modeling Posters

P-Th-66
Dream Team & Center
Computational Human Fetal Growth Model of Hypoplastic Left Heart Syndrome: Reduced Ventricular Growth Due to Decreased Preload
S. Devian1, A. Krishnamurthy1, R. Kerckhoff1, J. Omens1, H. Sun2, V. Nigam1,2, and A. C. Cullough1
1University of California at San Diego, La Jolla, CA, 2Rady Children’s Hospital at San Diego, San Diego, CA

P-Th-67
A Predictive Multiscale Model for Simulating Platelet Activation in Shear Flows
P. Zhang1, C. Gao1, N. Zhang1, M. Sleiman1, Y. Deng1, and D. Bluestein1
1Stony Brook University, Stony Brook, NY, 2University of Arizona, Tucson, AZ

P-Th-68
Modeling of Neonatal Hemodynamics during PDA Closure
S. Sollevman2, J. M. Khoo1, S. Noorin2, and I. Serri1
1University of Southern California, Los Angeles, CA, 2Children’s Hospital Los Angeles, Los Angeles, CA, 3Keck School of Medicine, USC, Los Angeles, CA, 4Sidra Medical and Research Center, Doha, Qatar

P-Th-69
Mathematical Modeling of Laser Irradiation of Port Wine Stain Blood Vessels Containing Erythrocyte-Derived Particles Doped with Indocyanine Green
J. Burns1, W. Jia2, V. Sun1, J. S. Nelson1, and B. Anvari1
1University of California, Riverside, Riverside, CA, 2University of California, Irvine, Irvine, CA

P-Th-70
Quantifying the Consistency of Self-assembly of Single Cardiomyocytes
N. Drew1, D. Baldo1, J. Core1, M. Table Rodriguez1, and A. GROSBERG1
1University of California, Irvine, Irvine, CA

P-Th-71
Flexible Tails Regulate the Functions of β-Catenin
B. Zhao1 and B. Xue1
1University of South Florida, Tampa, FL
**P-Th-92**  
Arrhenius Model of Thermal Damage during Laser Intstitial Thermal Therapy for Renal Cell Carcinoma  
M. ISHAAK1, L. FONTANEDA2, S. ARECHAVALA3, N. SALAS1,2, and R. J. LEVEILLE1,2  
1University of Miami, Coral Gables, FL, 2Miller School of Medicine, Miami, FL

**P-Th-93**  
Operational Consistency Of Medical Linear Accelerator Performance Parameters  
C. NGUYEN1, C. M. ABLE1, A. H. BAYDUSH1, S. ISOM2, and M. T. MUNLEY2  
1Virginia Tech - Wake Forest School of Biomedical Engineering and Sciences, Winston Salem, NC, 2Wake Forest School of Medicine, Winston Salem, NC

**P-Th-94**  
Design behind Improving Efficiency in Endotracheal Tube Changes  
J. MITCHELL1, P. BRUNN2, and M. OLYMP2  
1Virginia Tech - Wake Forest University, Winston-Salem, NC, 2Wake Forest Baptist Health, Winston-Salem, NC

**P-Th-95**  
Optimized Musculoskeletal Parameters For Predicting Multi-Joint Wrist And Hand Movement From Limited EMG Signals  
D. CROUCH2, and H. HUANG2,3  
1North Carolina State University, Raleigh, NC, 2University of North Carolina at Chapel Hill, Chapel Hill, NC

**P-Th-96**  
Detecting Leader-Follower Relationship in EEG Hyperscanning  
L. WANG1, S. DIKKER1, D. POEPPEL1,2, and M. DIJK2  
1University of Florida, Gainesville, FL, 2New York University, New York, NY, 3Utrecht University, Utrecht, Netherlands, 4Max Planck Institute, Frankfurt, Germany

**P-Th-97**  
Analytical Solution for Time-Dependent Potentials in a Cylindrical Fiber  
W. NEU1  
1Duke University, Durham, NC

**P-Th-98**  
A Conical Antenna for Stimulating Neurological Tissue  
R. PETRELLA, and S. XIAO1,2  
1Old Dominion University, Norfolk, VA, 2Frank Reidy Center for Bioelectronics, Norfolk, VA

**P-Th-99**  
Design of a Low-cost Wireless Near-infrared Spectroscopy System Using Embedded Linux  
D. DIAS1 and N. KASHOU1  
1Wright State University, Dayton, OH

**P-Th-100**  
Seizure Detection Using Peak Counting In A Fully Implantable Wireless Device For Rodents Seizure Detection Using Peak Counting In A Fully Implantable Wireless Device For Rodents  
D. PEDERSON1 and P. IRAZOLU1  
1Purdue University, West Lafayette, IN

**P-Th-101**  
Assessment of Electrode Surface Area in Electrical Impedance Myography Study Using Finite Element Method  
M. AHAD1 and S. BAEDA1  
1Georgia Southern University, Statesboro, GA

