

42nd Southern Biomedical Engineering Conference 2026
Hilton New Orleans, Airport, Metairie, LA

Session 1: Biomedical Engineering - 1

Session Chair: Catherine Ambrose

Co-Chair: Neda Habibi

Room#	Session 1: Biomedical Engineering - 1 Session Chair: Catherine Ambrose Co-Chair: Neda Habibi			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
43	8:45	1-1	Computational Modeling of Bur-Bone Interaction and Thermal Response in Sinus Surgery <u>Thoai Nguyen</u> ¹ , Alain Kassab ¹ , Alexandra Schonning ² ¹ University of Central Florida, ² University of North Florida	Thoai Nguyen
29	9:00	1-2	- Histopathological Progression of Hepatic Architecture Disruption in a Diabetic Model: A Comparative Study of Cellular Degeneration. <u>Nabeela Ali</u> ¹ , Maricica Pacurari ¹ ¹ RCMI Center for Health Disparities Research, Jackson State University, Jackson, MS	Nabeela Ali
10	9:15	1-3	Geometry Over Material: Biomimetic Inspiration and Unexpected Cross-Sectional Findings in FEA Based Structural Optimization of an Upper Limb Exoskeleton Frame <u>Matt Liqua</u> ¹ , Blythe Seraphim ¹ , Garrett Murdock Murdock ¹ , Thomas Dozier ¹ , Jackson Kitchens ¹ ¹ Georgia Southern University	Matt Liqua
32	9:30	1-4	Engineering Equity: Low-cost Development of a Female Crash Test Dummy <u>Ellie Lin</u> ¹ , <u>Ellen Zulkarnain</u> ¹ ¹ University of California, Los Angeles	Ellie Lin, Ellen Zulkarnain
86	9:45	1-5	Effects of Sequential Sub-Threshold Impulse and Oscillatory Loading on Viability and Morphological Changes in Human Microglial Cell Lines <u>Sumaya Sharmin</u> ¹ , Ashfaq Adnan ¹ ¹ The University of Texas at Arlington	Sumaya Sharmin
37	10:00	1-6	Removal of Microplastics from Industrial Water Using Chitosan-Coated Textile Lint:	Nishat Sarmin Rupanty,

			A Sustainable Approach to Wastewater Remediation <u>Nishat Sarmin Rupanty¹, Vladimir Reukov²</u> ¹ Master's Student, ² Assistant Professor	Vladimir Reukov
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Session 2: AI Applications in Healthcare - I

Session Chair: Subhajit Chakrabarty

Co-Chair: Eunsoo Yoo

Room#	Session 2: AI Applications in Healthcare - I Session Chair: Subhajit Chakrabarty Co-Chair: Eunsoo Yoo			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
122	8:45	2-1	Machine Learning Guided Optimization of 3D Printed Tablets <u>Samrat Choudhury¹</u> , Mohammed Maniruzzaman ² ¹ Department of Mechanical Engineering, University of Mississippi, ² School of Pharmacy, University of Mississippi	Samrat Choudhury
114	9:00	2-2	Simulated Minds: AI and the Illusion of Consciousness <u>Lillion Hamil¹</u> , Kenneth Butler ² , Hamed Benghuzzi ³ , Michelle Tucci ² , Gary Hamil ^{1,2} ¹ Belhaven University, ² University of MS Medical Center, ³ Jackson State University	Lillion Hamil
108	9:15	2-3	Acoustic Feature-Based Machine Learning Detection of Alzheimer's Disease from Natural Speech <u>Pranav Srinivasan¹</u> , Advik Mishra ¹ , Feng Liu ¹ ¹ Stevens Institute of Technology	Pranav Srinivasan, Advik Mishra, Feng Liu
118	9:30	2-4	Using AI to Link Differentially Methylated Regions to Symptom Heterogeneity in Autism Spectrum Disorder <u>Aidan O'Maille¹</u> ¹ Towson University	Aidan O'Maille
104	9:45	2-5	Prediction of Alzheimer's Disease using Multimodal Data <u>Devesh Sarda¹</u> , Udaysinh Rathod ¹ ¹ Louisiana State University Shreveport	Devesh Sarda, Udaysinh Rathod
57	10:00	2-6	A Reproducible AI-Driven Framework for Multi-Group Gene Expression and Pathway Analysis <u>Clever Nyengerai¹</u> , Maricica Pacurari ¹	Clever Nyengerai

			¹ Jackson State University	
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Session 3: Molecular Design of Functional Organic Biomaterials

Session Chair: Urara Hasegawa

Co-Chair: Rupesh Kandel

Room#	Session 3: Molecular Design of Functional Organic Biomaterials			
	Session Chair: Urara Hasegawa			
	Co-Chair: Rupesh Kandel			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
94	10:30	3-1	Developing Novel Polymeric Materials for Biomedical Applications <u>Sharon Hamilton</u> ¹ ¹ Ouachita Baptist University	Sharon Hamilton
76	10:45	3-2	Influence of Elastin-Like Polypeptide Chain Length on Environmentally Responsive QCM Sensor Interfaces <u>Olivia Bridges</u> ¹ , Amol Janorkar ¹ , Anna Funderburg ¹ , Sheetal Chowdhury ¹ , Jared Cobb ² ¹ University of Mississippi Medical Center, ² U.S. Army Engineer Research and Development Center	Olivia Bridges
120	11:00	3-3	Elucidating versatile strategies to design synthetic lipids <u>Alejandro Ramirez</u> ¹ , Titilayo Oluwole ¹ , Jimmy Lawrence ¹ ¹ Louisiana State University	Alejandro Ramirez
107	11:15	3-4	Designer peptide-based supramolecular polymer for biomedical applications <u>Tristan Clemons</u> ¹ ¹ University of Southern Mississippi	Tristan Clemons
30	11:30	3-5	Additive Manufacturing of Multi-Stimuli Responsive Shape Memory Polymer for Biomedical Applications. <u>Raj Kumar Pittala</u> ¹ , Sravya Pilla ² , Melanie ecker ³ , Akhila joy ^{4, 5} , Neha Pramod Davange ⁶ , Xiao Li ⁵ , Marc Anthony Torres ³ ¹ University of North Texas, Department of Biomedical Engineering, ² Texas academy of mathematics and science, University of North Texas, ³ Department of Biomedical Engineering, University of North Texas, ⁴ Materials science and Engineering, ⁵ Materials science and engineering, University of North	Raj Kumar Pittala

			Texas, ⁶ Department of chemistry, University of North Texas	
14	11:45	3-6	Ionic Liquid Coated PEG-PLGA Nanoparticles for Transporter-Independent Brain Delivery of Thyroid Hormone (Liothyronine) via Red Blood Cell Hitchhiking <u>Hena Gain</u> ¹ ¹ University of Mississippi	Hena Gain

Session 4: Neuroscience

Session Chair: Lir-Wan Fan

Co-Chair: Deepak Yi Pang

Room#	Session 4: Neuroscience Session Chair: Lir-Wan Fan Co-Chair: Yi Pang			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
90	10:30	4-1	Simulation of a Butterfly Semi-Open Shunt Tip Geometry for Ventricular Flow Optimization <u>Pranavi Paudel</u> ¹ , Gehendra Sharma ¹ , Mohammed Elmellouki ² , Michael Murphy ¹ , Eromosle Eigbe ¹ , Shanti Bhushan ¹ , <u>Raheleh Miralami</u> ¹ ¹ Mississippi State University, ² Mississippi Valley State University	Pranavi Paudel, Raheleh Miralami
67	10:45	4-2	Maternal immune activation alters fetal and neonatal microglia phenotypes and disrupts neurogenesis in mice <u>Yi Pang</u> ¹ , Shuying Lin ¹ , Kathleen Carter ¹ , Lir-Wan Fan ¹ ¹ University of Mississippi Medical Center	Yi Pang
88	11:00	4-3	Neuropeptide Y Y1 receptor antagonist reduces maternal inflammation and reduced-uterine perfusion pressure-induced placental efficiency reduction and fetal growth restriction <u>Tyra Lockett</u> ¹ , Jonathon Lee ¹ , Almia Valentine ¹ , Ashya Richardson ¹ , McKenzie Henson ¹ , Norma Ojeda ² , Susana Salazar Marocho ³ , Alexandre da Silva ⁴ , Michelle Tucci ⁵ , Lir-Wan Fan ¹	Tyra Lockett
93	11:15	4-4	Explainable machine learning of neonatal LPS exposure-enhanced adult methamphetamine-induced reinstated	Jonathan W Lee

