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University of Massachusetts Medical School Research Retreat

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## **Poster Sessions: 2020 University of Massachusetts Medical School Research Retreat**

UMMS Research Retreat

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## UMMS 25<sup>th</sup> Annual Research Retreat Poster Submissions

Session	Poster Number	Title	All authors
Session 1 (October 26th 1 – 2 pm)	1	Bodybuilders beware: a case of drug-induced liver injury and bile cast nephropathy from non-steroidal supplements	Olivia Karcis, BS; Edward Adams, MD; Adarsha Bajracharya, MD
Session 1 (October 26th 1 – 2 pm)	2	Two PCNA variants drive the same disease through separate mechanisms	Joseph Magrino, Brendan Page, Davi Jardim Martins, Christl Gaubitz
Session 1 (October 26th 1 – 2 pm)	3	Structural analysis of Influenza A virus morphology using convolutional neural networks	Qiu Yu Huang, Kangkang Song, Florian Leidner, Chen Xu, Daniel Bolon, Robert Finberg, Celia Schiffer, Mohan Somasundaran
Session 1 (October 26th 1 – 2 pm)	5	Hand therapy loss to follow-up after flexor and extensor tendon repair: who needs more attention?	Desmond J. Bennett, BA, Jugert Bango, BS, Douglas M. Rothkopf, MD
Session 1 (October 26th 1 – 2 pm)	6	Alternatives to USMLE Step 1 for Plastic Surgery Residency Applicants	Malke Asaad, MD (Department of Plastic Surgery, MD Anderson Cancer Center, Houston, TX), Brian C. Drolet, MD, FACS (Department of Plastic Surgery, Vanderbilt University Medical Center, Nashville, TN),  Jeffrey E. Janis, MD, FACS (Department of Plastic Surgery, the Ohio State University Wexner Medical Center, Columbus, OH), Giorgio Giatsidis, MD, PhD (Division of Plastic Surgery, University of Massachusetts, Worcester, MA)
Session 1 (October 26th 1 – 2 pm)	7	Altered Photoreceptor Metabolism in Mouse Causes Late Stage Age-Related Macular Degeneration Pathologies	Shun-Yun Cheng, Joris Cipi, Shan Ma, Brian P. Hafler, Rahul N. Kanadia, Richard S. Brush, Martin-Paul Agbaga, Claudio Punzo
Session 1 (October 26th 1 – 2 pm)	8	Investigating the self-assembly and structural features of a thermophilic bacteriophage	Emily Agnello, Nicholas Stone, Xingchen Liu, Brian Kelch
Session 1 (October 26th 1 – 2 pm)	9	Microglia-astrocyte crosstalk during synaptic pruning	Travis E. Faust (post-doc), Dorothy P. Schafer
Session 1 (October 26th 1 – 2 pm)	10	Delineating the roles of breed ancestry and genetics in the behavior of pet dogs	Kathleen Morrill, Jessica Hekman, Kathryn Lord, Diane Genereux, Xue Li, Brittney Logan, Elinor Karlsson

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Session 1 (October 26th 1 – 2 pm)	11	Non-repeat-targeted antisense oligonucleotides restore FXN expression in cell models of Friedreich's Ataxia	Feng (Damon) Wang, Julia Rembetsy-Brown, Jacquelyn Sousa, Pranathi Meda, Adam Hedger, Jonathan Watts
Session 1 (October 26th 1 – 2 pm)	12	Supporting Family Members of Youth in Mental Health Crisis	Maite Cintron, MD Joshua Feriante DO, MBA Ariella Shayani, MD Brian M. Denietolis, PsyD Emily Lauer, MPH David Cochran, MD Yael Dvir, MD Emily Rubin, MA, LCSW
Session 1 (October 26th 1 – 2 pm)	13	AAV gene therapy for TNNT1-associated Nemaline Myopathy	Eleonora S D'Ambrosio, Monique Otero, Haley Grimason, Lena Labdi, Kevin A Strauss, Heather Gray-Edwards, Miguel Sena-Esteves
Session 1 (October 26th 1 – 2 pm)	14	The Microbiota Brain Axis in <i>C. elegans</i>	Xavier Gonzalez
Session 1 (October 26th 1 – 2 pm)	15	Therapeutic correction of LGMD2G using CRISPR/Cas9 nucleases.	Sukanya Iyer (post-doc), Dongsheng Guo, Katelyn Daman, Stacy Maitland, Oliver D. King Miguel Sena-Esteves, Greg A. Cox, Charles Emerson and Scot A. Wolfe.
Session 1 (October 26th 1 – 2 pm)	16	A cross-reactive human IgA monoclonal antibody blocks SARS-CoV-2 spike-ACE2 interaction	Monir Ejemel, Qi Li, Shurong Hou, Zachary A. Schiller, Julia A. Tree, Aaron Wallace, Alla Amcheslavsky, Nese Kurt Yilmaz, Karen R. Buttigieg, Michael J. Elmore, Kerry Godwin, Naomi Coombes, Jacqueline R. Toomey, Ryan Schneider, Anudeep S. Ramchetty, Brianna J. Close, Da-Yuan Chen, Hasahn L. Conway, Mohsan Saeed, Chandrashekar Ganesa, Miles W. Carroll, Lisa A. Cavacini, Mark S. Klempner, Celia A. Schiffer & Yang Wang
Session 1 (October 26th 1 – 2 pm)	17	US Plastic Surgery Residents Report Inadequate Training in Gender Affirmation Surgery: a National Survey Study	Shirley Shue, MD; Theo J. Eldore, BS; Janice Lalikos, MD; Giorgio Giatsidis, MD, PhD
Session 1 (October 26th 1 – 2 pm)	18	AAV gene therapy for TNNT1-associated Nemaline Myopathy	Eleonora S D'Ambrosio, Monique Otero, Haley Grimason, Lena Labdi, Kevin A Strauss, Heather Gray-Edwards, Miguel Sena-Esteves.