**P-Th-102**  
Identification of Deep Brain Stimulation Stimulations From a Cohort of Parkinson’s Disease Patients  
G. DUFFLEY1, T. DENG1, K. FOOTE1, J. M. OKUN1,2, and C. BUTSON1,2  
1University of Utah, Salt Lake City, UT, 2Scientific Computing and Imaging (SCI) Institute, Salt Lake City, UT, 3University of Florida, Gainesville, FL, 4Center for Movement Disorders and Neurorestoration, Gainesville, FL

**P-Th-103**  
Development of Practical Silicone Ventricles for Testing Direct Mechanical Ventricular Actuation  
T. FISCHER1, N. LOEBER1, L. CHIA1, B. SCHMITT1, Y. ZHOU1, D. REYNOLDS1, and M. ANSTADT1  
1Wright State University, Dayton, OH

**P-Th-104**  
Using Human Factors to Redesign a Laparoscopic Suturing Device for Female Surgeons  
J. BARI1, D. PETERSON2, K. HORTON3, and J. MALKO2  
1University of Conneticut, East Granby, CT, 2Texas A&M Texarkana, Texarkana, TX, 3Medtronic, New Haven, CT

**P-Th-105**  
The Interaction Model Development and Simulation of Wireless Laparoscopic Camera and Abdominal Wall Tissue  
R. YAZDIMARSHI ABDOLMALIKI1, X. LIU1, and J. TAN1  
1University of Tennessee, Knoxville, TN

**P-Th-106**  
Design and Implementation of a Portable ECG Signal Transmission Prototype  
S. DEHGHANDJAMAHALLEH1 and M. KAYA1  
1Florida Institute of Technology, Melbourne, FL

**P-Th-107**  
The Efficacy of a Novel Surgical Tool that Reduces Complications Associated with Spinal Revision Surgery  
H. HUANG1, T. CATULLO1, S. JAHANAM1, B. KIM1, E. URIAS1, E. CHIANG1, A. SUBRAMANY1, and T. SUN1  
1Johns Hopkins University, Baltimore, MD

**P-Th-108**  
Impact of Geometric Variation on Sealing Capability of a Medical Valve  
R. HE1  
1Baxter International Inc., Round Lake, IL

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**Track: Bioinformatics, Computational and Systems Biology**

**Computational Modeling and Systems Approaches:**

**P-Th-109**  
A Systems Biology Approach to Competitive Metabolism between Omega-3 and Omega-6 Fatty Acids in Inflammatory Macrophages  
S. GUPTA1, Y. KIHARA2, M. MAURYA1, P. NORRIS1, E. DENNIS1, and S. SUBRAMANIAM1  
1University of California, San Diego, La Jolla, CA

**P-Th-110**  
Evaluating the Impact of Sequencing Error Correction for RNA-seq Data  
L. TONG1, C. YANG1, J. L. YANG1, B. Y. WU1, and M. D. WANG1  
1Georgia Institute of Technology, Atlanta, GA, 2Emory University, Atlanta, GA, 3Beijing University of Technology, Beijing, People’s Republic of China

**P-Th-111**  
Oxidative Stress Induced Senescence in Human Umbilical Vascular Endothelial Cells  
S. RAHNUMAND1  
1University of California, San Diego, La Jolla, CA

**P-Th-112**  
Making Biological Sense of Important Genes in Breast Cancer and their Coordinated Behavior: Preliminary Results  
C. Marrero1  
1University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico
Track: Bioinformatics, Computational and Systems Biology
Computational Modeling and Systems Approaches:
Single-cell Measurements and Models Posters

P-Th-113
Single Cell Western Blotting to Study Stem Cell Heterogeneity
D. Spek1, T. Huggins2, Z. Xu3, C.-C. Kang1, E. Connelly1, A. Herr1, and D. Schaffer2
1University of California, Berkeley, Berkeley, CA, 2University of California, San Francisco, San Francisco, CA

P-Th-114
Cell Deformation In A Cross-Channel: Integration Of Computational Modeling With DC Experiment
Z. Sheng1, H. Lan2, H. Munoz2, D. Di Carlo2, and D. Khismatullin1
1Tulane University, New Orleans, LA, 2University of California - San Diego, San Diego, CA, 3University of California - Los Angeles, Los Angeles, CA

P-Th-115
Modeling the Mitochondrial Control of Shear-Induced Calcium Dynamics in Vascular Endothelial Cells
R. Buckalew1, J. Parker2, C. Scheitlin3, D. Terman1, N. Tsoukias2, and B. R. Elevated1
1The Ohio State University, Columbus, OH, 2Florida International University, Miami, FL

P-Th-116
Laser Ionization/Desorption Droplet Delivery Mass Spectrometry for Single Cell Analysis
J. K. Lee1, H. G. Nam2, and R. Zare1
1Stanford University, Stanford, CA, 2Institute for Basic Science, Daegu, Korea, Republic of

Track: Bioinformatics, Computational and Systems Biology
Computational Modeling and Systems Approaches:
Systems Approaches to Therapy and Therapeutics Posters

P-Th-118
Early Changes in Innate Cytokine Networks Predict Response to Antiretroviral Therapy in HIV
K. Arnold1, L. Gama2, G. Szeto3, D. Irvine1, P. Hunt4, D. Lauffenburger5, and E. Kallas6
1Massachusetts Institute of Technology, Cambridge, MA, 2The Johns Hopkins University, Baltimore, MD, 3University of California, San Francisco, San Francisco, CA, 4University of São Paulo, São Paulo, Brazil

