

Session	Title	Author(s)	Affiliation(s)
01. Synthetic Biology	Designing AraC Effector Specificity through Modeling and Dual Selection	Hossein Fazelinia, Shuang-Yan Tang, Costas Maranas and Patrick Cirino	Penn State University, Department of Chemical Engineering
01. Synthetic Biology	DNA Nanoboxes: A Novel Nanoscale Structure with Potential for Targeted Drug Delivery	K.E. Fifer, V.H. Lau, M.S. Meisel, T. Chan, S.M. Douglas, W.M. Shih	Harvard University, Dana Farber Cancer Institute
01. Synthetic Biology	Solving the Pancake Problem with a Bacterial Computer	Todd T. Eckdahl ¹ , Adam D. Brown ¹ , Trevor L. Butner ¹ , Lane H. Heard ¹ , Eric L. Jessen ¹ , Kelly J. Malloy ¹ , Brad J. Ogden ¹ , Jeff Poet ² , Marian L. Broderick ² , A. Malcolm Campbell ³ , Karmella A. Haynes ³ , Laurie J. Heyer ⁴ , Lance Harden ⁴ , Sabriya Rosemond ^{3,5} , Sama	1Biology Department, 2Mathematics Department, Missouri Western State University; 3Biology Department, 4Mathematics Department, Davidson College; 5Biology Department Hampton University
01. Synthetic Biology	A novel synthetic plasmid network to monitor and control gene expression	Goutam J. Nistala, Kang Wu, Christopher V. Rao and Kaustubh D. Bhalariao	University of Illinois at Urbana Champaign
02. Biology-Inspired Nanotechnology	Single Molecule Wire: Molecular Nanoelectronics and Biosensors	Bingqian Xu	University of Georgia
02. Biology-Inspired Nanotechnology	Nanotextured Polyurethane for Reduced Blood Platelet Adhesion and Activation	Keith R Milner, Alan J Snyder, Christopher A Siedlecki	Pennsylvania State University College of Medicine
02. Biology-Inspired Nanotechnology	Fabrication and characterization of highly stable quantum dots for biosensing applications	Jay M. Cupps, Darcy Lichlyter, Sheila Grant, and Xudong Fan	Biological Engineering Department, University of Missouri - Columbia
02. Biology-Inspired Nanotechnology	Rendering Trace Metal Particulates Inert Via Nanoencapsulation In Biological Processes	Shampa Aich, Keisha Walters and Adrienne Minerick	Dave C. Swalm School of Chemical Engineering, Mississippi State University, Mississippi State, MS 39762.
02. Biology-Inspired Nanotechnology	3D Finite Element Modeling of Nanostructure Enhanced SAW Sensors	Yeswanth L Rao and Guigen Zhang	University of Georgia
02. Biology-Inspired Nanotechnology	Effect of Reaction Kinetics and Nanostructural Dimensions	Venkataramani Anandan and Guigen Zhang	University of Georgia
02. Biology-Inspired Nanotechnology	Guiding of Microtubules via Patterned Kinesin Dots	Vivek Verma, William O. Hancock and, Jeffrey M. Catchmark	Engineering Science and Mechanics / Associate Professor, Bioengineering Department / Assistant Professor, Egeineering Science and Mechanics, Agricultural and Biological Engineering and School of Forest Resources
02. Biology-Inspired Nanotechnology	Recognition and capture of cancer cells using an antibody-based platform in a	Z. Du, N.L. Collie, M.W. Vaughn, K.W. Cheng and L.S. Gollahon	Departments of Biological Sciences, Chemical Engineering and Physics, at Texas Tech University
03. Biology-Inspired Materials	Interfacial Molecular Imprinting for the Production of Immunoarrays	Youyou Zheng, David B. Henthorn	Univeristy of Missouri-Rolla
03. Biology-Inspired Materials	The formation of nanometer-scale through-holes via porous anodic alumina	C. W. Frank, B. V. O. Muir, J. Casey	Stanford University (Frank & Muir), Louisiana State University (Casey)
03. Biology-Inspired Materials	Determining Biofluid Viscosity using Fluorescent Lifetime Dynamics of Molecular Rotors	Haviv, S., Haidekker, M.A.	University of Missouri-Columbia, Department of Biological Engineering
03. Biology-Inspired Materials	Silver-impregnated polymers: their antimicrobial activity and potential for antimicrobial therapy	Sterling Fife, Jouyoung Kim, and Soonjo Kwon	Utah State University

03. Biology-Inspired Materials	Photosensitive Nitric Oxide Releasing Materials for Light controlled Neural Differentiation	John J. Koehler, D. Marshall Porterfield, Jenna L. Rickus	Department of Agricultural and Biological Engineering, Weldon School of Biomedical Engineering, and the Physiological Sensing Facility at the Bindley Bioscience Center, Purdue University, West Lafayette IN
03. Biology-Inspired Materials	“Polypropylene Hernia Mesh Materials: An In-Depth Materials Analysis of Explanted Specimens”	Costello, C.R. 1, Bachman, S.L. 2, Ramshaw, B.J. 2, Grant, S.A 1	1 Dept. of Biological Engineering, 2 Dept. of General Surgery, University of Missouri-Columbia
Materials	Biofuel Cells for Portable Electronic Applications	Nick Akers	Akermin, Inc.
Materials	Biocompatible Chipless RFID Ink "Tattoos"	Ramos M. Mays & Mark C. Pydynowski	Somark Innovations, Inc.