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Session 1 (October 26th 1 – 2 pm)	19	Protein arginine methyltransferase 5 (Prmt5) is a co-activator and novel mediator of higher order chromatin structure during adipogenesis	Sabriya A. Syed (post-doc), Ankita Nand, Ye Zhan, Job Dekker and Anthony N. Imbalzano
Session 1 (October 26th 1 – 2 pm)	20	Clinicians' Approaches to Goals-of-Care Communication for Critically Ill Neurologic Patients: A Pilot Multi-Center Qualitative Study	Connie Ge, Adeline Goss, Kelsey Goostrey, Beshoy Armanios, Anne-Marie Shields, Praewpannanrai Buddadhumaruk Sun, Catherine L. Hough, Jay Steingrub, Douglas B. White, Susanne Muehlschlegel
Session 1 (October 26th 1 – 2 pm)	21	Validation of the Caprini Score in Trauma Patients	Robert D. Guber BS, Max D. Hazeltine MD, Hannah Buettner MD, Jon D. Dorfman MD
Session 1 (October 26th 1 – 2 pm)	22	Transcriptome-wide investigation of stop codon readthrough in <i>Saccharomyces cerevisiae</i>	Kotchaphorn Mangkalaphiban, Feng He, Robin Ganesan, Chan Wu, Richard Baker, Allan Jacobson
Session 1 (October 26th 1 – 2 pm)	23	Analyzing the Role of MS4A1 in Olfaction	Hao-Ching Jiang, SungJin Park, Paul Greer
Session 1 (October 26th 1 – 2 pm)	24	Oral administration of a single anti-CfaE nanobody provides broadly cross-protective immunity against major pathogenic Enterotoxigenic <i>Escherichia coli</i> strains	Alla Amcheslavsky, Aaron L. Wallace, Monir Ejemel, Qi Li, Conor McMahon, Matteo Stoppato, Serena Giuntini, Zachary A. Schiller, Jessica Pondish, Jacqueline R. Toomey, Ryan Schneider, Jordan Meisinger, Raimond Heukers
Session 1 (October 26th 1 – 2 pm)	25	Spatial reconstruction of olfactory glomeruli map with single-cell techniques	I-Hao Wang, Elisa Donnard, Evan Murray, SungJin Park, Hao-Ching Jiang
Session 1 (October 26th 1 – 2 pm)	26	Trafficking of phosphoinositide regulators in sensory cilia	Mohona Gupta, Bhubanananda Sahu, Payam Khoshkenar, Raju VS Rajala, and Hemant Khanna
Session 2 (October 26th 4:30 – 5:30 pm)	27	In Free Flap Autologous Breast Reconstruction Frailty Is a More Accurate Predictor of Postoperative Complications than Age, Body Mass Index, or ASA class: A Retrospective Cohort Analysis on the ACS-NSQIP Database.	Alex Joo, B.A.; Giorgio Giatsidis, M.D., Ph.D.
Session 2 (October 26th 4:30 – 5:30 pm)	28	Single-cell Transcriptomes in Facioscapulohumeral Muscular Dystrophy	Dongsheng Guo (post-doc), Katelyn Daman, Kathryn R. Wagner, Rene Maehr, Oliver D. King, Charles P. Emerson Jr., Lawrence J. Hayward

