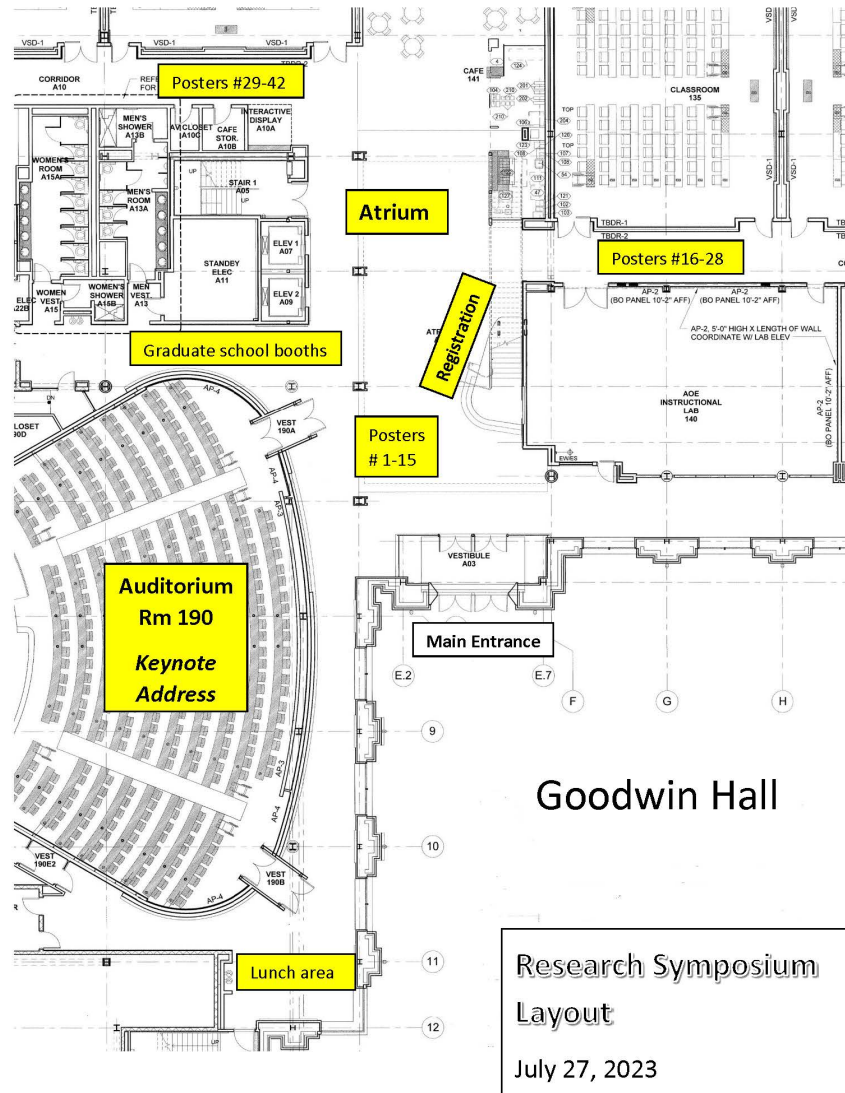


# 2023 Summer research Symposium at Virginia Tech

## July 27, 2023 | Goodwin Hall

9:00-9:20am	Check-in (Goodwin Atrium) Poster Session 1 set up
9:20-9:30am	<b>Welcome- Keri Swaby (Goodwin Auditorium)</b>
9:30-9:50am	<b>Keynote Address- Dr. BevLee Watford (Goodwin Auditorium)</b>
9:50-10:00am	Break
10:00-10:50am	<b>Poster Session 1 (Goodwin Atrium)</b>
10:50-11:00am	Break Poster session 1 take down/Poster session 2 set up
11:00-11:50am	<b>Poster Session 2 (Goodwin Atrium)</b>
11:50-1:00pm	Lunch/Graduate school networking (Goodwin Atrium) Poster session 2 take down/Poster session 3 set up
1:00-1:50pm	<b>Poster session 3 (Goodwin Atrium)</b>
1:50-2:00pm	Break Poster Session 3 take down/Poster session 4 set up
2:00-2:50pm	<b>Poster session 4 (Goodwin Atrium)</b>
2:50-3:00pm	End of symposium/ Poster session 4 take down