P-Th-119
Conserved RTK-Intrinsic Signaling Consequences Result in Distinct Bypass Resistance Capacity
S. Manole and A. Meyer1
1Massachusetts Institute of Technology, Cambridge, MA

P-Th-120
Rat and Human Metabolic Network Models for Comparative Analyses in Toxicology
E. Blais1, K. Rawls1, J. Li1, and J. Papin1
1University of Virginia, Charlottesville, VA

P-Th-121
A Systems View of Hysteresis in the Development of Multidrug Resistance of Pseudomonas aeruginosa
P. Yen1 and J. Papin1
1University of Virginia, Charlottesville, VA

P = Poster Session
OP = Oral Presentation
) = Reviewer Choice Award
P-Th-131
Spatial Disturbance As A Driver Of Extinction In Synthetic Cooperative Bacteria
C. Wilson1, W. Driscoll, O. Eldakar1, J. Lopez2, and R. Smith3
1Nova Southeastern University, Fort Lauderdale, FL, 2University of Minnesota, Minneapolis, MN

Track: Translational Biomedical Engineering Devices and Sensors: Biomedical Device Design in Translational Research Posters

P-Th-132
Design And Proof Of Concept For A Single Cell Electromagnetic Loading Device
A. Valdevit1, E. Noddan2, S. Ferrell3, and P. Leopold1
1Stevens Institute of Technology, Hoboken, NJ

P-Th-133
A Simple Approach for Removal of Irreparably Damaged Cells from Stored Blood
H. Xia1, B. Strachan2, N. Piety1, S. Gifford1, and S. Shevkopylas1
1University of Houston, Houston, TX

P-Th-134
Pore Size Impacts Cell-Cell Communication and Scar Contraction in 3D-Printed Polyurethane Scaffolds
T. D. Ramchadal1, E. R. Lorder2, Z. Wang1, L. Bashirov1, M. M. Ibrahim1, E. Hammett1, B. Kitzman1, J. J. Yoo2, H. Levinson1, S. J. Lee1, and K. W. Leong1,2
1Duke University Medical Center, Durham, NC, 2Duke University, Durham, NC, 3Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC, 4Columbia University, New York, NY

P-Th-135
A Complete Blood Cell Count Biochip from a Drop of Blood
U. Hassain1, B. Reddy2, C. Yang1, G. Damhors1, and R. Bashir1
1University of Illinois at Urbana-Champaign, Urbana, IL, 2University High School Urbana, Urbana, IL

P-Th-136
Quantum Dot Based DNA Nanosensor For The Detection Of Mycobacterium Tuberculosis
M. Jepsen1, C. Harnsen1, G. Franch1, M. Heide2, B. R. Knudsen1, and Y.P. Ho1
1Aarhus University, Aarhus, Denmark, 2Aarhus, Denmark, 3Amyotrophia, Aarhus C, Denmark

P-Th-137
A Phase Plane Metric For Intracranial Pressure After Traumatic Brain Injury
M. Qadi1, N. H. Kim1, S. Danish1, and W. Craelius1
1Rutgers, The State University of New Jersey, Piscataway, NJ

P-Th-138
The Foreign Body Immune Response to Implanted Materials is Dependent on Size and Shape in Rodents and Non-Human Primates
O. Veiseh1, R. Langen1, and D. Anderson1
1Massachusetts Institute of Technology, Cambridge, MA

P-Th-139
The Sensitivity of Microfluidic Flow Assays to von Willebrand Factor Levels in Type I von Willebrand Disease Patients Compared to Clinical Assays
M. Lehmann1, C. Noll1, J. Di Paolo1, and K. Neeves2,3
1Colorado School of Mines, Golden, CO, 2University of Colorado Denver, Aurora, CO

P-Th-140
Jacquard Weaving Of Scaled Up, Tissue-Replicating Biomaterials And Implants
J. Ng1, R. Whan1, and M. Knott-Tate1
1University of New South Wales, Australia, Sydney, Australia

P-Th-141
The Application of BioHeat Perfusion Sensors To Quantify Pressure Ischemia Of Explanted Organs
T. O’Brien1, A. Roghianzad1, J. Robertson1, and T. Diller1
1Virginia Tech, Blacksburg, VA

P-Th-142
Towards a Point-of-Care Blood Sensor to Quantify Multiple Traumatic Brain Injury Biomarkers
B. Hase1oil2, A. Lam1, and J. La Belle1,2
1Arizona State University, Tempe, AZ, 2Mayo Clinic Arizona, Scottsdale, AZ

Track: Translational Biomedical Engineering Devices and Sensors: Biomedical Products and Devices Posters

P-Th-143
Novel, Remote Low Temperature Plasma Hybrid Device For Sterilization And Therapeutic Biomedical Uses
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Posterior Vertebral Fixation: Screw-to-Screw Cross-Connection Concept Investigation
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Development of a Plantar Pressure Postural Analysis & Biofeedback Suite for WMSD Corrective Therapy
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