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Session 2 (October 26th 4:30 – 5:30 pm)	29	A ThinPrep Cytopathology of Cutaneous Meningioma with Histologic Correlation	Ahmed M. Alhusseiny MD, Rukmini M. Kashikar MD
Session 2 (October 26th 4:30 – 5:30 pm)	30	Understanding the role of SAM synthases under stress	Adwait Godbole (post-doc), Amy Walker
Session 2 (October 26th 4:30 – 5:30 pm)	31	Noise to signal: exploring the landscape of noisy splicing	Eraj Khokhar (post-doc), Zachary Kartje, Kaitlyn Brokaw, Jonathan Watts, Athma Pai
Session 2 (October 26th 4:30 – 5:30 pm)	32	Optimization of NLS architecture to increase editing activity of CRISPR-Cas12a	Kevin Luk, Pengpeng Liu, Stacy Maitland, Feston Idrizi, Thomas Leland, Karthikeyan Ponnienselvan, Jing Zeng, Michael J. Peters
Session 2 (October 26th 4:30 – 5:30 pm)	33	Time-resolved cryo-EM visualizes ribosomal translocation with EF-G and GTP	Christine Carbone*, Gabriel Demo, Anna B. Loveland, Howard Gamper Jr., Ya-Ming Hou, Andrei A. Korostelev
Session 2 (October 26th 4:30 – 5:30 pm)	34	Analysis of somatic mutations from single cells of the human brain and skeletal muscle during aging	Cesar Bautista Sotelo, Michael Lodato
Session 2 (October 26th 4:30 – 5:30 pm)	35	Targeted multielectrode tDCS increases functional connectivity within the arcuate fasciculus network: An exploratory study and analysis	Karl D. Lerud Anant B. Shinde Axel Thielscher David A. Ross Gottfried Schlaug
Session 2 (October 26th 4:30 – 5:30 pm)	36	Novel Technology to Enhance a Multimodal Approach to Pain Control After Cardiac Surgery	Cheryl Crisafi MSN, Daniel T. Engelman, MD John Stiles PharmD Taylor Hodle PharmD Brian H. Nathanson PhD
Session 2 (October 26th 4:30 – 5:30 pm)	37	Sing2Speak: A Phase II Study investigating the effects of an Intensive Singing Intervention on Acute Post-stroke Aphasia	Gottfried Schlaug, MD, PhD.  Anant Shinde, PhD.  Muhammed Enes Gündüz, MD.  Karl Lerud, PhD.
Session 2 (October 26th 4:30 – 5:30 pm)	38	Association between the modified Frailty Index and outcomes following Lobectomy	Bryce Bludevich, Isabel Emmerick, Mark Maxfield, Karl Uy, Jennifer Baimam Feiran Lou
Session 2 (October 26th 4:30 – 5:30 pm)	40	The Role of Slow-Wave-Sleep on Hippocampus Dependent Memory	Oghomwen E. Igiesuorobo, Loris Ferrari, Heinrich Gompf, and Christelle Anaclet.