**Poster Session 1: 10-10:50am**

Registered Presenter	Program Affiliation	Poster number	Poster Title
Ahmed	MAOP	1	AI Tools vs Debugging Tools: Exploring User Perceptions on Bug Locating Performance
Allotey	MAOP	2	Quantum Entanglement on spatially separated photons
Almalkawi	Independent	3	Influence of the Addition of Phase Change Materials and Cellulose Nanofiber on the Strength and Thermal Conductivity of Cement Pastes and Concrete
Angel	MAOP	4	Investigating Haptic Feedback with the Dynamics and Control of a Quadrotor and Natural Pendulum
Beasley	Independent	5	Evaluating Possible Hybridization Between Two Crayfish In Stroubles Creek
Bradshaw	MAOP	6	Purification of Molten Salt for Energy Storage
Braxton-Hall	MAOP	7	Nest Box Orientation and Breeding Success in Tree Swallows ( <i>Tachycineta bicolor</i> )
Brown	MAOP	8	The Role of Extracurricular Activity Involvement in the Social Outcomes of Adolescents with and without ADHD
Brunelli	MAOP	9	Using transposon mutagenesis in <i>Serratia marcescens</i> to characterize pigment overproduction in response to bacteriophage Chi
Burnap	MAOP	10	Determining Practices for the US Forest Service to Better Engage With Private Landowners
Carter	MAOP	11	Using Virtual Reality To Complete Research Training
Casey	Independent	12	ATLAS: Multi-variable Artistry and Diversity in the Film Industry
Choute	MAOP	13	Surveillance of Extended Spectrum Beta Lactamase (ESBL) producing <i>Escherichia coli</i> in a Rural Watershed
Collins	MAOP	14	Validation of Canine White Blood Cell Library using MALDI-TOF MS
Cox	MAOP	15	Does the Impact of Parental Divorce on Child Anxiety and Depression Differ for Neurodivergent vs. Neurotypical Youth?
Donaldson	MAOP	16	ESTABLISHING POTENTIAL CONNECTIONS BETWEEN THE PDGF-BB PATHWAY AND EXTRACELLULAR MATRIX REMODELING IN HYPERGLYCEMIC MURINE KIDNEYS.
Essex	MAOP	17	Feasibility Study for Using MALDI-TOF MS to Diagnose Equine Melanoma
Fink	MAOP	18	Diving Deep into Mesopelagic Fisheries
Gambrell	MAOP	19	Comparison of Entropy in Random Number Generation
Garza	MAOP	20	Food Insecurity Predicts Excessive Exercise Among College Students Across One Semester
Gatuku	MAOP	21	Sewershed Surveillance of ARGs in Central Appalachia: Building a Monitoring Framework for Rural Systems
Gomez	MAOP	22	The Cat is in the Bag - an Exploration into Cat Strollers
Graham	MAOP	23	Sex Hormones Impact on Herpes Simplex Virus Productive Infection
Grimes	MAOP	24	Support for Post-Crash Care Improvement
Klier	MAOP	25	Promoting Food Safety and Stability in Value-Added Products: Analyzing pH, Water Activity, and Ingredient Contributions for Virginia Food Producers
Lewis, E.	MAOP	26	Postmortems: The Game Development Process
Liburd	MAOP	27	Mannopyranoside synthesis towards production of glycomaterials
Mason	MAOP	28	Developing aerial robotic systems for human and environmental science research
McCarthy	Independent	29	Mass Transfer Through a Beaver Dam Analog
McCaskill	MAOP	30	Accelerating Carbohydrate Chemistry using Flow
Nimmo	MAOP	31	Identification of active site residues in YUC10 from <i>Arabidopsis thaliana</i>
Orfaly	MAOP	32	Modelling Corrosion
Oyediran	MAOP	33	Overstepping boundaries: How fluid flow impacts different tumor cell populations to invade in brain cancer
Roberts	MAOP	34	AutoPrint:
Robinson, S.	MAOP	35	Quantum Sensing of Magnetic Fields
Rovira	MAOP	36	Analysis of GNSS Radio Frequency Interference in Ports and Coastal Areas
Smith, A.	MAOP	37	Assessment of the T4 phage ac gene function in relation to bacterial lysis
Tam	MAOP	38	Euclidation of Mechano-Bactericidal Nanospikes on Electrochemically Etched Stainless Steel Surfaces.
Thornbury	MAOP	39	Pressing for Progress: Black Newspaper Activism in Early 20th Century Chicago
Wierer	MAOP	40	Development of free surface tracking methods
Yusif	MAOP	41	POC as a Promising Scaffold For Bone Tissue Regeneration.
Fletcher	Neutrino Physics REU	42	Constraining Beyond the Standard Model Sub-MeV Neutrino Fluxes using the XENONnT Detector