			<p>behavioral sensitization and dopamine transporter changes</p> <p><u>Jonathan W Lee</u>¹, Kuo-Ching Wang², Norma B Ojeda², Haifeng Wang³, Han-Sun Chiang⁴, Michelle A Tucci⁵, Han-Chi Wei⁴, Asuka Kaizaki-Mitsumoto⁶, Sachiko Tanaka⁷, Nilesh Dankhara¹, Lu-Tai Tien⁴, Lir-Wan Fan⁸</p> <p>¹Department of Pediatrics, Division of Newborn Medicine, University of Mississippi Medical Center, Jackson, MS 39216, USA, ²Department of Anesthesiology, Shin Kong Wu Ho-Su Memorial Hospital, Taipei City, Taiwan, ³Department of Industrial & Systems Engineering, Auburn University, Auburn, AL 36849, USA, ⁴School of Medicine, Fu Jen Catholic University, Xinzhuang Dist, New Taipei City 24205,, ⁵Department of Anesthesiology, University of Mississippi Medical Center, Jackson, MS 39216, USA, ⁶Department of Pharmacology, Toxicology & Therapeutics, Division of Toxicology, School of Pharmacy, Showa University, Shingawa-ku, Tokyo 142-8555, Japan, ⁷Center for Research and Development in Pharmacy Education, School of Pharmacy, Nihon University, Funabashi, Chiba 274-8555, Japan, ⁸Department of Pediatrics, Division of Newborn Medicine, University of Mississippi Medical Center</p>	
92	11:30	4-5	<p>Neonatal inflammation induces ADHD-like behaviors and affects homeostatic responses to sleep disruptions in adolescent rats with sex-specific effects: machine learning-based analysis</p> <p><u>Lir-Wan Fan</u>¹, Jonathan Lee¹, Silu Lu¹, Joseph Crosby¹, Charles Matheny¹, James Shaffery², Norma Ojeda³, Haifeng Wang⁴, Md Rokibul Hasan⁵, Vignesh Nayak⁶, Michelle Tucci⁷, Yi Pang¹, Pratim Niyogi⁵, Yu-Ching Tu⁸, Lu-Tai Tien⁹</p> <p>¹Department of Pediatrics, Division of Newborn Medicine, University of Mississippi Medical Center, Jackson, MS 39216, USA, ²Department of Psychiatry and Human Behavior, Animal Behavior Core, University of Mississippi Medical Center, Jackson, MS 39216, USA, ³Department of Advanced Biomedical Education, University of Mississippi Medical Center, Jackson, MS 39216, USA, ⁴Department of Industrial & Systems Engineering, Auburn University, Auburn, AL 36849, USA, ⁵Department of Data Science, University of Mississippi Medical</p>	Lir-Wan Fan

			Center, Jackson, MS 39216, USA, ⁶ Department of Pediatrics, Division of Pediatric Pulmonary, University of Mississippi Medical Center, Jackson, MS 39216, USA, ⁷ Department of Anesthesiology, University of Mississippi Medical Center, Jackson, MS 39216, USA, ⁸ Department of Long-Term Care Management, Chung Hwa University of Medical Technology, Rende Dist, Tainan City, 71703, Taiwan, ⁹ School of Medicine, Fu Jen Catholic University, Xinzhuang Dist, New Taipei City 24205, Taiwan	
124	11:45	4-6	Improving Graphics in Scientific Communication in Neuroscience Research <u>Chung-Fan Chang</u> ¹ , Jonathan Lee ² , Lir-Wan Fan ² ¹ Visual Arts Program, School of Arts & Humanities, Stockton University, Galloway, NJ 08205, USA, ² Department of Pediatrics, Division of Newborn Medicine, University of Mississippi Medical Center, Jackson, MS 39216, USA	Chung-Fan Chang

Workshop and Lunch

12:00-1:00 TEAM SCIENCE

Tristan Clemons, PhD,

Session 5: Drug Delivery at the Nanoscale - I

Session Chair: Santosh Aryal

Co-Chair: Eunsoo Yoo

Room#	Session 5: Drug Delivery at the Nanoscale - I			
	Session Chair: Santosh Aryal			
	Co-Chair: Eunsoo Yoo			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
130	1:45	5-1	Screening Self-assembling Peptides in 3D Cancer Spheroids <u>Robert Powell</u> ¹ , <u>Neda Habibi</u> ¹ ¹ University of North Texas	Robert Powell, Neda Habibi

12	2:00	5-2	Choline-Based LAT1 Substrate Ionic Liquids as potential Drug Delivery Enhancers <u>Mercedes Pride</u> ¹ , Eden Tanner ¹ ¹ University of Mississippi	Mercedes Pride
101	2:15	5-3	Repurposing Liposomal Drug Delivery through Surface Charge and Biogenic Modification with Extracellular Vesicles <u>Anavya Jernigan</u> ¹ , Cesar Aparicio ¹ , Viswanathan Sundaram ¹ , Santosh Aryal ¹ ¹ The Ben and Maytee Fisch College of Pharmacy, The University of Texas at Tyler	Anavya Jernigan
50	2:30	5-4	Computational Chemistry - Inclusive Tools to Study Nanomaterials <u>Jerzy Leszczynski</u> ¹ , Pabitra Samanta ¹ ¹ Jackson State University	Jerzy Leszczynski
20	2:45	5-5	Repurposing Cisplatin into Pt(IV) prodrug with varied lipophilicity for targeted anticancer effect <u>Cesar Aparicio</u> ¹ , Viswanathan Sundaram ¹ , Alisha Upreti ¹ , Santosh Aryal ¹ ¹ The Ben and Maytee Fisch College of Pharmacy, The University of Texas at Tyler	Cesar Aparicio
55	3:00	5-6	The Role of the Cation in Ionic Liquid Facilitated Transdermal Transport <u>Alysha Hunter</u> ¹ ¹ University of Mississippi	Alysha Hunter

Session 6: Biology and Biochemistry

Session Chair: Maricica Pacurari

Co-Chair: Hamed Benghuzzi

Room#	Session 6: Biology and Biochemistry Session Chair: Maricica Pacurari Co-Chair: Hamed Benghuzzi			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
123	1:45	6-1	A novel functional assay to simultaneously measure platelet aggregation and mitochondrial function <u>Railey Mayatt</u> ¹ , Steven Everman ¹ , Gage Sanders ¹ , Blake Littlejohn ¹ , Kristen Carter ² , Ngoc Hoang ¹ , Kristin Edwards ¹ , Matthew Kutcher ¹	Railey Mayatt

			¹ University of Mississippi Medical Center, ² University of Michigan Medical School	
133	2:00	6-2	Nir-1 localizes at plasma membrane in alveolar cells exposed to cadmium <u>Maricica Pacurari</u> ^{1,2} , Nneoma Nwaiwu ¹ ¹ Jackson State University, ² RCMI	Maricica Pacurari
129	2:15	6-3	Engineering Redox-Responsive Biomolecular Condensates from Designer Peptides for Mechanistic Insights and Therapeutic Delivery <u>MALAY MONDAL</u> ^{1,2} , Windfield S. Swetman ^{1,3} , Shazeed-Ul Karim ⁴ , Sabine Shrestha ⁴ , Fengwei Bai Bai ⁴ , Faqing Huang ² , Anant K. Paravastu ⁵ , Tristan D. Clemons ³ , Vijay Rangachari ² ¹ The University of Southern Mississippi, Hattiesburg, Mississippi, USA, ² Department of Chemistry and Biochemistry, School of Mathematics and Natural Sciences, University of Southern Mississippi, Hattiesburg, MS, USA., ³ School of Polymer Science and Engineering, University of Southern Mississippi, Hattiesburg, MS, USA., ⁴ Department of Cell and Molecular Biology, School of Biological, Environmental and Earth Sciences, University of Southern Mississippi, Hattiesburg, MS, USA, ⁵ School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA, USA,	Malay Mondal
126	2:30	6-4	α7-nicotinic acetylcholine receptor activation attenuates IL-13-induced inflammatory responses in BEAS-2B cells <u>Vitoria Caroline Queiroz</u> ¹ , Nathalia Mountouro Pinheiro ² , Amal Al-Shweiky ² , Iolanda De Fátima Lopes Calvo Tibério ¹ , Ayman K. Hamouda ² , Carla Máximo Prado ³ ¹ USP, ² UT-Tyler, ³ UNIFESP	Vitoria Caroline Queiroz
121	2:45	6-5	Development of a Functional Rice-Based Extruded Breakfast Cereal Through Traditional and Modern Milling Approaches for Obesity Management, Blood Glucose Control, and Sustainable Food Systems <u>Dr Annamalai A</u> ¹	Annamalai A