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Session 2 (October 26th 4:30 – 5:30 pm)	41	A novel PHOX/CD38/NAADP/TFEB axis important for macrophage activation during bacterial phagocytosis	Mehran Najibi1†, Havisha H. Honwad1†, Joseph A. Moreau1, Stephanie M. Becker1, Javier E. Irazoqui1*
Session 2 (October 26th 4:30 – 5:30 pm)	42	Transcranial Direct Current Stimulation for Post-stroke Motor Recovery - a Phase II Study (TRANSPORT2)	Muhammed E. Gunduz, Victoria Woytowicz, Anant Shinde, Karl Lerud, Gottfried Schlaug
Session 2 (October 26th 4:30 – 5:30 pm)	43	Case series of Long-Term Esophageal Stent use for any indication	Bryce Bludevich, Maria Eugenia Navarro, Sarah Alyssa Uy, Mark Maxfield, Feiran Lou, Karl Uy
Session 2 (October 26th 4:30 – 5:30 pm)	44	Microglial-derived innate immune mechanisms governing neural circuit excitability	Philip A. Feinberg, Shannon C. Becker & Dorothy P. Schafer1
Session 2 (October 26th 4:30 – 5:30 pm)	45	The role of MS4As in Alzheimer's disease	Thuyvan Luu, Juliana Delgado, Veronica Nikolaki, I-Hao Wang, David Brann, Sandeep Robert Datta, Paul Greer
Session 2 (October 26th 4:30 – 5:30 pm)	46	Cholinergic interneurons as a novel target mediating the effects of binge alcohol drinking on glutamatergic neurotransmission in nucleus accumbens	Jenya Kolpakova and Gilles Martin
Session 2 (October 26th 4:30 – 5:30 pm)	47	TIR-1/SARM1 Inhibits Axon Regeneration	Victoria Julian, Lauren O'Connor, Alexandra Byrne
Session 2 (October 26th 4:30 – 5:30 pm)	48	Adapting A TBI Goals-of-Care Decision Aid To Intracerebral Hemorrhage And Hemispheric Acute Ischemic Stroke To Fill The Need Expressed By Surrogate Decision-Makers	Kelsey Goostrey; Christopher Lee; Kelsey Jones; Thomas Quinn; Jesse Moskowitz; Jolanta J. Pach; Andrea K. Knies; Lori Shutter; Robert Goldberg; Kathleen M. Mazor; David Y. Hwang; Susanne Muehlschlegel
Session 2 (October 26th 4:30 – 5:30 pm)	49	PAD2 Dysregulation and Abnormal Protein citrullination in ALS disease models	Issa Yusuf, Tao Qiao, Ronak Tilvawala, Paul Thompson, Zuoshang Xu
Session 2 (October 26th 4:30 – 5:30 pm)	50	Characterization of a membrane stress response to stabilize intracellular trafficking in C. elegans	Christofer M Welsh, Jote T Bulcha, Albertha J M Walhout, Amy K Walker
Session 2 (October 26th 4:30 – 5:30 pm)	51	Discovery and characterization of a novel intronic mutation in the ciliary disease protein RPGRIP1L in a Canadian family	Saad Al-Khadi, Laura Moreno Leon (post-doc), Courtney Kiss, Andrea Guerin and Hemant Khanna
Session 2 (October 26th 4:30 – 5:30 pm)	52	Catching SWR1C in the act: capturing histone exchange at single-molecule and single-base pair resolution	Jiayi Fan, Andrew Moreno, Joseph J. Loparo, Craig L. Peterson

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Session 2 (October 26th 4:30 – 5:30 pm)	53	Racial and sociodemographic disparities in telehealth access and utilization during the COVID-19 pandemic	Alkawaldeh M, PhD, MSN/NI, RN; Lee A MD(c); Moore Simas T, MD, MPH, MEd, FACOG; Leung K, MPH. Department of Obstetrics and Gynecology, University of Massachusetts Medical School/UMass Memorial Medical Center.
Session 2 (October 26th 4:30 – 5:30 pm)	54	Intrinsic inhibition of axon regeneration in <i>C. elegans</i> motor neurons	Wenjia Huang, Micah Y. Belew, and Alexandra B. Byrne
Session 3 (October 26th 5:30 – 6:30 pm)	55	Telehealth in the era of COVID-19: OB/GYN telehealth services	Alkawaldeh M, PhD, MSN/NI, RN; Moore Simas T, MD, MPH, MEd, FACOG; Leung K, MPH; Yeboah T; & Brewster H. Department of Obstetrics and Gynecology, University of Massachusetts Medical School/UMass Memorial Medical Center.
Session 3 (October 26th 5:30 – 6:30 pm)	56	Obstetrics and gynecology providers' experiences with telehealth services during the COVID-19 pandemic	Alkawaldeh M, PhD, MSN/NI, RN; Moore Simas T, MD, MPH, MEd, FACOG; Yeboah T. Department of Obstetrics and Gynecology, University of Massachusetts Medical School/UMass Memorial Medical Center.
Session 3 (October 26th 5:30 – 6:30 pm)	57	A CRISPR screen for microRNAs that regulate self-renewal and reconstitution capacity of hematopoietic stem cells	Tatenda Kadungure, Hong Zhang, Ph.D.
Session 3 (October 26th 5:30 – 6:30 pm)	58	Behavioral and neural correlates of transcranial direct current stimulation	Anant Shinde, Gottfried Schlaug
Session 3 (October 26th 5:30 – 6:30 pm)	59	Investigating the translational control mechanism of glp-1 in the germline of <i>Caenorhabditis elegans</i>	Peren Coskun, Sean Ryder
Session 3 (October 26th 5:30 – 6:30 pm)	60	Biochemical and Biophysical Interrogation of Protein Machines: (1) SARS-CoV-2 Spike Protein Variant D614G, and (2) Nutrient Sensing by the mTORC1 Complex	Shawn Egri, Kristen Veinotte, Dylan Doxsey, Leonid Yurkovetskiy, Jeremy Luban, Kuang Shen, Xue Wang, Thomas Nyalile, Pardis Sabeti
Session 3 (October 26th 5:30 – 6:30 pm)	61	Protecting the Nervous System Through Diet	Lauren O'Connor and Alexandra Byrne