05. Biology-Inspired Modeling	Predictions And Validation Of A Model For The Oscillatory Response Of P53 To DNA Damage	Gustavo Stolovitzky, J. Jeremy Rice, Lan Ma, John Wagner, Wenwei Hu, Zhaohui Feng and Arnold Levine	IBM Computational Biology Center, Yorktown Heights, NY. The Cancer Institute of New Jersey, Robert Wood Johnson School of Medicine, New Brunswick, NJ
05. Biology-Inspired Modeling	Fidelity and speed of signal transmission limited by cellular noise	Cheemeng Tan, Faisal Reza, and Lingchong You	Duke University
05. Biology-Inspired Modeling	Detection of Physiological Changes by Modeling Phototransduction in Plants	Ya Guo and Jinglu Tan	University of Missouri-Columbia
05. Biology-Inspired Modeling	Computational Design of Synthetic Biological Circuits	Madhukar S. Dasika and Costas D. Maranas	Penn State
05. Biology-Inspired Modeling	Linking Genetic Information from Roots with Crop Models	Melanie J. Correll, Yibing Fu, and Eduardo Vallejos	Dept. of Agricultural and Biological Engineering and Horticultural Sciences Dept. University of Florida
05. Biology-Inspired Modeling	Common-target model for identification of protein interaction modules in pull-down experiments	Bing Zhang, Byung-Hoon Park, Tatiana Karpinets, Nagiza F. Samatova	Computational Biology Institute, Oak Ridge National Laboratory
05. Biology-Inspired Modeling	A Computational Model of Listeriolysin O Pore Formation in Liposome-doped Sol-gel Nanocomposites	Jianxiu Zhao 1,2, Zhengjun Xue 3, Nahor Haddish-Berhane 1, Carlos Corvalan 1,3, Lia Stanciu 4, Arun Bhunia 3, Jenna L. Rickus 1,2,5	1 Department of Agricultural and Biological Engineering, 2 The Physiological Sensing Facility at the Bindley Bioscience Center, 3 Department of Food Science, 4 Materials Engineering, 5 The Weldon School of Biomedical Engineering, Purdue University, West L
05. Biology-Inspired Modeling	Synthetic Gene Networks: De Novo Constructs -- In Numero Descriptions	Jeff Hasty	UCSD Bioengineering
06. Biology-Inspired Imaging	In Vivo Resolution of Multiple Near-Infrared Molecular Probes by Fluorescence Lifetime-Gated Diffuse Optical Tomography	Walter J. Akers, Samuel Achilefu	Washington University School of Medicine
06. Biology-Inspired Imaging	Visualizing flow patterns with fluorescent molecular rotors	Haidekker, M.A. (1), Sebastian, A. (2), Huang, H.-M. (1)	(1) University of Missouri-Columbia, (2) Saint-Louis University
06. Biology-Inspired Imaging	Fast confocal scattering-imaging for sheet-based tissue engineering	LaCroix, J. , Haidekker, M.A.	University of Missouri-Columbia, Department of Biological Engineering

06. Biology-Inspired Imaging	Botanical Species Identification using Image Extracted Individual Leaves and Soft Computing	George. E. Meyer, David D. Jones, and João Camargo Neto	Biological Systems Engineering, University of Nebraska, Lincoln, NE and Embrapa Information Technology, Campinas -Sao Paulo, Brazil
07. Biology-Inspired Sensors 1	Development of an Optical Nanoscale Biosensor for Detection of Porcine Reproductive and Respiratory Syndrome Virus	R Cody Stringer, Dr. Sheila Grant, Dr. Susan Schommer, Daniel Hoehn	Department of Biological Engineering and Department of Veterinary Pathobiology, University of Missouri - Columbia
07. Biology-Inspired Sensors 1	Nanopore-based Detection of Immune Complexes and Viruses	Jeffrey D. Uram and Michael Mayer	Department of Biomedical Engineering and Department of Chemical Engineering, University of Michigan, Ann Arbor, MI 48109
07. Biology-Inspired Sensors 1	Second-by-Second Enzyme-Based Amperometric Recordings of L-Glutamate in Awake Rats	E.C. Rutherford1*, F. Pomerleau1, P. Huettl1, I. Strömberg2, K.W. Johnson3,	1Department of Anatomy & Neurobiology; Center for Sensor Technology; Morris K. Udall Parkinsonâ€™s Disease Research Center of Excellence; University of Kentucky, Lexington, KY, USA. 2Histologi Med Cellbiologi, Umeå University, Umeå, Sweden. 3Eli Lill
07. Biology-Inspired Sensors 1	Microfluidic amperometric biosensors for intelligent metabolite monitoring	Nitin Radhakrishnan, Jongwon Park, Chang-Soo Kim	University of Missouri-Rolla
07. Biology-Inspired Sensors 1	Detection of Escherichia coli using a novel scanning imaging surface plasmon resonance biosensor.	Stephen P. Walker, Paul Heinemann, Jeffrey Catchmark, Chitrita DebRoy (1), and Joseph Irudayaraj (2)	Dept. of Agricultural and Biological Engineering, The Pennsylvania State University. (1) Gastroenteric Disease Center, Dept. of Veterinary and Biomedical Sciences, The Pennsylvania State Univ.; (2) Dept. of Agricultural and Biological Engineering, Purd
07. Biology-Inspired Sensors 1	An Impedance Biosensor for Rapid Screening of Avian Influenza Virus H5N1 in Poultry Samples	Yanbin Li1,2, Ronghui Wang1, Billy Hargis2, Steve Tung3, Walter Bottje2 and Luc Berghman4	1Department of Biological and Agricultural Engineering, 2Center of Excellence for Poultry Science, 3Department of Mechanical Engineering, University of Arkansas, Fayetteville, AR 72701; 4Departments of Poultry Science and Veterinary Pathobiology, Texas A&
07. Biology-Inspired Sensors 1	Evaluation of Ceramic-based Microelectrode Arrays for In Vivo Recordings	P.M. Talauliker1*, F. Pomerleau1, E. Rutherford1, P. Huettl1, J.T. Hastings2, G.A. Gerhardt1	1-Center for Microelectrode Technology; Morris K. Udall Parkinsonâ€™s Disease Research Center of Excellence; Department of Anatomy & Neurobiology, University of Kentucky College of Medicine, Lexington, Kentucky, USA. ; 2-Center for NanoScale Science & Eng
07. Biology-Inspired Sensors 1	New enzyme immobilization method on microfluidic channel surfaces for bioanalytical applications	Zhan Gao (1), David B. Henthorn (1), Chang-soo Kim (2)	1: Dept. of Chem. and Biol. Eng., 2: Dept. of Elec. and Comp. Eng. and Dept. of Biol. Sci.