			¹ Pondicherry University Dr. Annamalai A. Professor, Department of Food Science and Technology, School of Life Sciences, Pondicherry University (A Central University), Puducherry, India	
105	3:00	6-6	Network-Guided Prioritization and Structure-Based Drug Repurposing of Rcs Phosphorelay Proteins of Hypervirulent Carbapenem-Resistant <i>Klebsiella pneumoniae</i> <u>Lakshmi PTV</u> ¹ , Annapurna Kumari ¹ , A Annamalai ¹ ¹ Department of Bioinformatics, School of Life Science, Pondicherry University, Pondicherry, India	Lakshmi PTV

Session 7: Wearable Technologies

Session Chair: Albert Manero

Co-Chair: May Abdelaziz

Room#	Session 7: Session Chair: Albert Manero Co-Chair: May Abdelaziz			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
73	3:30	7-1	A Comprehensive Review of a Wearable Centric Game Based Training Program for Prosthetic Arm Use <u>Peter Smith</u> ¹ , Matt Dombrowski ¹ , John Sparkman ¹ , Albert Manero ¹ ¹ UCF Limbitless Solutions	Peter Smith
46	3:45	7-2	Assessing the Effects of Multiplayer Gameplay with a Wearable EMG Flex Controller for Prosthesis Training <u>Sophie Bennett</u> ¹ , Joaquin Royer ¹ , Maanya Pradeep ¹ , Abrianna Lalle ¹ , Delaney Gunnell ¹ , Ethan Bell ¹ , Pavan Senthil ¹ , Arina Nemat ¹ , Peter Smith ¹ , Matt Dombrowski ¹ , John Sparkman ¹ , Albert Manero ¹ ¹ University of Central Florida, Limbitless Solutions	Sophie Bennett
33	4:00	7-3	Evaluating the Suitability of a Circumferentially Arranged Haptic Feedback System for Future Application in Upper Limb Prostheses	John Ilemsky, Sophie Bennett

			<p><u>John Ilemsky</u>^{1,2}, Henry Wong^{1,2}, Andrew Hansen^{1,2}, <u>Sophie Bennett</u>^{1,2}, Arina Nemati^{1,2}, Stephania Castro³, Kara Dell⁴, George DeLong⁵, Paul Khoury⁶, Jordan Dalton⁷, Pavan Senthil¹, Vivian Rivera¹, John Sparkman^{1,2}, Jacqueline Flores-Otero¹, Damla Turgut¹, Albert Manero^{1,2}</p> <p>¹University of Central Florida, ²Limbitless Solutions, ³Georgia Institute of Technology, ⁴Mercer University, ⁵University of North Carolina Asheville, ⁶Rensselaer Polytechnic Institute, ⁷Hope College</p>	
77	4:15	7-4	<p>Evaluating Upper-Limb Prosthesis Biomechanical Design and Training Strategies towards Optimized Everyday Task Performance</p> <p><u>Mckenzie John</u>^{1,2}, Edith Herndon^{1,2}, Macie Sullivan^{1,2}, Sophie Bennett^{1,2}, Andrew Hansen^{1,2}, John Sparkman^{1,2}, Jacqueline Flores-Otero¹, Peter Smith^{1,2}, Matt Dombrowski^{1,2}, Albert Manero^{1,2}</p> <p>¹University of Central Florida, ²Limbitless Solutions</p>	Mckenzie John
56	4:30	7-5	<p>Efficacy of Therapeutic Gaming System After Stroke Stabilization in the Acute Setting- Design of A Pilot Study</p> <p><u>Viviana Rivera</u>^{1,2}, Albert Manero², Jacqueline Flores³, William Freeman⁴, Mark Bowden⁵, Peter Smith⁶, Matt Dombrowski⁷</p> <p>¹University of Central Florida- College of Medicine, ²Limbitless Solutions, University of Central Florida, Orlando, Florida, United States, ³Department of Physical Therapy, University of Central Florida, Orlando, Florida, United States, ⁴Mayo Clinic, Jacksonville, Florida, United States, ⁵Brooks Rehabilitation, Jacksonville, Florida, United States, ⁶Nicholson School of Communication and Media, University of Central Florida, Orlando, FL, United States, ⁷School of Visual Arts and Design, University of Central Florida, Orlando, Florida, USA;</p>	Viviana Rivera
15	4:45	7-6	<p>Guided Degeneration: Using Generative AI Failure to Inform Early-Stage Wearables Design</p> <p><u>Benjamin Bush</u>¹</p> <p>¹Auburn University</p>	Benjamin Bush

Session 8: Targeting Signaling Pathway in Chronic Disease
Session Chair: Zakaria Abd Elmageed

Co-Chair: Mourad Zerfaoui

KEYNOTE: Debasis Mondal

Room#	Session 8: Targeting Signaling Pathway in Chronic Disease Session Chair: Zakaria Abd Elmageed Co-Chair: Mourad Zerfaoui			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
45 Keynote	3:30	Keynote	45 - Promising anticancer potential of the nutraceutical supplements, dimethyl sulfoxide (DMSO), methyl sulfonyl methane (MSM) and ethyl pyruvate (EP), in specific DMEP formulations <u>Debasis Mondal</u> ¹ ¹ DeBusk College of Osteopathic Medicine	Debasis Mondal
4	4:00	8-1	4 - Small ubiquitin-like modifier protein (SUMO) pathway blockade for the treatment of aggressive phenotypes of prostate cancer <u>Maysoon Makhlof</u> , Berony Geneste, Zakaria Abd Elmageed Edward Via College of Osteopathic Medicine (VCOM), Monroe, LA	Maysoon Makhlof
136	4:15	8-2	136 - The Role of Transient YAP Signaling in Liver Regeneration <u>Karel Alcedo</u> ¹ ¹ University of Mississippi	Karel Alcedo
91	4:30	8-3	91 - Loss of the Aryl Hydrocarbon Receptor (AhR) Promotes Cancer Cell Resistance to BRAFV600E Targeted Therapies <u>Mourad Zerfaoui</u> ¹ , Youssef Errami ² ¹ Emory University, ² Baylor College of Medicine	Mourad Zerfaoui
87	4:45	8-4	87 - Blood Platelet RNA Signatures in Breast Cancer Reveal Novel Drug Repurposing Candidates via CTD Inference Network and Open Targets Integration <u>Md Mashfiqur Rahman</u> ¹ , Sharmin Nahar ¹ , <u>Kailash Dhaka</u> ¹ , <u>Md Mostafijur Rahman</u> ¹ , Khairul Anam ² , Sonalika Ray ³ , Urska Cvek ¹ ¹ Louisiana State University Shreveport, ² Pacific State University, ³ Louisiana State University	Md Mashfiqur Rahman, Kailash Dhaka, Md Mostafijur Rahman

NOLA Downtown

End of Friday

Saturday Oral Sessions

Session 9: Synthesis and Applications of Polymeric Hydrogels

Session Chair: Amol Janorkar

Co-Chair: Jimmy Lawrence

Room#	Session 9: Synthesis and Applications of Polymeric Hydrogels Session Chair: Amol Janorkar Co-Chair: Jimmy Lawrence			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
110	8:30	9-1	Development of a Hydrogel-Based Osteoarthritis Model for Evaluating MMP13 Inhibitors <u>Melanie Ecker</u> ¹ ¹ University of North Texas	Melanie Ecker
99	8:45	9-2	Tunable Thermogels via Controlled Assembly of Patchy Micelles <u>Urara Hasegawa</u> ¹ ¹ Pennsylvania State University	Urar Hasegawa
95	9:00	9-3	Bisphosphonate-Crosslinked Iontropic Hydrogels as an Alternative to Alginate Systems <u>Andre van der Vlies</u> ¹ , <u>Urara Hasegawa</u> ¹ ¹ The Pennsylvania State University	Andre van der Vlies
36	9:15	9-4	Thiol-Clickable Gelatin-Based Hydrogels for 3D Cell Culture <u>Sara Swank</u> ¹ , <u>Melanie Ecker</u> ¹ , <u>Peter VanNatta</u> ¹ ¹ University of North Texas	Sara Swank
5	9:30	9-5	Non-invasive eyedrop based delivery system for the treatment of retinoblastoma <u>Daniel Alday</u> , <u>Renee Carter</u> , <u>Carlos Astete</u> , <u>Cristina Sabliov</u> , <u>Qi Cai</u> Louisiana State University	Daniel Alday
28	9:45	9-6	Influence of Solvent Selection on GelMA Hydrogel Properties: Implications for Preparation and Performance	Sajal Chakraborty