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Session 3 (October 26th 5:30 – 6:30 pm)	62	Investigating the mechanism of the eukaryotic sliding clamp loader	Xingchen Liu, Christl Gaubitz, Joseph Magrino, Jacob Landeck, Nicholas P. Stone, Brian A. Kelch
Session 3 (October 26th 5:30 – 6:30 pm)	64	Attenuated pathological hallmarks of Chronic Traumatic Encephalopathy (CTE) after repetitive trauma in mice by genetic deletion of Sarm1	Aydan Kahrman (post-doc), James Bouley, Nils Henninger
Session 3 (October 26th 5:30 – 6:30 pm)	65	Investigating a Bacterial Clamp Loader Inhibitor	Jacob Landeck
Session 3 (October 26th 5:30 – 6:30 pm)	66	Time-resolved cryo-EM visualizes ribosomal translocation with EF-G and GTP	Christine Carbone*, Gabriel Demo, Anna B. Loveland <sup>1</sup> , Howard Gamper Jr., Ya-Ming Hou, Andrei A. Korostelev
Session 3 (October 26th 5:30 – 6:30 pm)	67	Positioning new genes that participate in HLB-1 downregulation in the heterochronic pathway.	Reyyan Bulut, Victor Ambros
Session 3 (October 26th 5:30 – 6:30 pm)	68	Intron-containing RNA from the HIV-1 provirus activates type I interferon and inflammatory cytokines via MDA-5	Hakan Guney (Mehmet) Sean McCauley Claudia Carbone Jeremy Luban
Session 3 (October 26th 5:30 – 6:30 pm)	69	HIV-1-induced cytokines deplete homeostatic innate lymphoid cells and expand TCF7-dependent memory NK cells	Yetao Wang (post-doc, Lawrence Lifshitz, Kyle Gellatly, Carol L. Vinton, Kathleen Busman-Sahay, Sean McCauley, Pranitha Vangala, Kyusik Kim, Alan Derr, Smita Jaiswal, Alper Kucukural, Patrick McDonel, Peter W. Hunt, Thomas Greenough, JeanMarie Houghton, Ma Somsouk, Jacob D. Estes, Jason M. Brenchley, Manuel Garber, Steven G. Deeks, and Jeremy Luban
Session 3 (October 26th 5:30 – 6:30 pm)	70	From sheep to cows: Large animal models to characterize disease and test gene therapy	Jillian Gallagher, Judith Gallant, Ping Xu, Stephanie Bertrand, Rachael Gately, Dan Wang, Scot Wolfe, Jamie Rivera, Miguel Sena-Esteves, Heather Gray-Edwards
Session 3 (October 26th 5:30 – 6:30 pm)	71	Antigen specificity and cross reactivity in vaccine-mediated protection against cryptosporidiosis	Maureen Hester, Lorena Romalho, Zhongming Mou, Ambily Abraham, Gary Ostroff, Charles Specht, and Stuart Levitz
Session 3 (October 26th 5:30 – 6:30 pm)	73	The effects of antibody isotype, class, and multimerization state on gastrointestinal stability for therapeutics targeting enteric pathogens	Aaron L. Wallace, Matthew I. Schneider, Jacqueline R. Toomey, Ryan M. Schneider, Mark S. Klempner, Yang Wang and Lisa A. Cavacini

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Session 3 (October 26th 5:30 – 6:30 pm)	74	Copia, of many copies and the Drosophila NMJ	Peter M'Angale (post-doc), Adrienne Lemieux,
Session 3 (October 26th 5:30 – 6:30 pm)	75	PFN1 phosphorylation marks protein aggregation and white matter pathology in ALS	Sepideh Parsi (post-doc); Tao Qiao; Lyle Wilfred Ostrow, Marco B. Rust; Zuoshang Xu
Session 3 (October 26th 5:30 – 6:30 pm)	76	Comprehensive Single Cell Roadmap of Developing Pharyngeal Endoderm	Margaret E. Magaletta, Eric M. Kernfeld, Hananeh Aliee, Fabian J. Theis, René Maehr
Session 3 (October 26th 5:30 – 6:30 pm)	77	Intracranial responses to immune checkpoint inhibitors in pre-clinical models of melanoma brain metastasis	Naema Nayyar, Mohini Singh, Priscilla Brastianos, Michael Brehm
Session 3 (October 26th 5:30 – 6:30 pm)	78	Imaging of inflammation in a vascular aneurysm large animal model using iron-based redox-active MRI probe	Robert King, Alexei Bogdanov Jr, Eric Gale, Anita Leporati, Peter Caravan, Matthew Gounis