**Poster Session 2: 11-11:50am**

Registered Presenter	Program Affiliation	Poster number	Poster Title
Abe	Independent	1	Prevalence of emerging geologic contaminants with possible health concerns in a State private drinking water system from 2012 to 2022
Acosta	neuroSURF EIP	2	Using AI to assess the ultrastructural effects of mitochondrial calcium uniporter deletion in CA2 neurons
Adams	neuroSURF EIP	3	Examining Criteria for Successful Testbed Development and Implementation in Healthcare Systems
Alvarez	CUBE SURF	4	Quantifying the Relationship of Reward Certainty with Delay-based Decision Making
Banka	CardioSURF	5	Effect of sleep and circadian rhythm disruptions on Pulmonary Arterial Hypertension
Barakat	neuroSURF	6	Early Life Trauma Dysregulates Immune System Response to Inflammatory Pain
Barrow	neuroSURF	7	Tracking Vigilance with Real-Time fMRI
Biggs	VT-REEL	8	Evaluation of image-processing techniques as high throughput-phenotyping method for pollen viability assessment under heat stress
Braxton	CardioSURF	9	AMPK Regulation of Glycolysis After Acute Exercise through Enolase 3
Carvalho	CardioSURF	10	The Role of Connexin 43 in Endothelial Cells During Vascular Wound Healing
Davis	neuroSURF	11	New Pipeline to Precision Medicine for Glioblastoma
Dhruva	neuroSURF	12	Evaluating Verity Through Latency and Accuracy of Open-Source Biometric Sensor Devices
Dinakin	CHBR	13	Dietary Patterns Involving Ultra Processed Foods in Eating Behavior
Doceti	neuroSURF	14	The Effect of Sleep Quality on Neural Response to Sweet Taste
Emmanuel	neuroSURF EIP	15	Relevance of p53 binding to PER2 for circadian rhythm remodeling in colorectal cancer cell
Ezigbo	neuroSURF	16	Quantification of Changes in Dendritic Spine Morphology After MCU Knockout in the CA2 Subregion of the Hippocampus
Guo	CHBR	17	Smoking as a moderator of the association between BMI and delay discounting
Henderson	CUBE SURF	18	Examining the Impact of Cognitive Restraint on Flavor Nutrient Conditioning
Holsinger	neuroSURF EIP	19	Optic Nerve Astrogliosis: A Response to Retinal Ganglion Cell Stress
Hubshman	neuroSURF	20	Does Episodic Future Thinking decrease Consumption of Alcohol and Cocaine in individuals with Substance Use Disorders?
Keverline	Independent	21	Establishing Standard Operating Procedures for Bathymetric Mapping of Small Freshwater Reservoirs
Kosolapov	CardioSURF	22	Role of connexin43 / $\beta$ -catenin interaction in epithelial-mesenchymal transition and induced pluripotent stem cell derived cardiomyocytes
Le, N. T.	CUBE SURF	23	Examining the Mediating Effect of Delay Discounting on the Impact of Simulated Scarcity with Cigarette Smoking Behavior
Loyd	Sch of Neurosci Summer Fellow	24	The Effect of State Anxiety on Heart Rate Variability
Ngo	Independent	25	Case Study: Determining the Optimal Approach for Comparing Rhythmic Datasets
Nguyen	CHBR	26	The Associations of Delay Discounting, Chronic Pain, and Obesity with Unhealthy Behaviors in Individuals in Recovery from Substance Use Disorder
Noel	Sch of Neurosci Summer Fellow	27	Elucidating potential signaling proteins involved in astrocytic BDNF/TrkB.T1 dependent responses
Pereira	neuroSURF	28	Assessing motor learning in children with hemiparesis undergoing ACQUIRE therapy
Quader	CardioSURF	29	Regulation of gap junction function through connexin 43 phosphorylation during stress
Rahyab	neuroSURF	30	Effects of Hyperglycemia on Capillary Pericytes, Endothelial Cells, and Extracellular Matrix (ECM) in Murine Brain Vessels
Reddy	neuroSURF	31	Interaction with Tumor Suppressor p53 and Core Clock Gene Per2 alters DNA Binding Ability
Rehmat	Independent	32	Soliciting Stakeholder Feedback on the Unwinding Anxiety App to Reduce Adolescent Social Anxiety
Roane	VT-REEL	33	Learning Laboratory and Field-Based Pest Management Techniques for Crop Production
Rygalski	neuroSURF	34	Non-retinal Sonic Hedgehog Signaling Impacts the Development of Principal GABAergic Neurons but not Glutamatergic Inputs in the Rodent Ventral Lateral Geniculate Nucleus
Sane	neuroSURF	35	Do GLP-1 Agonists Reduce Intake and Effects of Alcohol?
Stiles	neuroSURF	36	Investigating associations between personality and the effects of LIFU neuromodulation in the context of acute pain
Su	neuroSURF	37	Assessing the Level of Compensatory Activities of Children With Hemiparesis During Acquire Therapy
Taylor	VT-REEL	38	Protein Hydrolysate Biostimulant Effects on Plant Growth and Development
Upreti	CHBR	39	Investigating the Impact of lifestyle factors on Heart Rate Variability