07. Biology-Inspired Sensors 1	Development of 8 and 16 site microelectrode arrays (MEAs) for CNS recordings	Francois Pomerleau, Peter. Huettl, Jason J. Burmeister, Greg A. Gerhardt	Center for Microelectrode Technology, University of Kentucky, Lexington, KY.
07. Biology-Inspired Sensors 1	Dielectrophoresis Enhanced Immuno-detection of Foodborne Pathogenic Bacteria	Liju Yang	BRITE, North Carolina Central University
Sensors 1	Viable E. Coli Test for Surface Water	Krishna Chotneeru and Evangelyn Alocilja	Michigan State University

07. Biology-Inspired Sensors 2	Encapsulation of Streptavidin labeled with Alexa Fluor 750 into Erythrocytes	Majed Dweik and Sheila A. Grant	University of Missouri-Columbia
07. Biology-Inspired Sensors 2	Designing Chemo-Sensors based on Charged Derivatives of Gramicidin A	Ricardo Capone, Steven Blake, Jerry Yang, and Michael Mayer	Department of Biomedical Engineering and Department of Chemical Engineering, University of Michigan, Ann Arbor, MI 48109
07. Biology-Inspired Sensors 2	Second-by-Second Measures of L-glutamate Resting Levels Using Enzyme-Based Microelectrode Arrays in the CNS of Conscious Freely Moving Mice	K.N. Hascup, E.C. Rutherford, F. Pomerleau, P. Huettl, G.A. Gerhardt	Anatomy and Neurobiology, Morris K. Udall Parkinson's Disease Research Center of Excellence, Center for Sensor Technology, University of Kentucky, College of Medicine, Lexington, KY, USA
07. Biology-Inspired Sensors 2	Lab-on-a-Chip based on the Liquid Core Optical Ring Resonator for DNA Detection	Jonathan D. Suter, Ian M. White, Hongying Zhu, Huidong Shi, Charles W. Caldwell, and Xudong Fan	Biological Engineering Department/Pathology and Anatomical Sciences, University of Missouri
07. Biology-Inspired Sensors 2	Design of a HIV-1 Viral Load Biosensor using sCD4 and RNA Aptamer via Förster Resonance Energy Transfer (FRET)	Rosalynn M. Manor, Michael Tempesta, Donald Burke, and Sheila Grant	University of Missouri-Columbia
07. Biology-Inspired Sensors 2	Immobilization of Peptides on Quantum Dots via Protein Molecules for the Development of a Protease Biosensor	Craig Weilbaecher, Darcy Lichlyter, Sheila Grant	Biological Engineering, University of Missouri - Columbia
07. Biology-Inspired Sensors 2	Hydrogen Detector Genetically Engineered Machine	S. D. To, D. P. Ma, B. P. Flynn, M. H. Ho, R. Morris, T. M. Vaughn, T. French, R. Reese	Mississippi State University
07. Biology-Inspired Sensors 2	Testing of Insects for Innate Response to Volatile Compounds for a Forensic Application	Glen C Rains, Jeffrey K. Tomberlin	University of Georgia, Texas A&M University
07. Biology-Inspired Sensors 2	Second-by-Second Measurements of L-Glutamate and Other Neurochemicals in the CNS of Animal Models and Humans	G. A. Gerhardt, E. Rutherford, K. Hascup, J.E. Quintero, P. Talauliker, T. Currier Thomas, M. L. Stephens, J. Fuqua, T. Coates, J. J. Burmeister, F. Pomerleau, P. Huettl	Department of Anatomy and Neurobiology, and Center for Microelectrode Technology, University of Kentucky Medical Center, Lexington, Kentucky 40356.
07. Biology-Inspired Sensors 2	Direct Measurement of Bio-Electric Currents Associated with Spinal Cord	Peishan Liu-Snyder ¹ , Richard B. Borgens ^{1,2} , Riyi Shi ^{1,2} and D. Marshall Porterfield ^{2,3,4,5}	1. Center for Paralysis Research, Department of Basic Medical Sciences, School of Veterinary Medicine, Purdue University, West Lafayette, IN 47907, USA. 2. Weldon School of Biomedical Engineering, College of Engineering, Purdue University, West Lafayette,
Cellular Mechanics and Tissue Engineering - Moved from 04.	New approaches in simulating cell adhesion	Tianyi Yang and Muhammad H. Zaman	University of Texas at Austin
Cellular Mechanics and Tissue Engineering - Moved from 08. Biology-Inspired Tissue and Cellular Engineering	MECHANICAL AND STRUCTURAL CHARACTERIZATION OF DECELLULARIZED AORTIC VALVE LEAFLETS	Erinn Joyce ¹ , Jun Liao ^{1,2} , Michael S. Sacks ¹	1. Department of Bioengineering and the McGowan Institute for Regenerative Medicine, University of Pittsburgh, Pittsburgh, PA; 2. Department of Agricultural and Biological Engineering, Mississippi State University, MS State, MS.