			<p><u>Sajal Chakraborty</u>¹, <u>Izabele Heyward</u>², <u>Salil Desai</u>², <u>Mohammad A Azad</u>³</p> <p>¹Department of Applied Science and Technology, North Carolina A&T State University, ²Industrial and Systems Engineering Department, North Carolina A&T State University, ³Department of Chemical, Biological & Bioengineering, North Carolina A&T State University</p>	
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Session 10: AI Applications in Healthcare - II

Session Chair: Subhajit Chakraborty

Co-Chair: Kenneth Butler

Room#	Session 10: AI Applications in Healthcare - II			
	Session Chair: Subhajit Chakraborty			
	Co-Chair: Kenneth Butler			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
66	8:30	10-1	<p>AI, Neurodegenerative Diseases and BCI's 4 Examples: Ethical and Anticipated Ethical Issues</p> <p><u>Richard Wilson</u>¹, <u>Chloe Bourne</u>¹</p> <p>¹Towson University</p>	Richard Wilson, Chloe Bourne
26	8:43	10-2	<p>Feasible Diagnostic Region Exploration for Edge-Oriented Melanoma Screening Decision Support</p> <p><u>Chung Hyun Goh</u>¹</p> <p>¹The University of Texas at Tyler</p>	Chung Hyun Goh
19	8:56	10-3	<p>Classification and clustering of mortality outcomes in colorectal cancer on long panel PLCO data</p> <p><u>UDAYSINH Rathod</u>¹, <u>Devesh Sarada</u>¹, <u>Subhajit Chakraborty</u>¹, <u>Zhao Qingsong</u>¹</p> <p>¹Isus</p>	Udaysinh Rathod
18	9:09	10-4	<p>Reducing Low-Yield Colonoscopy using Machine Learning</p> <p><u>Ochiabuto Jideofor</u>^{1,2}</p> <p>¹Graduate Student, ²Louisiana State University Shreveport</p>	Ochiabuto Jideofor
152	9:22	10-5	<p>Developing Self-Supervised Continual Machine Learning for Adaptive Pediatric Myoelectric Control</p> <p><u>Armelle Varillas</u>^{1,2}, <u>John Sparkman</u>², <u>Damla Turgut</u>², <u>Albert Manero</u>²</p>	Armelle Varillas

			¹ Johns Hopkins University, ² University of Central Florida	
6	9:35	10-6	Let's build a working model to replace radiologists with AI <u>David Dinhofer</u> Advanced Imaging and Informatics 375 Paramus Rd, Paramus, NJ	David Dinhofer
128	9:48	10-7	Machine Learning-Based Detection of Parkinson's Disease Using Smartwatch Motion Sensor Data <u>Jamya Peoples</u> ¹ , Anshuman Jaiswal ¹ , Victor Bii ¹ , Deepa Reghu ¹ , Charles Bland ¹ ¹ Mississippi Valley State University	Jamya Peoples

Session 11: Medical Devices and Implants

Session Chair: Melanie Ecker, *University of North Texas*

Co-Chair: Yufeng Dong,

Room#	Session 11: Medical Devices and Implants			
	Session Chair: Melanie Ecker Co-Chair: Yufeng Dong			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
51	10:15	11-1	Tissue Engineered Bioactive Scaffolds for Spinal Fusion Applications <u>Yufeng Dong</u> ¹ , Alan Ogden ¹ , Giovanni Solitro ¹ , Patrick Massey ¹ ¹ LSU Health-Shreveport	Yufeng Dong
89	10:30	11-2	Utility of 3D-Printed Device for D50 Injections: Preventing Gastrostomy Tube Leakage <u>Jensen Crifasi</u> ¹ , Madeline Gautreaux ¹ , Cole Evensky ² , Dominic Lincoln ¹ , Kiley Pulliam ¹ , Steven Alexander ¹ , Giovanni Solitro ¹ , Donald Sorrells ¹ ¹ LSU Health Science Shreveport, ² Willis Knighton Medical System	Jensen Crifasi
41	10:45	11-3	Surface Engineering of PEEK and PEKK Implants for Enhanced Cellular Response <u>Shruti Chhabra</u> ¹ , Michelle Tucci ² , Lir-Wan Fan ³ , Susana Salazar Marcho ¹ , Randall Scott Williamson ¹ ¹ Biomedical Materials Science Department, University of Mississippi Medical Center, ² Department of Anesthesiology, University of Mississippi Medical Center, ³ Department of	Shruti Chhabra

			Pediatric Neonatology, University of Mississippi Medical Center	
25	11:00	11-4	CFD/FSI-Guided Optimization of a Low-Resistance Ventilator Inline Mixing Chamber for Uniform Aerosol Medication Delivery Mason Smith ¹ , <u>Chung Hyun Goh</u> ¹ ¹ The University of Texas at Tyler	Chung Hyun Goh
60	11:15	11-5	Stem Design Over Cerclage: A Biomechanical Determinant of Intraoperative Fracture Risk in Osteoporotic THA Ifeoluwapo Bankole ¹ , Hongjia He ¹ , Steven Schroder ¹ , <u>Nicholas Dunbar</u> ¹ ¹ McGovern Medical School at UTHealth	Nicholas Dunbar
61	11:30	11-6	Impact of Ramus Fracture Obliquity and Screw Configuration on Pelvic Stability: A Finite Element Study Kathryn Barth ¹ , Hongjia He ¹ , Patrick Kellam ¹ , <u>Nicholas Dunbar</u> ¹ ¹ McGovern Medical School at UTHealth	Nicholas Dunbar

Session 12: Biomedical Education and Research Training

Session Chair: Judy Gordy *University of Mississippi Medical Center*

Co-Chair: Joseph Cameron, *Jackson State University*

KEYNOTE: Jamil Ibrihim

Room#	Session 12: Biomedical Education and Research Training			
	Session Chair: Judy Gordy Co-Chair: Joseph Cameron			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
119 (Keynote)	10:15	Keynote	Applying ANCOVA and Other Statistical Tools in Quasi-Experimental Research Design: Evidence from a Flipped Classroom Study <u>Jamil Ibrahim</u> ¹ , Ibrahim Ibrahim ² , Saja Ibrahim ³ , Waseem Ibrahim ⁴ , Hidaya Ibrahim ⁵ ¹ University of Mississippi Medical Center, ² D Implant Prosthodontic Center, ³ University of Jordan Medical School, ⁴ Arab American University, School of Dentistry, ⁵ Al-Najah University, School of Pharmacy	Jamil Ibrahim

62	10:45	12-1	<p>Integrating Self-Care Practices into Undergraduate Nursing Education to Address Workforce Well-Being - A Mixed-Methods Study</p> <p><u>Xiaoshan Gordy</u>¹, Chelsey Andries¹, Deidra Morgan¹, Jacob Daniels¹, Jennifer Hargett¹, Kimberly Douglas¹, Meagan Cherry¹, Robin Parish¹, Xiaoqian Zhu¹, Chanthanisha Patterson¹, Seena Haines¹</p> <p>¹University of Mississippi Medical Center</p>	Xiaoshan Gordy
35	11:00	12-2	<p>Vertical Integration and Clinical Application for Histology and Anatomy Review Curriculum in a Medical School</p> <p><u>Dongmei Cui</u>¹, William P. Daley¹, Norma B. Ojeda¹</p> <p>¹University of Mississippi Medical Center</p>	Dongmei Cui
134	11:15	12-3	<p>134 - An Oasis is a Data Desert: Incorporating a Genomics Module into an Undergraduate Biology Course</p> <p><u>Chinyere Knight</u>¹</p> <p>¹Department of Biology, College of Arts and Science, Tuskegee University</p>	Chinyere Knight
142	11:30	12-4	<p>142 - The Evolution of Anatomical Sciences Education and Its Implications for Biomedical Engineering</p> <p><u>Edgar Meyer</u>¹</p> <p>¹University of Mississippi Medical Center</p>	Edgar Meyer

12:00-1:15

Plenary Session (Dr. Higginbotham)

