Abstracts

1. **Combating COVID-19 with An Innovative Therapeutic**  
Shally Saini, Lingke Zhong, Julie Mathieu, Hannele Ruohola-Baker

2. **Human Engineered Heart Tissues as a Model of Duchenne Muscular Dystrophy**  
Samantha B Bremner, Andrea Leonard, Alan R Levinson, Ethan S Rehn, J Manuel Pioner, Nathan J Sniadecki, David L Mack

3. **Retromer stabilizing compounds rescue enlarged endosome phenotypes in hiPSC-derived models of sporadic AD**  
Allison Knupp, Swati Mishra, Chizuru Kinoshita, Refugio Martinez, Jessica Young

4. **Knock-Down of HDAC2 in Human Induced Pluripotent Stem Cell Derived Neurons Improves Neuronal Mitochondrial Dynamics, Neuronal Maturation and Reduces Amyloid Beta Peptides**  
Harald Frankowski, Fred Yeboah, Bonnie J. Berry, Chizuru Kinoshita, Michelle Lee, Kira Evitts, Joshua Davis, Yoshito Kinoshita, Richard S. Morrison & Jessica E. Young

5. **The neuromodulatory role of astrocyte-derived exosomes on iPSC neuron development and non-cell autonomous neurodegeneration**  
Changho Chun, Alec S.T. Smith, Jung Hyun Lee, Claire D. Clelland, Mark Bothwell, Deok-Ho Kim, David L. Mack

6. **Evaluating Exercise Capacity and Adaptations in a Rat Model of Duchenne Muscular Dystrophy (DMD mdx)**  

7. **A Novel Drug Screening Platform to More Accurately & Cost Effectively Discover Cures for Duchenne Muscular Dystrophy**  
Aniruddh Saxena, Shawn M Luttrell, Ph.D, Alec S.T. Smith, Ph.D, Samantha Bremmer, David L Mack, Ph.D

8. **Structure-function investigations of the E258K-MYBPC3 mutation in HCM patient-derived cardiomyocytes**  
Steczina, Sonette, J. Manuel Pioner, Saffie Mohran, Marianna Langione, Giulia Vitale, Beatrice Scellini, Nicoletta Piroddi, Cecilia Ferrantini, Chiara Tesi, Michael Geeves, Corrado Poggesi, Michael Regnier

9. **sci-Space: a technology for spatially resolved single cell transcriptomics**  

10. **Interferon-gamma stimulation in kidney organoids reveals expression and localization patterns of Apolipoprotein L1**  
Benjamin A. Juliar, Jonathan Himmelfarb, Kelly Smith, Benjamin S. Freedman
11. Developing a therapeutic strategy for nephropathic cystinosis with iPS cells
   Thomas Vincent, Louisa Helms, Max Frank, Nicole Vo, Benjamin S. Freedman

12. Human stem cell approaches to understand inflammatory impacts on the neurovascular
    niche in Alzheimer’s disease
    Kira Evitts, Caitlin Howard, Yu Jung Shin, Swati Mishra, Travis Moerk, Ying Zheng, Jessica Young

13. A novel method to measure myofibril strain in intact human stem cell derived cardiomyocytes
    Abby Nagle, Michael Regnier, Jennifer Davis

14. Single Cell Analysis of Human Hematopoietic Development From Induced Pluripotent Stem Cells
    Rachel Wellington, Brandon Hadland, Sergei Doulatov

15. Myosin Activation is a Novel Therapeutic Approach to Polycystic Kidney Disease
    Louisa Helms, Jonathan Himmelfarb, Benjamin Freedman

16. Temporal Dynamics of the Transcriptional Landscape of Artificial Human Liver Expansion
    Chelsea L. Fortin, Tara McCray, Yuliang Wang, Sarah H. Saxton, T. Fredrik Johansson, Kelly R. Stevens

17. Engineering In Vitro Model Of Perfusable Organ-specific Microvasculature From Hipsc-derived Vascular Organoids
    Yu Jung Shin, Sam Rayner, Christian Mandrycky, Ying Zheng

18. Development of a CRISPR Activation Stem Cell Line to Program Maturation of Human Stem Cell-Derived Cardiomyocytes
    Elaheh Karbassi, Alessandro Bertero, Ruby Padgett, Shin Kadota, Paul Fields, Lil Pabon, Hans Reinecke, Stephen D Hauschka, Charles E Murry

19. Correlating Ang1 F-domain Valency with Tie2 Signaling Outcome to Promote Angiogenesis
    for Tissue Regeneration
    Yan Ting Zhao, Jorge A. Fallas, Shally Saini, George Ueda, Logeshwaran Somasundaram, Ziben Zhou, Infencia Xavier Raj, Devon Ehnes, Chunfu Xu, Lauren Carter, Samuel Wrenn, Julie Mathieu, Drew L. Sellers, David Baker, Hannele Ruohola-Baker

20. Novel insights into developmental branch points from the first single-cell atlas of human fetal salivary gland development
    D. D. Ehnes, A. Alghadeer, S. Hanson-Drury, Y. Zhao, J. Mathieu, H. Ruohola-Baker

21. Investigating a neuroprotective role for GBA in astrocytes
    Raja E. Estes, Bernice Lin, Refugio Martinez, Jessica E. Young, Marie Y. Davis

22. CFH and FHL-1 haploinsufficiency in EOMD patient derived iPSC-RPE
    Rayne R Lim, Abbi L Engel, Jessica Rowlan, Yekai Wang, Kelie Gonzalez, Sharlene Shirali, Jay Neitz, Maureen Neitz, Jianhai Du, Jennifer R Chao

23. Stem cell quiescence requires PRC2/PRC1-mediated mitochondrial checkpoint

24. Gene regulatory effects of sex chromosome dosage on sex biased gene expression
    Joel B. Berletch, Gala Filippova, Xinxiang Deng, He Fang, Camile Groneck, and Christine M. Distech
25. Elucidating the Role of Suv420H2 in Early Human Pluripotency and in quiescence
Abdiasis Hussein, Julie Mathieu and Hannele Ruohola-Baker

26. Amino acid priming of mTOR is essential for heart regeneration
Jason W. Miklas, Shiri Levy, Peter Hofsteen, Diego Ic-Mex, Elisa Clark, Jeanot Muster, Aaron M. Robitaille, Gargi Sivaram, Lauren Abell, Jamie M. Goodson, Inez Pranoto, Anup Madan, Michael T. Chin, Rong Tian, Charles E. Murry, Randall T. Moon, Yuliang Wang, Hannele Ruohola-Baker

27. Multiphoton-Guided Creation of Complex Organ-Specific Microvasculature
Samuel G. Rayner, Caitlin C. Howard, Christian J. Mandrycky, Stefan Stamenkovic, Jonathan Himmelfarb, Andy Y. Shih, Ying Zheng

28. Disease-in-a-dish: CRISPR-edited hiPSC-CMs to study the cellular and subcellular mechanisms of HCM
Kerry Y. Kao*, Matthew C. Childers*, Saffie Mohran, Michael Regnier

29. Ultrafast and physiologically sensitive fluorescent H2O2 indicator for deciphering transient and steady-state dynamics of intracellular ROS level in hiPSC disease models.
Justin Daho Lee, Yihan Wang, Selena Schattauer, Mike Rappleye, Samantha Bremner, Changho Chun, Fred Yeboah, Amanda Nguyen, Alec S.T. Smith, Jessica E. Young, David L. Mack, Charles Chavkin, Andre Berndt

30. Restoration of cell-cycle control in pediatric glioma stem cells using computationally designed proteins