Cellular Mechanics and Tissue Engineering - Moved from 08. Biology-Inspired Tissue and Cellular Engineering	Design and Biomechanical Testing of an Implant for Anterior Cruciate Ligament Graft Reconstruction Femoral Fixation in a Canine Model	Mandi J. Lopez, John P. Casey, Nakia Spencer, W. Todd Monroe	Laboratory for Equine and Comparative Orthopedic Research, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA, and Department of Biological & Agricultural Engineering, Louisiana State University and AgCenter, Baton Rouge, LA
Cellular Mechanics and Tissue Engineering - Moved from 08.	Detection of virally infective particles using cell culture infrared spectroscopy	Crystal Vargas, Kelly Reynolds, and Mark Riley	The University of Arizona
Cellular Mechanics and Tissue Engineering - Moved from 09.	Patterned Patches of Lipid Rafts in Supported Lipid Bilayers	Sheereen Majd, Anna M. Sauer, and Michael Mayer	Department of Biomedical Engineering and Department of Chemical Engineering, University of Michigan, Ann Arbor, MI 48109
Cellular Mechanics and Tissue Engineering - Moved from 09.	Triggering and Visualizing the Fusion of Lipid Membranes in Microfluidic Chambers	Daniel J. Estes and Michael Mayer	Department of Biomedical Engineering and Department of Chemical Engineering, University of Michigan, Ann Arbor, MI 48109
Cellular Mechanics and Tissue Engineering - Moved from 09.	Characterizing Changes in DLPC Membrane Viscosity with the Molecular Rotor FCVJ	Nipper, M., Haidekker, M.A.	University of Missouri-Columbia, Department of Biological Engineering
Cellular Mechanics and Tissue Engineering - Moved from 09.	Simultaneous cell surface extension and membrane tether extraction during the rolling of leukocytes on the endothelium	Shao JY, Y Chen, G Xu, Y Yu, B Liu, and S Shah	Department of Biomedical Engineering, Washington University, Saint Louis, MO 63130, USA
Cellular Mechanics and Tissue Engineering - Moved from 09.	Membrane Phase Property changes in Astrocytic Cells induced by Amyloid-beta Peptide	Yinzhi Lai, Jacob Hicks, James Lee	Department of Biological Engineering, University of Missouri-Columbia
Cellular Mechanics and Tissue Engineering - Moved from 09. Membrane Biophysics	Quantification of Surface-Specific Assembly of the Amyloid-beta Protein Involved in Alzheimer's Disease Using a Quartz Crystal Microbalance	Joseph A. Kotarek, Kathryn C. Johnson, and Melissa A. Moss	University of South Carolina
Cellular Mechanics and Tissue Engineering - Moved from 09.	Mechanical characterization of ocular lenses	Kai-tak Wan	Mechanical Engineering, University of Missouri-Rolla
Biorefineries as Industrial Ecosystems	Design of a Biofuel Eco-industrial Park	Shanying Hu	Center for Industrial Ecology, Department of Chemical Engineering, Tsinghua University
11. Engineering Biorefineries as Industrial Ecosystems	Development of Anaerobic Phased Solids Digester System for Biogasification of Organic Solid Wastes	Ruihong Zhang	University of California, Davis
Biorefineries as Industrial Ecosystems	Nutrient Recycling in Biorefinery Systems	Katherine A. Edwards, Robert P. Anex, Albert S. Bennett	Iowa State University Agricultural and Biosystems Engineering
11. Engineering Biorefineries as Industrial Ecosystems	Envisioning Mature Biomass Refining	Mark Laser(1), Haiming Jin(1), Lee Lynd(1), Eric Larson(2), Bruce Dale(3), Shahab Sokhansanj(4)	(1) Dartmouth College, (2) Princeton University, (3) Michigan State University, (4) Oak Ridge National Laboratory

Biorefineries as Industrial Ecosystems - Moved from 10. Reverse Engineering of	Advancing a Biological Paradigm for Biomass Pretreatment	Tom Richard ¹ , Qin Chen ¹ , Corey Radtke ² , Wayne Curtis ¹ , Deepti Tanjore ¹ , Kevin Shinnars ³ , Farzaneh Rezaei ¹ , Ming Tien ¹ , and Daniel Cosgrove ¹	¹ Pennsylvania State University; ² DOE Idaho National Laboratory; ³ University of Wisconsin, Madison
12. Biofuels and Bioproducts	Catalytic oxidation of volatile organic compounds using wood fly ash	Praveen Kolar and James Kastner	University of Georgia
12. Biofuels and Bioproducts	Aqueous Ammonia Treatment of Switchgrass Followed by Simultaneous Saccharification and Fermentation	Asli Isci, Jennifer Himmelsbach, Anthony Pometto, Raj Raman, Robert Anex	Iowa State University
12. Biofuels and Bioproducts	Aquacultural Processes for Harvest and Concentration of Algal Lipid for Biodiesel Production	David E. Brune and Lance E. Beecher	Clemson University
12. Biofuels and Bioproducts	Production of Hydrogen by Steam Reforming of Glycerin over Alumina Supported Metal Catalysts	Sushil Adhikari, Sandun Fernando and Agus Haryanto	Mississippi State University