Session 13: Drug Delivery at the Nanoscale - II

Session Chair: Kenneth Butler, University of Mississippi Medical Center

Co-Chair: Qi Cai

KEYNOTE: Santosh Aryal

Room#	Session 13: Drug Delivery at the Nanoscale - II Session Chair: Kenneth Butler Co-Chair: Qi Cai			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
7	1:30	Keynote	Extracellular vesicles reengineered with liposomes for targeted drug delivery <u>Santosh Aryal</u> The Ben and Maytee Fisch College of Pharmacy, The University of Texas at Tyler, Tyler, TX	Santosh Aryal
84	2:00	13-1	Novel coformulation of Pembrolizumab and Ultrasound-Targeted Microbubble Modulation Improves Delivery within Tumor Microenvironment and Reduces Systemic Exposure <u>Imani Kirven</u> ¹ , Patrice Penformis ¹ , Muhammad Siddiqui ² , Kenneth Butler ¹ , Richard Roman ¹ , Clayton Larsen ³ , Candace Howard ⁴ , Pier Paolo Claudio ¹ ¹ Department of Pharmacology & Toxicology, University of Mississippi Medical Center, Jackson, MS, 39216, ² University of Mississippi Medical Center, Jackson, MS, ³ Vesselon, Inc., Wilton, CT, 06897, ⁴ Department of Radiology, University of Mississippi Medical Center, Jackson, MS	Imani Kirven
78	2:15	13-2	Improving Shelf life of Therapeutic Microbubbles for Image-guided Cancer Immunotherapy <u>Anbarin Khalid</u> ¹ , Jacques Lux ¹ ¹ UT Southwestern Medical Center	Anbarin Khalid
102	2:30	13-3	Enhancing Tumor Targeting with NK Cell-Derived Hybrid Vesicles: A Proteomic and Functional Study <u>Viswanathan Sundaram</u> ¹ , <u>Alisha Upreti</u> ¹ , Sriyam Joshi ¹ , Cesar Aparicio ¹ , Santosh Aryal ¹ ¹ The Ben and Maytee Fisch College of Pharmacy, The University of Texas at Tyler	Viswanathan Sundaram, Alisha Upreti
75	2:45	13-4	Engineering and Optimization of Polymeric Nanoparticles for Brain Drug Delivery. <u>Afoma Okafor</u> ^{1,2} , Anthony Koo ³ , Joshua Worsham ² , Yeoheung Yun ² , Eunsoo Yoo ² ¹ Applied Science and Technology, North Carolina Agricultural and Technical State University, Greensboro, NC, USA., ² Department of Chemical, Biological and Bioengineering, North Carolina Agricultural	Afoma Okafor

			and Technical State University, Greensboro, NC, USA., ³ College of Engineering, North Carolina State University, Raleigh, NC, USA	
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Session 14: Electrophysiology and Neuromodulation

Session Chair: Deepak Kumbhare, *LSU Health Shreveport*

Co-Chair: Julie Schwertfeger,

KEYNOTE: TBA

Room#	Session 14: Electrophysiology and Neuromodulation Session Chair: Deepak Kumbhare Co-Chair: Julie Schwertfeger			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
xx	1:30	Keynote		
16	2:00	14-1	Rewiring Addiction: Modulation of Brain Networks in Methamphetamine Dependence <u>Greyson Jadwin</u> ¹ , Michael Minamyer ¹ , Bo Wood ¹ , Patrick Patisaul ¹ , Nicholas Mccomb ¹ , Kevin Murnane ¹ , Jamie Toms ¹ , Deepak Kumbhare ¹ ¹ Louisiana State University Health Science Center-Shreveport	Greysom Jadwin
81	2:15	14-2	Assessing the efficacy of tDCS on cognition and stress in stroke patients: A scoping review <u>Niels Dickson</u> ¹ , <u>Julie Schwertfeger</u> ¹ ¹ Louisiana State University Health Sciences Center Shreveport	Niels Dickson, Julie Schwertfeger
53	2:30	14-3	Characterizing Neuronal Spike Activity and EMG Correlates in Patients Undergoing Deep Brain Stimulation <u>Kinan Kasabali</u> ¹ , Ryan Diaz ¹ , Ibraheem Hachem ¹ , Jamie Toms ¹ , Deepak Kumbhare ¹ ¹ Louisiana State University Health Center	Kinan Kasabali
17	2:45	14-4	A Multi-Study sEEG Research Platform for Seizure Prediction and Cognitive Mapping in Drug-Resistant Epilepsy <u>Luke Landry</u> ¹ ¹ LSUHS School of Medicine	Luke Landry

Session 15: Biomedical Engineering - IISession Chair: Melanie Ecker, *University of North Texas*Co-Chair: Donald Sorrells, *Louisiana State University Health Science Center***KEYNOTE: Mohammad Omary**

Room#	Session 15: Biomedical Engineering - II Session Chair: Melanie Ecker Co-Chair: Donald Sorrells			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
54	3:15	Keynote	BEAUTY BEYOND JEWELRY: Genuine vs "Fake-News" Metallo-Intercalation of Glowing Golden-Triangle & Platinum-Chain Phosphors in Polymer Nanocomposites for Dual Bioimaging/Therapeutic Apps <u>Mohammad Omary</u> ¹ , Nur Rabah ¹ , Anna Ilundu ¹ , Bisola Adeyemi ¹ , Gabriel Re Calderon ¹ , Omar Valsson ¹ , Elizabeth Skellam ¹ , Taeyul Choi ¹ ¹ University of North Texas	Mohammad Omary
71	3:45	15-1	Luminescent Perovskite Microfibers for Imaging Applications Suprabhat Paramanick ¹ , Mohammad Alizadeh Poshtiri ¹ , Sampson Gyamerah ¹ , Humayun Ahmad ¹ , Santanu Kundu ¹ , Prabhakar Pradhan ¹ , <u>Mahesh Gangishetty</u> ¹ ¹ Mississippi State University	Mahesh Gangishetty
3	4:00	15-2	Hydrogels and Thiol-ene Microparticles for Antibiotic Release to Treat Osteomyelitis Anna Rourke-Funderburg, Chipo Chapusha, Sheetal Chowdhury, <u>Amol Janorkar</u> Department of Biomedical Materials Science, School of Dentistry, University of Mississippi Medical Center, Jackson	Amol Janorkar
103	4:15	15-3	Vesicle Mediated Wound Healing Study Using Cell Scratch Model In Vitro <u>Madeleine Harris</u> ¹ , Viswanathan Sundaram ¹ , Israel Joshua Santhosh ¹ , Santosh Aryal ¹ ¹ The Ben and Maytee Fisch College of Pharmacy, The University of Texas at Tyler	Madeleine Harris

Session 16: Biomedical Education and Research TrainingSession Chair: Joseph Cameron, *Jackson State University*Co-Chair: Judy Gordy *University of Mississippi Medical Center*

Room#	Session 16: Biomedical Education and Research Training Session Chair: Joseph Cameron Co-Chair: Judy Gordy			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
109	3:15	16-1	AI and DEXA Scans: Ethical Issues and the Role of Anticipatory Ethics <i>Richard Wilson, Mame Diop</i> <i>Towson University</i>	Mame Diop
72	3:30	16-2	Bioethical Implications of Emerging Technologies in Dentistry <i>Paridhi Garg, Tulika Srivastava</i> <i>University of Washington School of Dentistry, Seattle</i>	Paridhi Ghag
151	3:45	16-3	Navigating Ethical Challenges in Bioengineering Research <i>Lillion Hamil¹, Kenneth R. Butler², Gary L. Hami^{1, 2}</i> <i>¹Belhaven University, ²University of Mississippi Medical Center</i>	Lillion Hamil
150	4:00	16-4	Can AI replace a medical doctor? Perspectives of a physician-scientist AI trainer <i>Fred Xavier</i> <i>Texas Christian University</i>	Fred Xavier
149	4:15	16-5	3D Printed Skin and Artificial Intelligence: An Anticipatory Ethical Analysis <i>Ian Holmes, Richard Wilson</i> <i>Towson University</i>	Ian Holmes

4:30-6:00

Poster Session

6:00-9:30

Banquet

End of Saturday

Sunday Oral Sessions

Session 17: Drug Delivery

Session Chair: Farah Deba, *University of Texas at Tyler*

Co-Chair: Ayman Hamouda, *University of Texas at Tyler*

Room#	Session 13: Drug Delivery Session Chair: Farah Deba Co-Chair: Ayman Hamouda			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
22	8:00	17-1	Thiol-ene Microparticle Platform for pH-Activated Release of Doxycycline	Chipo Chapusha

