

2022 Summer Undergraduate Poster Session Abstracts

University of North Dakota

Knockdown of KRT6 in As³⁺- Transformed UROtsa Cells Results in Upregulation of GRHL1 and Downregulation of EGFR and TFAP2A

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CMS Model in Mouse Anxiety/Depression

Zack Anderson, Jason Power, Ethan Bergeman, Katie Harris, Charismha Tsosie, Van Doze
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Characterization of Progesterone Resistant Breast Cancer Cells

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Anti-Epileptic Effects of α_{1A} Adrenergic Receptor Activation

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Creation of a Hyperplane Device for Horizontal Cellular Migration Assays

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Cancer Specificity of Superantigen SEI Treatment in HLA-DQ8 and Double Transgenic Mice

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What is under the shell? Survey of turtle helminths from Reelfoot Lake, Tennessee

Itzel Cayetano¹, Luis A. Eguiguren², Zoe S. Von Holten³, Thomas J. Fayton⁴, Vasyl V. Tkach⁵
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Exploring the transcriptional memory response during the Epithelial to Mesenchymal Transition (EMT).

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Changes in neuronal phenotype in C57BL/6 wild type and *App*^{NL-G-F} mice following a colitis insult and probiotic intervention

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Promoter-Associated RNAs Show Comparable Abundance Compared Against Other RNA Classes

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Effect of chronic food allergen exposure on the progression of Alzheimer's Disease

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Digeneans of leeches in northwestern Minnesota

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The Effect of Plant Biodiversity on the Gut Microbiomes of Pollinator Species

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α -1A Adrenergic Receptor Stimulation for the Treatment of Alzheimer's Disease

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Effect of Transient GRHL1 Knockdown on KRT6A, RXRA, GRHL1 and SOX2 in Arsenite-Transformed Urothelial Cells

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Knockdown of GRHL1 in Arsenite (As³⁺)-Transformed UROtsa Cells Decreases KRT5 Expression

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Knockdown of SOX2 in UROtsa Cells Transformed with Arsenite (As³⁺) Decreases the Expression of KRT6

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SOX2 siRNA Knockdown Upregulates CDH2, Downregulates CDH1, and Does Not Affect GRHL1 Expression in As³⁺ – Transformed Urothelial Cells

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Analyzing DSC2, DSC3, and DSG2 Expression After Stable Knockdown of KRT6 in Arsenite Transformed UROtsa Cells.

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Infectivity of clonal isolates of hard-tick borne relapsing fever spirochete, *Borrelia miyamotoi*

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Microbiome Composition of Megachilidae found in the Northern Great Plains

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Soil Health Benefits of the Conservation Reserve Program

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Focal Adhesion Patterns in Neural Crest Cell Differentiation

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Construction and Characterization of *Drosophila* Dopamine Transporters Engineered to Contain N-terminal Palmitoylation Sites Homologous to the Human Transporter

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Future Research: Mosquito Species Population Dynamics in Benson County North Dakota

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Tretinoin Downregulates Basal Markers EGFR, KRT1 and Upregulates Luminal Markers CD24, KRT20 in Arsenite Transformed Urothelial Cancer Cells

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Mitochondrial Transcription Factor A in Immunological Aging and Cognitive Impairment

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Epigenetic regulation of the SPARC gene in bladder cancer

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Expression of KRT6A, SOX2, GRHL1, and P63, After Stable Knockdown of KRT6 in As³⁺ Transformed UROtsa Cells

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Investigation of Dopamine Transporters when Challenged with Prednisolone

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Dopamine Transporter Levels on the Cell Surface are Negatively Impacted by Dexamethasone

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The Effects of Urbanization on the Solitary Hymenoptera Communities

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Deregulated Gut Epithelial Fucosylation is Involved in Aging and Associated with Colon Cancer Pathology

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The Expression of GATA3, KRT7, and KRT18 Upregulates in Response to Tretinoin Treatment in As³⁺ Transformed UROtsa Cell Lines

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Expression of Proteasomal Genes Upregulated in HRTPT Progenitor Cells in Comparison to RPTEC/TERT1 and HREC24T Differentiated Cells