12. Biofuels and Bioproducts	Biodiesel production from soybean oil using calcined layered double hydroxide catalysts	Czarena Crofcheck, Mark Crocker, James Shumaker, Michael Montross	Biosystems and Agricultural Engineering and the Center for Applied Energy Research, University of Kentucky
12. Biofuels and Bioproducts	Gene Expression Analysis of Immobilized <i>Saccharomyces cerevisiae</i>	Ryan Summers, Timothy Taylor, and Steven Broby	Biological Engineering Program, Utah State University
12. Biofuels and Bioproducts	Biodiesel production using ethanol at Clemson University	Walker, T.H., H. Joshi, J. Montanti, J. Stergar	Biosystems Engineering, Clemson University
12. Biofuels and Bioproducts	Reduction of Free Fatty Acids from Waste Cooking Oils for Biodiesel Production	Walter Diaz, Michael Kazz, Werner Zimmt, and Mark Riley	University of Arizona, Zelen Environmental, University of Arizona, University of Arizona
12. Biofuels and Bioproducts - Moved from 07. Biology-Inspired Sensors	Performance analysis of Lactate Dehydrogenase as the biocatalyst for an enzymatic fuel cell with or without the presence of a proton exchange membrane.	Gunawardena A, Fernando S,	Mississippi State University
Bioprocessing - Moved from 12. Biofuels and	Effect of pH and Gas Phase Composition on Succinate Production	Shiying Lu, Mark A. Eiteman, James R. Kastner, Elliot Altman	University of Georgia
Bioprocessing - Moved from 12. Biofuels and	Production of Pyruvate by Metabolically Engineered <i>Escherichia coli</i>	Yihui Zhu, Mark A. Eiteman, Elliot Altman	University of Georgia
Bioprocessing - Moved from 12. Biofuels and	Understanding Xylose Uptake in <i>Escherichia coli</i> Engineered for Xylitol Production	Reza Khankal, Patrick Cirino	Pennsylvania State University, Department of Chemical Engineering
Bioprocessing - Moved from 12. Biofuels and	Biofilms for Remediating Urban Runoff Pollutants	Marisa Toma, Traci Sylva and Charles Kinoshita	University of Hawaii at Manoa
13. Bioproducts and Bioprocessing - Moved from 13. Bioprocessing & Natural Products	Kinetics and Mechanisms of Protease Assisted Aqueous Extraction of Soybean Oil	Kerry A. Campbell, Charles E. Glatz, Tracey, M. Pepper*	Department of Chemical and Biological Engineering, Iowa State University, *Department of Genetics, Development, and Cell Biology, Iowa State University
Bioprocessing - Moved from 13. Bioprocessing & Natural Products	Advanced Modeling of the Growth of Freshwater Algae as a Function of Media Inorganic Carbon Content	Dr. Caye M. Drapcho and Mary Katherine Watson	Clemson University

Bioprocessing - Moved from 13. Bioprocessing & Natural Products	Bioconversion of Phenylpyruvic acid to L-Phenylalanine by Co-Immobilization of E. coli EP8-10	Yong-hong Hu, Tian-yu Tang, Wenge Yang, Hua Zhou	College of Life Science and Pharmacy, Nanjing University of Technology, Nanjing 210009, China
Bioprocessing - Moved from 14. Separation of	Downstream Process Development for Transgenic Plant-Produced Proteins	Lisa R. Wilken, Zivko L. Nikolov, Susan L. Woodard	Texas A&M University
15. Engineering Ecology	Informing Ecological Engineering Through Ecological Network Analysis and Concepts of Systems and Engineering Ecology	David Gattie	Nadia Kellam
15. Engineering Ecology	Aquacultural Pond Design and Management Using Climatological Modeling	S. Triyono, J. Pote, C. Wax, and T. Cathcart	Mississippi State University
15. Engineering Ecology	Ecosystem Complexity Theory and its Implications for the Reliability of Life Support Systems in Space Exploration	J. Malia Appleford and Luis Rodriguez	Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign
Ecology Moved from - 05. Biology-Inspired	Holistic modeling and control of farm using swarm algorithm and Global Positioning System	C. Li, R.P. Goss, L.F. Rodr��guez, A.C. Hansen, B.F. Tracy, Q. Zhang	University of Illinois
Paradigms in Biological Engr. Education	Teaching Physiology of Exercise to Bioengineering Students	Arthur T. Johnson, and Karen M. Coyne	Fischell Dept of Bioengineering, University of Maryland
Paradigms in Biological Engr. Education	Integrating Authentic Research into Curriculum as Innovative Content for a Biotechnology Program	Kari Clase	Purdue University
16. Innovative Paradigms in Biological Engr. Education (added late)	A Wet Lab Course for Computational Biology Students	Judy Wieber and Conrad Zapanta	Joint CMU-Pitt PhD Program in Computational Biology Carnegie Mellon University and University of Pittsburgh Pittsburgh, PA
17. Biological Engineering Design	Respiratory Requirements for Escape from a High-Rise Building	Arthur T. Johnson, William H. Scott, Jr, and Frank C. Koh	Fischell Dept of Bioengineering, University of Maryland
17. Biological Engineering Design	Optimal design of a surface-flow constructed wetland for the treatment of agricultural runoff in colder climates.	Charlotte Yates, Shiv Prasher	McGill University, Bioresource Engineering dept.
