WFIRM 2025 Summer Scholars Program Projects at a Glance

Session Category Topics:
SC: Stem cells, cells, cell therapy**; O:** Organoids**; DS:** Drug Screening**; ET:** Enabling Technologies**; GT:** Gene Therapy**; TE:** Tissue Engineering

1 Faith Henderson Biochemistry Christopher Newport University	*IN VITRO MODELING OF NECROTIZ/NG ENTEROCOLITIS INJURY TO EVALUATE EXTRACELLULAR VESICLE THERAPEUTICS*	*SC*
2 Angadh Singh Biology and Economics Rensselaer Polytechnic Institute	*PHOTOACOUSTIC IMAGING REVEALS RENAL HEMOGLOBIN DYSREGULATION ASSOCIATED WITH NECROTIZING ENTEROCOLITIS*	*ET*
3 Darcey Britt Engineering Biomedical Concentration Wake Forest University	*TRANS-DIFFERENTIATION OF PLACENTAL-DERIVED STEM CELLS INTO NEURAL PROGENITOR CELLS USING IMMUNOMODULATION*	*SC/TE*
4 Elena Amonette Biology Belmont University	*EXAMINATION OF THE EFFECTS OF REPEAT HYDRODISTENSION ON BLADDER REGENERATIVE CAPACITY IN HUMAN INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME*	*SC*
5 Javier Cooper Biology Xavier University of Louisiana	*EVALUATION OF RESIDUAL REGENERATIVE CAPACITY IN END-STAGE BLADDERS FROM INTERSTITIAL CYSTITIS/PAIN SYNDROME PATIENTS*	*SC*
6 Dimitrios Owen Biomedical Engineering Duke University	*CHARACTERIZING SICKLING EVENTS IN A SHEEP MODEL OF HUMAN SCD TO DETERMINE RELEVANCE FOR HUMAN THERAPIES*	*SC*
7 Crystal Echeverria Materials Science & Engineering Biomedical Engineering Carnegie Mellon University	*IMPACT OF FENOFIBRATE ON RADIATION-INDUCED RENAL INJURY IN A MONKEY URINE-DERIVED STEM CELL MODEL*	*SC*
8 Catherine Engel Biomedical Engineering University of Virginia	*OPTIMIZING ALGINATE MICROPARTICLE CROSSLINKERS FOR CONTROLLED GROWTH FACTOR RELEASE AND EXOSOME PRODUCTION*	*SC/ET*
9 Tarun Rao Bioengineering University of Illinois Urbana Champaiqn	*IN-VITRO ANALYSIS OF VASCULARIZED RENAL CONSTRUCTS*	*TE*
10 Jonah Zaas Classics/Classical Literature Hamilton Colleqe	*HISTOPATHOLOGICAL ANALYSIS OF KIDNEYS IN A TYPE 1 DENT DISEASE MICE MODEL WITH AND WITHOUT LENTIVIRAL GENE THERAPY*	*GT*

11 Aastha Shukla Biochemistry Wake Forest University	*HIGH THROUGHPUT IN VIVO SCREENING OF LIPID NANOPARTICLES FOR TARGETED KIDNEY GENE THERAPY IN DENT'S DISEASE TYPE 1*	*GT*
12 Anjali Malali Neuroscience Illinois Wesleyan University	*CHARACTERIZING SICKLING EVENTS IN A SHEEP MODEL OF HUMAN SCD TO DETERMINE RELEVANCE FOR HUMAN THERAPIES*	*SC*
13 Aditi Rao Biomedical Engineering Arizona State University	*IMPACT OF LUCIFERASE/GFP AND EDU LABELING ON CHONDROGENIC DIFFERENTIATION OF HUMAN PLACENTA-DERIVED STEM CELLS FOR IMMUNOMODULATORY CELL THERAPY FOR OSTEOARTHRITIS*	*SC*
14 Zephyr Paxton Biomedical Engineering Worcester Polytechnic Institute	*WFIRM UNIVERSAL MEDIA: A POTENT ALTERNATIVE TO COMMERCIAL FORMULATIONS FOR ENHANCED PROLIFERATION, INCREASED BIOMASS AND EXPANSION OF DIVERSE MESODERMAL CELL LINES*	*SC*
15 Sophie Zhang Biochemistry Rice University	*DEVELOPING A SKIN BURN MODEL ON SKIN ORGANOIDS USING PHOTODYNAMIC THERAPY*	*O*
16 Sofia Kuklina Biotechnology Florida Southern College	*MELANOMA-SKIN ORGANOIDS FOR MELANOMA IMMUNOTHERAPY*	*O*
17 Kaylee Zhang Molecular Biology and Biochemistry Rutgers University New Brunswick	*A 3D HEPATIC ORGANOID MODEL FOR EVALUATING THE LIVER AND BLOOD STAGES OF P. FALCI PARUM*	*O*
18 Madeline Stevenson Biological Engineering Purdue University Grove City College	*BIOCOMPATIBLE CRYOPRESERVATION PLATFORM FOR ORGANOIDS*	*O*
19 Laughton Miller Regenerative Bioscience and Applied Biotechnology University of Georgia	*2D AND 3D HUMAN TESTICULAR ORGANOID SYTEM MODELING 46, XX DISORDER OF SEXUAL DEVELOPMENT*	*O*
20 Chaeyeon Park Biostatistics/Mathematics University of North Carolina at Chapel Hill	*MULTI-DOSE CORRELATION AND CONVOLUTIONAL NEURAL NETWORK ANALYSIS OF CHLORINE EXPOSED AIRWAY ORGAN TISSUE EQUIVALENTS*	*O*

21 Gabrielle Erwin Biology Winston-Salem State University	*ASSESSING PULMONARY TOXICITY OF SPACEFLIGHT-ASSOCIATED VOES USING HUMAN LUNG ORGAN TISSUE EQUIVALENTS*	*O*
22 Seth Kinoshita Biochemistry Georgia Institute of Technology	*DEVELOPING IGA BIOSENSORS FOR IMMUNE CHIP INTEGRATION*	*O*
23 Krista Edwards Kinesiology North Carolina A&T University	*ADVANCING 3D CARDIAC ORGANOID MODELS TO INVESTIGATE IMMUNE RESPONSES IN ISCHEMIC REPERFUSION INJURY*	*O*
24 Isabel Voinescu Biochemistry and French Grinnell College	*DEVELOPING AND CHARACTERIZING A 3D MODEL OF HUMAN CARDIAC FIBROSIS*	*O*