			<p><u>Chipo Chapusha</u>¹, Nicholas McGowan¹, Paige Smith¹, Anthony Hasley¹, Mary Carr², Mary Marquart², Jared Cobb³, Amol Janorkar¹</p> <p>¹Department of Biomedical Materials Science, School of Dentistry, University of Mississippi Medical Center, 2500 N State St, Jackson, MS 39216, ²Department of Cell and Molecular Biology, School of Medicine, University of Mississippi Medical Center, 2500 N State St, Jackson, MS 39216, ³Environmental Laboratory, Engineer Research and Development Center, U.S. Army Corps of Engineers, Vicksburg, MS 39810</p>	
11	8:15	17-2	<p>Reversible, site-specific blood-brain barrier modulation by high-definition transcranial direct current stimulation of piezoelectric nanoparticles.</p> <p><u>Salona Roy</u>¹, Umisha Siwakoti², Daniel Alday¹, Carlos Astete¹, Cristina Sabliov¹, Elisa Castagnola², Qi Cai¹</p> <p>¹Louisiana State University, ²Louisiana Tech University</p>	Salona Roy
8	8:30	17-3	<p>EXPLOITING LICHEN NATURAL PRODUCTS FOR THE DEVELOPMENT OF NOVEL THERAPIES AGAINST TRIPLE-NEGATIVE BREAST CANCER</p> <p><u>Hassan Ebrahim</u></p> <p>Department of Biomedical Sciences, Edward Via College of Osteopathic Medicine, Monroe, LA</p>	Hassan Ebrahim
115	8:45	17-4	<p>NPY Y1 Receptor Antagonism as a Non Hormonal Strategy to Preserve Reproductive Tissue Integrity in an Ovariectomized Rat Model</p> <p><u>Kenneth Butler</u>¹, Michelle Tucci¹, Hamed Benghuzzi², Gary Hamil^{1,3}</p> <p>¹University of MS Medical Center, ²Jackson State University, ³Belhaven University</p>	Kenneth Butler
74	9:00	17-5	<p>Encapsulation of Bacteriophage into Biodegradable Microspheres for Treatment of Orthopaedic Infections</p> <p>Cora Kosnik¹, Analisa Narro², Allison Zieschang³, Raquel Luna¹, Taiwo Oso³, Heidi Kaplan¹, <u>Catherine Ambrose</u>³</p> <p>¹Microbiology and Molecular Genetics, UTHealth, ²Orthopedic Surgery, University of Kentucky, ³Orthopaedic Surgery, UTHealth</p>	Catherine Ambrose

135	9:15	17-6	Development of Silk Protein-Based Drug Delivery System for Lung Cancer Treatment Hyeyoun Cho ¹ , Jaehong Key ¹ ¹ Department of Biomedical Engineering, Yonsei University, Mirae Campus, Wonju, Korea	Jaehong Key
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Session 18: Medical Imaging

Session Chair: David Gordy, *University of Mississippi Medical Center*

Co-Chair: Mohammad Azad

KEYNOTE:

Room#	Session 18: Medical Imaging Session Chair: David Gordy Co-Chair: Mohammad Azad			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
48	8:00	Keynote	Optimizing Imaging Selection in Pediatric Appendicitis: The Role of Body Composition and Anthropometric Measures <u>Nellie Massey</u> ¹ , Mary M. Snyder ¹ , Aubrey R. Smyly M.D. ^{1,2} , Seth T. Lirette Ph.D. ¹ , Candace M. Howard M.D., Ph.D. ^{1,2} ¹ Department of Radiology, University of Mississippi Medical Center, Jackson, MS, ² School of Graduate Studies in the Health Sciences, University of Mississippi Medical Center, Jackson, MS	Nellie Massey
59	8:30	18-1	Integrating AI-Based Photogrammetry to Aid Custom Pediatric Prosthetic Socket Development <u>Om Vishanagra</u> ^{1,2} , John Sparkman ^{1,2} , Albert Manero ^{1,2} ¹ University of Central Florida, ² Limbitless Solutions	Om Vishanagra
47	8:45	18-2	Radiomic Feature Analysis of Post-Treatment Surveillance Imaging to Identify Residual Disease in Head and Neck Squamous Cell Carcinoma: A Machine Learning Approach <u>Aubrey R. Smyly M.D.</u> ^{1,2} , Seth T. Lirette Ph.D. ¹ , Candace M. Howard M.D., Ph.D. ^{1,2} ¹ Department of Radiology, University of Mississippi Medical Center, Jackson, MS, ² School of Graduate Studies in the Health	Aubrey R. Smyly

			Sciences, University of Mississippi Medical Center, Jackson, MS	
106	9:00	18-3	Discrete Brush Polymers: Architectural Precision for High Performance Metal-Free ¹⁹F MRI Contrast Agents <u>Jimmy Lawrence</u> ¹ , Titilayo Oluwole ¹ , Parikshit Guragain ¹ ¹ Louisiana State University	Jimmy Lawrence
49	9:15	18-4	The Silent Liver in a Viral Storm: Fibrosis Progression and Clinical Severity in MASLD Patients with COVID-19 <u>Mary M. Snyder</u> ¹ , Nellie Massey ¹ , Aubrey R. Smyly M.D. ^{1,2} , Seth T. Lirette Ph.D. ¹ , Candace M. Howard M.D., Ph.D. ^{1,2} ¹ Department of Radiology, University of Mississippi Medical Center, Jackson, MS, ² School of Graduate Studies in the Health Sciences, University of Mississippi Medical Center, Jackson, MS	Mary M Snyder

Session 19: Surface Modification and Characterization for Biomedical Applications

Session Chair: Narayan Bhattarai, *North Carolina A&T State University*

Co-Chair: Michelle Tucci, *University of Mississippi Medical Center*

KEYNOTE: Narayan Bhattarai

Room#	Session 19: Surface Modification and Characterization for Biomedical Applications			
	Session Chair: Narayan Bhattarai			
	Co-Chair: Michelle Tucci			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
21	9:45	Keynote	Biomaterial-Enabled Release of Bioactive Metal Ions for Vascularized Tissue Regeneration Narayan Bhattarai, Sita Shrestha North Carolina A&T State University	Narayan Bhattarai
9	10:15	19-1	Designing Tunable Polymeric Biointerfaces to Decode Cytoskeletal Mechanics <u>Rupesh Kandel</u> ¹ , Jacqueline Robinson ¹ , Laurel Fishburn ¹ , Jorge Almodóvar ² , Nikki Reinemann ¹ ¹ University of Mississippi, ² University of Maryland Baltimore County	Rupesh Kandel

31	10:30	19-2	<p>Fatty Acid-Modified Chitosan Membranes: Dual Antimicrobial and Occlusive Effects on Periodontal Bacteria</p> <p><u>Kamrun Nahar</u>¹, Alex Bryan¹, Joel Bumgardner¹</p> <p>¹The University of Memphis</p>	Kamrun Nahar
13	10:45	19-3	<p>Elastin-Based Coatings to Enable Long-Term 3D Adipose Spheroid Culture and Recapitulate Hypoxia-Induced Insulin Resistance</p> <p><u>Sheetal Chowdhury</u>¹, Joshua Speed², Gene Bidwell³, Amol Janorkar¹</p> <p>¹Department of Biomedical Materials Science, University of Mississippi Medical Center, Jackson, MS, ²Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS, ³Department of Neurology, University of Mississippi Medical Center, Jackson, MS</p>	Sheetal Chowdhury
39	11:00	19-4	<p>Biocompatibility of SAM-Functionalized ITO Surface for HT-29 Colon Cancer Cell Culture: Toward a Gut-on-Chip Platform</p> <p><u>Jewel Mallick</u>¹, Debasish Kuila²</p> <p>¹Department of Applied Science and Technology, College of Science and Technology, North Carolina A&T State University, ²Department of Chemistry, North Carolina A&T State University</p>	Jewel Mallick

Session 20: Ethical issues in Biomedical Research

Session Chair: Richard Wilson/Subrata Saha,

Co-Chair: Kenneth Butler / Lamar Hamil

Room#	Session 20: PANEL: Ethical issues in Biomedical Research			
	Session Chair: Richard Wilson/ Subrata Saha Co-Chair: Kenneth Butler / Lamar Hamil			
Abstract Number	Presentation Time	Presentation Number	Presentation Title	Name of the Presenting Author
117	9:45	20-1	<p>Applying ANCOVA and Other Statistical Tools in Quasi-Experimental Research Design: Evidence from a Flipped Classroom Study</p> <p><u>Jamil Ibrahim</u>¹, Ibrahim Ibrahim², Saja Ibrahim³, Waseem Ibrahim⁴, Hidaya Ibrahim⁵</p> <p>¹University of Mississippi Medical Center, ²4D Implant Prosthodontic Center, ³University of Jordan Medical School, ⁴Arab American</p>	Jamil Ibrahim