17. Biological Engineering Design	Computational model of melanin-binding antibody delivery to the tumor during clinical radioimmunotherapy of metastatic melanoma	Vineet Rakesh (1), Andrew D. Schweitzer (2), Ekaterina Revskaya (3), Ashim K. Datta (1), Arturo Casadevall (4,5), Ekaterina Dadachova(3,4)	(1)Department of Biological and Environmental Engineering, Cornell University, Ithaca, NY (2) 1Mount Sinai School of Medicine, NY (3) 3Department of Nuclear Medicine (4) Microbiology and Immunology and (5) 5Medicine, Albert Einstein College of Medicine, N
17. Biological Engineering Design	Design Value Analysis and a Value-Centered Engineering Design Process for Biological Engineering	Joel L. Cuello	The University of Arizona
17. Biological Engineering Design	EQUINE UPPER AIRWAY: IN VITRO COMPUTATIONAL MODEL FOR TURBULENT AIRFLOW AND TREATMENT PLANNING FOR LARYNGOPLASTY	Vineet Rakesh, Ashim K. Datta, Normand G. Ducharme	Department of Biological and Environmental Engineering, Department of Biological and Environmental Engineering, Department of Clinical Sciences, Cornell University

17. Biological Engineering Design	Multiphase, porous media modeling of frying process with non-equilibrium evaporation formulation	Amit Halder, Ashim Datta	Biological and Environmental Engineering, Cornell University
17. Biological Engineering Design	Process Control Transient Temperature Effects on Biofiltration of Recirculation Systems	Milton Saidu,	Louisiana State University
17. Biological Engineering Design - Moved from Podium Presentation	Physical Activity Classification Using Linear Discriminant Analysis on Fourier Parameters of Accelerometer Signals	Gregory R. Bashford, Tanner R. Augustin, Amy G. Jorde, Tate A. Augustin, Judith M. Burnfield	Department of Biological Systems Engineering, University of Nebraska-Lincoln, Lincoln, NE; Institute for Rehabilitation Science and Engineering, Madonna Rehabilitation Hospital, Lincoln, NE
21 Bio-Business Nexus	BioGenerator: Bridging the Gap Between Technologies and Viable Companies	Randy H. Weiss, Ph.D.	BioGenerator
21 Bio-Business Nexus	Tissue Engineering Solutions to Orthopaedic Problems: The Future of Orthobiologics	H. Davis Adkisson and Mitchell Seyedin	ISTO Technologies, Inc.
21 Bio-Business Nexus	Kereos -- Targeted Therapeutics and Molecular Imaging	Robert A. Beardsley	Kereos
21 Bio-Business Nexus	Partnering for Technology Translation; The Nidus Center a Privately Funded Model	Dr. Robert J. Calcaterra, CEO/President	Nidus Center
21 Bio-Business Nexus	Automated Antiviral Drug Screening Using Engineered Replicons	Paul D. Olivo, M.D., Ph.D.; Edward L. Bayham, MSBME, MBA	Apath, LLC
21 Bio-Business Nexus	Advanced Analytical Technology as Applied to Natural Products for Drug Discovery	Mark Oâ€™Neil-Johnson, Gary Eldridge	Sequoia Sciences
Poster Presentation	Characterization of high-pressure carbon dioxide explosion for biological application	Meidui Dong, Chen-Yi Kuan, Keri B, Cantrell, Terry H. Walker	Agricultural and Biological Engineering Department, Clemson University
Poster Presentation	Detecting estrogenic activity in water samples with estrogen-sensitive yeast cells	E. Wozel [1, 2], H-Y.N. Holman[1], S.W. Hermanowicz[2], S. Borglin[1]	[1] Lawrence Berkeley National Laboratory, [2] University of California at Berkeley
Poster Presentation	Second-by-Second Microelectrode Array Measurements of Acetylcholine	C.E. Werner, J.J. Burmeister, C.R. Gash, F. Pomerleau, P. Huettl, J.P. Bruno, G.A. Gerhardt	Anatomy and Neurobiology Department, Morris K. Udall Parkinsonâ€™s Disease Research Center of Excellence, Center for Microelectrode Technology, University of Kentucky, Lexington, KY, USA and Department of Psychology, The Ohio State University, Columbus, O
Poster Presentation	Petroleum toxicity on crawfish	Okey Umejuru, Gary Barbee, Steven G. Hall	Louisiana State University AgCenter, Baton Rouge LA
Poster Presentation	Performances of bimetallic Pt-Ru supported on ceria-alumina for water-gas shift reaction at ultrahigh temperature	Agus Haryanto, Sandun Fernando, and Sushil Adhikari	Ag. and Bio. Engineering Dept., Mississippi State University
Poster Presentation	Base Catalyzed Transesterification of Soybean Oil Using Solid (Pure and Supported) Catalysts	Alok Kumar Singh and Sandun Fernando	Department of Ag. and Biological Engineering, Mississippi State University
Poster Presentation	Immunogenetics of Autism: Detecting Single Nucleotide Polymorphisms in Tumor Necrosis Factor Gene via Restriction Digest	Daniel W. Odell, Dr. Anthony R. Torres	Center for Persons with Disabilities, Department of Biological and Irrigation Engineering - Utah State University

Poster Presentation	Engineering-economic models for rural corn ethanol production	C. Li, L.F. Rodriguez, S.R. Eckhoff, M. Khanna, and A.D. Spaulding	University of Illinois at Urbana-Champaign, Illinois State University
Poster Presentation	Single Molecule Techniques to Study Colocalization and protein-protein Interactions in Normal and cancer Cells	Tapasree Roy Sarkar, Leo Varghese and Dr. Joseph Irudayaraj (Advisor)	Agricultural and Biological Engineering and Bindley Biosciences Center, Purdue University, West Lafayette, IN 47907