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Determining Gut Microbiomes of Hoverflies Living in the Northern Plains

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Detection of defects in human mtDNA on Parkinson's disease patients by qPCR and stimulation of SH-SY5Y cells

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Treatment of HRTPT Cell Line with Proteasomal Inhibitor (Bortezomib) Downregulates Expression of Progenitor Cell Markers (CD133 & CD24) and Proximal Tubule Marker (AQP1), and Upregulates Expression of Distal Tubule Marker (CALB1)

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Treatment with Proteasomal Inhibitor (Bortezomib) Downregulates Expression of FGFR1, FGFR2, and FGF9 and Upregulates Expression of FGF2 in Kidney Progenitor Cells

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Acetylated H4 and H3K27me3 Antibodies and their role in Early RNA Transcription of transfected SV40 chromatin

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Effects of Carbachol on Palmitoylation of Dopamine Transporter

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Single-Nucleotide Polymorphisms and Their Effects on Temperature-Dependent Sex Determination in *Chelydra serpentina*

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The Effect of Tretinoin Treatment on Expression of FOXA1, PPARG, KRT8, and KRT16 in Arsenite-transformed Malignant Urothelial Cells

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Chromosome Loci 20148572 Single Nucleotide Polymorphism Association with Temperature Dependent Sex Determination

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Transient Knockdown of KRT6 Induces the Downregulation of KRT5 and P63 with No Effect on SOX2 in As³⁺-transformed UROtsa cells

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Downregulation of KRT5, KRT6A, KRT6B, and KRT6C in Tretinoin Treated As³⁺ Transformed UROtsa Cells

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Impact of medical-grade probiotic VSL#3 on brain neutrophil content in a DSS-induced colitis mouse model

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Revealing further diversity of the Diplostomidae (Digenea) parasitic in New World kingfishers

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Proteasomal Gene Expression Differences of PSMB2, PSMB7, PMSC1, PSMC4 among HRTPT, HREC24T and RPTEC/TERT1 Cells

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Phenolic plant extracts induce apoptosis in bone metastatic breast cancer grown on 3D in vitro nano-clay based bone-mimetic scaffold

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Alternative splicing of human telomerase reverse transcriptase in diabetic CD34+ hematopoietic stem/progenitor cells

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Coarse-Grained Modeling of Dynamics and Mechanical Properties of PCL-Clay Nanocomposites

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Calibrating the Built Environment Using Biosensing Equipment

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Exploring Hardware Optimization for Genomic Application

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A Reusable DNA-Based Probe for Viral RNA Detection in Wastewater and Air

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Role of Integrin Subunits in Cancer Cell Proliferation

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Nutritional Effects on Offspring Ovarian Development

Isabella Jurgens, Carl Dahlen, Fiederike Baumgaertner, Sarah R Underdahl, Jennifer L Hurlbert, Kerri A Bochantin, Kevin K Sedivec, James D Kirsch, Sheri T Dorsam, Ana Clara B Menezes, Wellison JS Diniz, Alison K Ward, Kacie L McCarthy, Joel S Caton, Kendall C Swanson
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Patient Misidentification Prevention

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Synthesis and characterization of nanoclay based scaffolds for bone tissue regeneration and cancer testbeds

Julia Johnson, Dinesh Katti, Kalpana Katti, Quyen Hoang, Sharad Jaswandkar, Krishna Kundu, Preetham Ravi Civil, Construction, and Environmental Engineering, North Dakota State University

Predicting Drug-like and Toxicological Properties of Fullerene Derivative Nanostructures by Application of Computational and Machine Learning Approaches

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Efficient Aniline Synthesis via Direct C-H Amination with Ammonia

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Differential cytochrome-P450 enzymes expression in airway smooth muscle

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Characterization of Nodular and non-Nodular LAM phenotype

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Sex variability on age-associated changes in kidney integrin expression

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Construction of Enantioselective Hindered Carbon Centers by Cyclopropanation Reactions

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Prosthetic Joint Infection

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Automation of Histological Image Analysis of Heart Failure Tissue

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