			University, School of Dentistry, ⁵ Al-Najah University, School of Pharmacy	
116	10:00	20-2	Autonomy and Decision-Making Capacity in Neurodegenerative Disease <u>Gary Hamil</u> ^{1,2} , Michelle Tucci ¹ , Hamed Benghuzzi ³ , Kenneth Butler ¹ ¹ University of MS Medical Center, ² Belhaven University, ³ Jackson State University	Gary Hamil
64	10:15	20-3	Anticipatory Ethics for Biomechanical and Biomedical Engineering. <u>Richard Wilson</u> ¹ ¹ Towson Univeristy	Richard Wilson
69	10:30	20-4	Post CRISPR Gene Editing: An Ethical and Anticipatory Ethical Analysis <u>Richard Wilson</u> ¹ , <u>Michael Nestor</u> ¹ ¹ Towson University	Richard Wilson, Micheal Nestor
Discussion between panelists	10:45	20-5	3D Printed Skin and Artificial Intelligence: An Anticipatory Ethical Analysis <u>Ian Holmes</u> , <u>Richard Wilson</u> <i>Towson University</i>	Ian Holmes

11:30-12:30

PANEL: Professional Students in Basic Research (Ayman Hamouda/ Santosh Aryal)

End of Oral Sessions

12:30-1:00 Students Awards and Closing Ceremony

Saturday, September 12, 2026

4:30-6:30

POSTERS

Abstract Number	Presentation Number	Presentation Title	Name of the Presenting Author
1	148	<p>Rate Citability, Cross-Source Concordance, and Data Verifiability in Orthopedic Price Transparency Across Carriers, Hospitals, and Vendors</p> <p><u>Rupesh Tarwala</u>¹, Vedant Vaksha², Mohammad Athar², Ocean Thakar², Paresh Patel², Ambreen Sharif², Fiona Zheng², Blaize Haas², Rajwinder Singh², Jay Sangwan², Suhirad Khokhar³, Aryan Verma², Nakul Karkare²</p> <p>¹Department of Orthopedic Surgery, Lenox Hill Hospital, New York, NY, ²Complete Orthopedics, ³Department of Orthopaedics, Marshall Health, Huntington, WV</p>	Rupesh Tarwala
2	147	<p>Commercial Negotiated Rates, Setting-Specific Variation, and Benchmarking for Orthopedic Joint Replacement Procedures</p> <p><u>Rupesh Tarwala</u>¹, Vedant Vaksha², Mohammad Athar², Ocean Thakar², Paresh Patel², Ambreen Sharif², Fiona Zheng², Rajwinder Singh², Blaize Haas², Jay Sangwan², Suhirad Khokhar³, Aryan Verma², Nakul Karkare²</p> <p>¹Department of Orthopedic Surgery, Lenox Hill Hospital, New York, NY, ²Complete Orthopedics, ³Department of Orthopaedics, Marshall Health, Huntington, WV</p>	Rupesh Tarwala
3	146	<p>Ghost Rates and Data Quality Dimensions in Orthopedic Price Transparency: A Multi-Payer National Analysis</p> <p><u>Rupesh Tarwala</u>¹, Vedant Vaksha², Mohammad Athar², Ocean Thakar², Paresh Patel², Ambreen Sharif², Fiona Zheng², Rajwinder Singh², Jay Sangwan², Suhirad Khokhar³, Aryan Verma², Nakul Karkare², Blaize Haas²</p> <p>¹Department of Orthopedic Surgery, Lenox Hill Hospital, New York, NY, ²Complete Orthopedics, ³Department of Orthopaedics, Marshall Health, Huntington, WV</p>	Rupesh Tarwala
4	145	<p>Geographic Disparities in Pediatric Healthcare Provider Distribution Across United States States and Territories</p> <p><u>Hema Verma</u>¹, Shefali Karkare²</p> <p>¹Complete Orthopedics, ²Cohen Children's Medical Center</p>	Hema Verma

5	144	<p>Understanding Challenges in Food Rx Initiatives: Leveraging Artificial Intelligence for Solutions</p> <p><u>Hema Verma</u>¹, Aryan Verma¹</p>	Hema Verma
6	143	<p>Geographic Distribution of Pediatric Level 3 and Level 4 Epilepsy Centers in the United States</p> <p>Hema Verma, MD Complete Orthopedics, New York, NY Shefali Karkare, MD Cohen Children's Medical Center-Northwell, New Hyde Park, NY</p>	Hema Verma
7	141	<p>Integrated Training Programs for Preparing the Next Generation of Professionals through Biomedical Research Education and Workforce Development at Tuskegee University</p> <p><u>Honghe Wang</u>¹, Timothy Turner¹ ¹Tuskegee University</p>	Honghe Wang
8	140	<p>Evaluation of $\alpha 4\beta 2$ nAChR PAMs in a Zebrafish Model of Parkinson's Disease</p> <p><u>Kwadwo Appiah-Poku</u>¹, Nathalia M Pinheiro Menegasso¹, Nataly Sanchez¹, Ganesh Thakur², Bret Bill¹, Ayman Hamouda¹ ¹University of Texas, ²Northeastern University</p>	Kwadwo Appiah-Poku
9	139	<p>Design of Conjugated Polymers and Molecules towards Biomedical Imaging and Sensing</p> <p><u>Graham S. Collier</u>¹ ¹University of Southern Mississippi</p>	Graham S. Collier
10	138	<p>Cannabidiol (CBD): Trending Non-Pharmaceutical Products with not fully elucidated pharmacology.</p> <p><u>Amal Al-Shweiky</u>¹, Nathalia M. Pinheiro Menegasso¹, Sarah Thompson¹, Robert Beaudoin¹, Ayman Hamouda¹ ¹University of Texas</p>	Amal Al Shweiky
11	137	<p>The Role of Transient YAP Signaling in Liver Regeneration</p> <p><u>Karel Alcedo</u>¹ ¹University of Mississippi</p>	Karel Alcedo
12	132	<p>-Genomic Insights into Efibula americana TULF14: Fungal Metabolic Versatility for Biomedical Innovation Kingsley Bentum¹, <u>Chinyere Knight</u>²</p>	Chinyere Knight

		¹ College of Agriculture Environment and Nutrition Science, ² Department of Biology, College of Arts and Science	
13	131	Contribution of colonoscopy assets to the colorectal cancer disparities between high density- low density counties and between urban- rural counties in Mississippi. <u>Bidhayak Roy</u> ¹ , Roy J. Duhe ² , Salit Chakma ³ , Fazlay S. Faruque ⁴ ¹ Department of Data Science, University of Mississippi Medical Center,	Bidhayak Roy
14	127	Development and Characterization of BSA-Functionalized PNVCL Particles with Tunable Thermoresponsive Behavior for Biomedical Applications <u>Gabriel Re Calderon</u> ¹ , Robert Smith ² , Tae-Youl Choi ² , Mohammad Omary ¹ ¹ UNT Chemistry, ² UNT Mechanical Engineering	Gabriel Re Calderon
15			
16	113	Evaluating the Effects of Different Nanoparticle Formulations on Tumor Spheroid Morphology, Viability, and Penetration <u>Micaela Lopez Krol</u> ¹ , <u>Rayan El Messoussi Garti</u> ¹	Micaela Lopez Krol, Rayan El Messoussi Garti
17	112	Effect of Hydrodynamic Radius of Discrete Bottle Brush polymers on enhancing 19F MRI Performance through the Architectural Precision. <u>Anupama Aloka Bandaralage</u> ¹ , Titilayo Oluwole ¹ , Parikshit Guragain ¹ , Jimmy Lawrence ¹ ¹ Louisiana State University	Anupama Aloka Bandaralage
18	111	Designing boronic acid-containing bottlebrush polymers: Impact of hydrophilic side chain length on precision sensing. <u>Titilayo Oluwole</u> ¹ , Alejandro Ramirez ¹ , Anupama Bandara ¹ , Jimmy Lawrence ¹ ¹ Louisiana State University The ability of boronic acid to form	Titilayo Oluwole
19	100	Isolation and hybridization of PDX-Derived Extracellular Vesicle with	Alisha Upreti