Student Poster Competition	Policosanols Content in Switchgrass as a Function of Plant Development	1-Nirmal Uppugundla, 1-Sathya Vandhana Ravindranath, 1- Danielle Julie Carrier,2- Jackson O.Lay, 3-Edgar C.Clausen, 4-Mark Wilkins, 5-Yanqi Wu and 6-Charles West	1-Department of Biological and Agricultural Engineering, University of Arkansas, Fayetteville, Arkansas 72701, 2-Department of Chemistry, University of Arkansas, Fayetteville, Arkansas 72701, 3-Ralph E. Martin Department of Chemical Engineering, University of Arkansas
Presentation Competition	Bioavailability and Effects of Polyunsaturated Fatty acids on Cultured Carcinoma Cells	Cheng-Yi Kuan, Meidui Dong, Terry H.Walker	Biosystems Engineering, Clemson University
Presentation Competition	A Comparison of Protein Secretion in Suspended Cell and Immobilized Reactors	Jason Brown, Steve Broby, Tanya Butt	Utah State University
Student Poster Presentation Competition	Bioreporter sol-gel materials for the detection of toluene.	Shuai Zhang ^{1,2} , Jianxiu Zhao ^{1,2} , Sabrina Jedlicka ^{1,2} , William McLamb ³ , Jay Garland ³ , Jenna Rickus ^{1,2,4}	1 Department of Agricultural and Biological Engineering, Purdue University, 2 Physiological Sensing Facility at the Bindley Bioscience Center, 3 Dynamac Corporation, Kennedy Space Center, 4 Weldon School of Biomedical Engineering
Presentation Competition	Bioplastics: Sustainable Production Using Biodiesel By-Product	Daniel Nelson, Elisabeth Linton, Dr Ron Sims	Utah State University
Student Poster Presentation Competition	Bio-Impedance Multi-Sensor Array to Test Cell Response in Real-Time	Dusti McEwen ¹ , Erick Griffiths ¹ , Greg Olsen ¹ , Dr. Anhong Zhou ¹ , Dr. Tim Gilbertson ²	1Department of Biological Engineering and Irrigation Engineering, Utah State University, Logan, UT; 2Department of Biology, Center for Advanced Nutrition, Utah State University, Logan, UT
Student Poster Presentation Competition	Equine Upper Airway: In Vitro Computational Model for Turbulent Airflow and Treatment Planning for Laryngoplasty	Vineet Rakesh, Ashim K. Datta, Normand G. Ducharme	Department of Biological and Environmental Engineering, Department of Biological and Environmental Engineering, Department of Clinical Sciences, Cornell University
Presentation	Endograft Fixation	Adnan Mustafic, Jennifer Capra	University of Missouri
Student Poster Presentation Competition	Effects of Lipid Composition on the Detection of Listeriolysin O in Food Matrices	Catherine S. Cantley (1,3), Jenna L. Rickus (1,2,3)	(1) Department of Agricultural and Biological Engineering (2) Weldon School of Biomedical Engineering (3) Physiological Sensing Facility at the Bindley Bioscience Center; Purdue University
Presentation Competition	Development of an Oxidatively and Thermally Stable Soybean Oil (for lubricant applications)	Saroj Kumar Jha, Sandun Fernando, Eugene Columbus, Tingyu Li	Department of Agricultural and Biological Engineering, MSU, MS
Presentation Competition	Cyclic strain inhibits inflammatory activation of valvular interstitial cells via the actin filaments	Carol Andrea Pregonero	Pooja Kothari, Scott Metzler and James Warnock Ph.D.
Presentation	Chondroinduction of Mesenchymal Stem Cells	Ali Borazjani, Steven H. Elder, Ph.D	Mississippi State University

Student Poster Presentation Competition	QCM Sensor for Volatile Organic Compound Detection	Erick Griffiths ¹ , Robert Gardner ^{1,2} , Dr. James Burns ² , and Dr. Anhong Zhou ²	¹ Department of Biological Engineering and Irrigation Engineering, Utah State University, Logan, UT, ² Health Management Focus Group, R&D Laboratory ATK Launch Systems, Brigham City, UT
Presentation Competition	Photobioreactor for Production of Biodiesel from Microalgae	Stephen Merrigan, Pete Zemke, Dan Dye, Ronald Sims, Byard Wood, Robert Ward	Biological & Irrigation Engineering Department, Utah State University
Presentation Competition	Pentachlorophenol Biotransformation in Continuous Flow Reactors	Keith Albretsen, Ron Sims, Charles Miller, and Anne Anderson	Utah State University
Student Poster Presentation Competition	Na ⁺ ve Bayesian Classification Approach to Diagnosing Polycystic Ovarian Syndrome from SELDI TOF MS Blood Serum Protein Mass Spectra	Jonathan P. Newman, Craig Laramee Ph.D.	State University of New York at Binghamton Innovative Technologies Complex
Presentation Competition	Multiplex DNA Detection Using Non-Fluorescent Raman Labels on Nanoparticles	Lan Sun and Joseph Irudayaraj	Department of Agricultural and Biological Engineering, Purdue University
Student Poster Presentation Competition	Multiphase, porous media modeling of frying process with non-equilibrium evaporation formulation	Amit Halder, Ashim Datta	Biological and Environmental Engineering, Cornell University