		<p>Liposome to Study Precision in Tumor Targeting</p> <p><u>Alisha Upreti</u>¹, Viswanathan Sundaram¹, Neeraj Saini², Santosh Aryal¹</p> <p>¹The Ben and Maytee Fishch College of Pharmacy, The University of Texas at Tyler, ²Department of Stem Cell Transplantation and Cellular Therapy, The University of Texas MD Anderson Cancer Center, Houston, Texas</p>	
20	98	<p>Investigating the effectiveness of nurses' hand hygiene knowledge, attitude, practice, and hand hygiene methods on the bacterial contamination level on hands</p> <p><u>Yu-Ching Tu</u>¹, Md Mushfiqur Rahman², Md Rokibul Hasan², Jonathan Lee³, Michelle Tucci⁴, Haifeng Wang⁵, Lir-Wan Fan³</p>	Yu Ching Tu
21	97	<p>Mapping of Chronic Motor Effects Following LPS Exposure in Neonatal Rats Using a Function-on-Scalar Regression Approach</p> <p><u>Md Mushfiqur Rahman</u>¹, Jonathan Lee², Md Rokibul Hasan¹, Lu-Tai Tien³, Yu-Ching Tu⁴, Michelle Tucci⁵, Norma Ojeda⁶, Yi Pang², Lir-Wan Fan², Pratim Niyogi¹</p> <p>¹Department of Data Science, University of Mississippi</p>	Md Mushfiqur Rahman
22	96	<p>A Longitudinal Study of Neonatal Inflammation-Induced Sex-Specific Effects on Sleep and Homeostatic Responses to Sleep Disruptions in Adolescent Rats</p> <p><u>Md Rokibul Hasan</u>¹, Jonathan Lee², Md Mushfiqur Rahman¹, Silu Lu², Joseph Crosby², Charles Matheny², James Shaffery³, Norma Ojeda⁴, Haifeng Wang⁵, Lu-Tai Tien⁶, Michelle Tucci⁷, Lir-Wan Fan², Pratim Niyogi¹</p> <p>University of Mississippi Medical Center, Jackson, MS</p>	Md Rokibul Hasan
23	85	<p>Antimicrobial and Fire-Retardant Solutions for Hospital Textiles</p> <p><u>Vladimir Reukov</u>¹, Brinkley Vaughn¹, Evan Buach¹, Ambry Lofton¹, Justin Brown¹, Kimberly Castro Godinez¹, Quoc-Nghia Duong¹, Joyjit Ghosh¹</p> <p>¹University of Georgia</p>	Vladimir Reukov

24	83	Bioengineered Mineralized Mycelium Composites for Sustainable Structural Applications <u>Vladimir Reukov</u> ¹ University of Georgia	Vladimir Reukov
25	82	ANTICANCER EFFECTS OF THE NOVEL CATHEPSIN L INHIBITOR NN9 IN METASTATIC COLORECTAL CANCER CELLS <u>Kayode Komolafe</u> ^{1,2} , Olamide Crown ³ , Titilope Komolafe ⁴ , Felicite Noubissi ⁴ , Ifedayo Ogungbe ³ , Barbara Graham ^{2,4} Jackson, State University	Kayode Komolafe
26	80	INFLUENCE OF WALKING BIOMECHANICS BASED ON HOW DIFFERENT ORTHOSIS DESIGNS CONSTRAIN THE FOOT AND ANKLE IN HEALTHY ADULTS <u>Perri Johnson</u> ¹ , Max Paquette ² , Denis DiAngelo ¹	Perri Johnson
27	79	Cadmium Induces Chromatin Condensation <u>Nneoma Nwaiwu</u> ¹ ¹ Jackson State University	Nneoma Nwaiwu ¹
28	70	Water scarcity and Disease and Neurodegenerative Diseases: Ethical and Anticipatory Ethical Issues <u>Caroline Rozenywaig</u> ¹ , <u>Kaitlyn Finch</u> ² ¹ Towson High School, ² Towson University	Caroline Rozenywaig
29	68	Neurodegenerative Diseases, BCI's and Alzheimer's Disease: Ethical and Anticipated Ethical Issues <u>Chloe Bourne</u> ¹ , <u>Richard Wilson</u> ¹ ¹ Towson University Brain-computer interfaces	Chloe Bourne
30	65	Nanoplastics and Neurodegenerative Diseases: Dementia and Alzheimer's Benjamin Rozenywaig ¹ , <u>Richard Wilson</u> ² ¹ University of Maryland, ² Towson University Plastic, one of the most preferred materials in today's	Richard Wilson
31	63	Medical Device Sustainability: An Ethical and Anticipatory Ethical Analysis	Giovanni Solitro, Richard Wilson

		<u>Giovanni Solitro</u> ¹ , <u>Richard Wilson</u> ² ¹ LSU, ² Towson University	
32	58	Diabetic Nephropathy and the Effects of <i>Hippocratea velutina</i> on Treatment <u>KymMiyiah Vernado</u> ¹ , Maricica Pacurari ¹ ¹ Jackson State University	KymMiyiah Vernado ¹
33	52	Clinical Translation Of A New Prosthetic Limb: Lessons Learned From The Lab And The Patients <u>Albert Manero</u> ¹ , John Sparkman ¹ , Peter Smith ¹ , Matt Dombrowski ¹ , Viviana Rivera ¹ , Kelly Dunbar ² , Rosanne Yee ² , Albert Chi ² , James Toledano ³ , Mark Birnbaum ³ ¹ Limbitless Solutions, University of Central Florida, ² Oregon Health and Science University, ³ Orlando Health Arnold Palmer Hospital for Children	Albert Manero
34	44	Ovarian Vein Syndrome: A Case Report on Cadaveric Study <u>Gongchao Yang</u> ¹ , Timothy Dasinger ¹ , Yuefeng Lu ¹ , Dongmei Cui ¹ , Norma Ojeda ¹ ¹ University of Mississippi Medical Center	Gongchao Yang ¹
35	42	Surface Engineering Of Polymeric Implants for Enhanced Cellular Response <u>Shruti Chhabra</u> ¹ , Michelle Tucci ² , Lir-Wan Fan ³ , Randall Scott Williamson ¹ ¹ Biomedical Materials science Department, University Of Mississippi Medical Center, ² Department of Anesthesiology, University of Mississippi Medical Center, ³ Department of Pediatric Neonatology, University of Mississippi Medical Center	Shruti Chhabra
36	40	- Integrity of the acetabular wall with augmentation of acetabular defect <u>Yusra Soorya</u> ¹ ¹ Louisiana State University Health Sciences Center - Shreveport School of Medicine Yusra Soorya, School of Medicine, Louisiana State University Health Sciences Center at Shreveport, Shreveport, LA 71103	Yusra Soorya
37	38	Detecting and Identifying Inflammatory Biomarkers in a Female Hyperandrogenemic Rat Model of Polycystic Ovary Syndrome	Mulunji Sampson

		<u>Mulunji Sampson</u> ¹ , Mohadehth Moulana ¹ ¹ Jackson State University	
38	34	Suppression of T Helper Cells by Abatacept Experimental PCOS <u>Zahara Poe</u> ¹ , Mohadetheh Moulana ¹ Jackson State University	Zahara Poe
39	27	Development of a 3D-printed polylactic acid trabecular bone scaffold enabling hematopoietic stem cell-derived cells production for blood transfusion. <u>Patrice Penformis</u> ¹ , John Hollis Tackett ² , Turner C. Smith ³ , Imani A. Kirven ¹ , Pier Paolo Claudio ¹ ¹ Department of Pharmacology and Toxicology, ² School of Medicine, ³ School of Engineering	Patrice Penformis
40	24	Anti-Gastrostomy and Anti-Fouling Gastrostomy (PEG) Tube <u>Hannah Yared</u> ¹ , <u>Nadine Hassanieh</u> ¹ ¹ UCLA Biomedical Engineering Society	Hannah Yared, Nadine Hassanieh
41	23	Assessment of Progressive Training with Serious Games for Wearable Temporalis EMG Wheelchair Control <u>Arina Nemati</u> ¹ , Sophie Bennett ¹ , Abrianna Lalle ¹ , Ethan Bell ¹ , Delaney Gunnell ¹ , Maanya Pradeep ¹ , Macie Sullivan ¹ , John Ilemsky ¹ , Alex Da Vera Cruz ¹ , Hayden Eicke ¹ , Peter Smith ¹ , Matt Dombrowski ¹ , John Sparkman ¹ , Albert Manero ¹ University of Central Florida	Arina Nemati
42	2	Advancing Neuromuscular Disorder Diagnosis and Adaptive Electroceutical Therapy through Real-Time Electromyography and Hybrid Deep Learning <u>Sidharth Patsamatla</u> ¹ ¹ West Shore Jr/Sr High School	Sidharth Patsamatla ¹
43	1	<u>Kegan Peschke</u> , Michelle Tucci University of Mississippi Medical Center	Kegan Peshchke

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