Student Poster Presentation Competition	Measurement of Trans-cellular Calcium Fluxes During Gravity Sensing Using an In-Silico Cell Electrophysiology Lab-on-a-chip	A. ul Haque ^(1,2) , M. Rokkam ^(1,3) , A. R. DeCarlo ^(1,2) , S. T. Wereley ⁽⁴⁾ , S. J. Roux ⁽⁵⁾ , D. M. Porterfield ^(1,2,6)	⁽¹⁾ Bindley Bioscience Centre, ⁽²⁾ College of Ag. & Bio. Eng., ⁽³⁾ College of Elec. & Comp. Eng., ⁽⁴⁾ College of Mech. Eng., Purdue University, West Lafayette, IN, ⁽⁵⁾ Molecular, Cellular & Developmental Biol., Univ. of Texas, Austin, TX, ⁽⁶⁾ Dept. of Horticult
Presentation Competition	Bacterial Relay Race	Jon Badalamenti, Lucien Weiss, Chris Buckno, Lane J. Weaver, Tony Tascone	Penn State University
Student Poster Presentation Competition	Kinetic and Efficacy Analysis of RNA Interference in Stably and Transiently Expressing Cell Lines	Jan Ma	School of Biological and Environmental Engineering, Department of Biomedical Engineering, Cornell University
Presentation Competition	In Vivo Blood Vessel Response to Fibrin-Based Biomaterials	Molly Melhem	Student
Presentation	An Optical Glucose Nanobiosensor	Brian Swift, Majed Dweik, and Sheila A. Grant	University of Missouri-Columbia
Student Poster Presentation Competition	Impedance Biosensor Based on a Flow Cell with Double Interdigitated Array Microelectrodes for Detection of Viable Escherichia coli O157:H7 in Growth Medium	Madhukar Varshney and Yanbin Li	University of Arkansas
Presentation Competition	Functional genomic studies of electricity generation by Bacteroides thetaiotaomicron	Zhen He, Eric C. Martens, Jeffrey I. Gordon and Largus T. Angenent	Washington University in St. Louis
Presentation Competition	Extraction of Saponins from Albizia Julibrissin Bark Using Organic Solvents	Abigail Engelberth, Danielle J. Carrier, Edgar Clausen	University of Arkansas
Presentation Competition	Agarose entrapped Gold Nanoparticles for the Crosslinking of Collagen: A Comparison Study	Amanda K. White, Corey R, Costello, Dr. Sheila A. Grant	Department of Biological Engineering, University of Missouri-Columbia, Columbia MO, 65211

Presentation Competition	Investigation of the Mechanical Strength of Explanted Polypropylene Hernia Meshes	Costello, K.P., McFarland, K.L., Grant, D.A., Costello, C.R., Grant, S.A.	Dept. of Biological Engineering, University of Missouri-Columbia
Presentation Competition	Extracting Lipids from Chlorella vulgaris Algae as a Source for Biodiesel Fuel	Darryl Jones	Clemson University Agricultural and Biological Engineering
Student Poster Presentation Competition	Development of Hyaluronic Acid Gels as Resorbable Implant Materials	David Hoyt ¹ , Neil Etherington ¹ , Anne Anderson ² , David Britt ¹ , Bryon Wright ³ , Devin Horton ⁴ , Albert Park ⁴ , Aleks Skarda ⁵ , Glenn Prestwich ⁵	(1) Department of Biological Engineering, Utah State University
Student Poster Presentation Competition	Self-Referencing Optrode Technology for Non-Invasive Measurement of Biophysical Oxygen Flux and Physiological Status of Insect Eggs	M.R. Chatni (1,2) , D.E. Maier (2), D.M. Porterfield (1,2,3,4)	(1) Bindley Bioscience Center - Physiological Sensing Facility, (2) Dept of Agricultural and Biological Engineering, (3) Dept of Horticulture and Landscape Architecture, (4) Weldon School of Biomedical Engineering, (All these affiliations are with Purdue
Presentation Competition	Bioavailability and Biodegradation of MTBE and TBA in Hyporheic Zone Soils	Rachelle Hartle, Mark H. Greenwood, Dr. Ronald C. Sims	Utah State University, Department of Biological and Irrigation Engineering
Presentation Competition	Bioaugmentation of Anaerobic Culture with C. cellulovorans for Digestion of Onion Wastes	Rowena T. Romano, Ruihong Zhang	University of California, Davis
Student Poster Presentation Competition	Study of Opto-electronic Signatures of Nanostructure-DNA Ensembles on Semi-rigid Substrates	Milana Vasudev, Jianyong Yang, Yang Li, Mitra Dutta, Michael A. Stroschio	University of Illinois at Chicago
Student Poster Presentation Competition	Solving the Pancake Problem with a Bacterial Computer	Kelly J. Malloy ¹ , Todd T. Eckdahl ¹ , Adam D. Brown ¹ , Trevor L. Butner ¹ , Lane H. Heard ¹ , Eric L. Jessen ¹ , Brad J. Ogden ¹ , Jeff Poet ² , Marian L. Broderick ² , A. Malcolm Campbell ³ , Karmella A. Haynes ³ , Laurie J. Heyer ⁴ , Lance Harden ⁴ , Sabriya Rosemond ^{3,5} , Sama	¹ Biology Department, ² Mathematics Department, Missouri Western State University; ³ Biology Department, ⁴ Mathematics Department, Davidson College; ⁵ Biology Department Hampton University
Student Poster Presentation Competition	Understanding Microbial Catabolic Diversification- An Investigation of PAH Microbial Degradation for Bioremediation	Kirsten Sims, Alan Okada	Gonzaga University, Biology Department. University of California San Diego Biology Department.
Presentation Competition	The Impact of Melting and Evaporation of Nanosized Particles on Biological Technology	E. Hawes, J.T. Hastings, C. Crofcheck, M.P. Menguc	University of Kentucky
Presentation Competition - Moved	A Novel Approach for Bio-Oil Upgrading Based on Oxygen Transfer Catalysis	Courtney Fisk, Czarena Crofcheck, Mark Crocker	University of Kentucky