Waller	VT-REEL	40	Fungal Bioluminescence Pathway for Gene Reporters in Apples
Williams	Independent	41	Unwinding Anxiety: Utility of a Mindfulness-Based App to Reduce Adolescent Social Anxiety
Wisniewski	neuroSURF	42	Developing Precision Medicine for Glioblastoma Based on Molecular Subtypes
<b>Poster Session 3: 1-1:50pm</b>			
Registered Presenter	Program Affiliation	Poster number	Poster Title
Abe	Fralin SURF	1	Does place matter? An analysis of environmental perspectives of Ivorians from Abidjan: Port Bouet vs Cocody
Adongo	Hollins/Global Change Center Scholars	2	Pragmatic Iranian Foreign Policy in Central Asia
Bickley	Independent	3	Investigating the mechanism of action of a neuropeptide derived from hobo spider venom
Bridgewater	Beckman Scholars	4	Mimicking Nature for Solar Fuel Generation
Choi	Beckman Scholars	5	Investigation of Different Pore Geometries on Cell Proliferation and Infiltration of Soy- based Resin via Vat Photopolymerization for Tissue Scaffolds
Cleveland	Independent	6	Characterizing Oligomeric Amyloid- $\beta$ 42 and POPC Interactions Through Molecular Dynamics: A Computational Approach for Understanding Alzheimer's Disease
Collett	Fralin SURF	7	Identification of Ligand Specificity of Bradyrhizobium diazoefficiens Chemoreceptor Bll7062
Desai	Fralin SURF	8	Observing Changes in Glutamatergic Signaling Proteins in a Preclinical Model of Repeated Blast-Induced TBI
Dong	Hollins/Global Change Center Scholars	9	Comparing Acoustic and Mist Netting Sampling Techniques for Chiroptera Species Diversity across Elevational and Landscape Gradients in Colombia
Ferguson	Fralin SURF	10	Iron-sulfur Cluster Assembling Thioredoxin from Methanocaldococcus jannaschii
Gangwani	Hollins/Global Change Center Scholars	11	Comparing Outcomes of Community-Based and ICT-Based Mental Health Interventions for Adolescents with Parents Affected by Alcoholism and Addiction in India
Harvey	Fralin SURF	12	Language Use Preferences in Autistic Identities
Helms	Hollins/Global Change Center Scholars	13	Shifting Geopolitics: The Shanghai Cooperation Organization
Hessian	Fralin SURF	14	A Morphometric and Spatial Analysis of the White Shark Population in the Mediterranean Sea.
Kaswinkel	NSF-REU Supplement	15	Toward Nanofibrous Engineered Living Materials: Optimization of a Biocompatible Nanofiber Matrix
Kinsey	College of Science Pilot REU Program	16	Effects of topography on bacterial adhesion and cell membrane organization
Le, M.	PREP	17	East vs. West: Exploring the Role of Culture in Parent Emotion Socialization Practices
Lee	Fralin SURF	18	Antibiotic assay of Ice-Nucleating Lysinibacillus parvivoronicapiens on other bacterial and fungal species
Leruth	Fralin SURF	19	Antibody Cross-Reactivity in Gnotobiotic Pigs Immunized with rRRV-P Candidate Vaccines against Human Norovirus
Lewis, A.	SURF - Hollins University	20	Edinburgh Fringe Festival: Exploring New Writing and Spoken Word Productions
Mayfield	Independent	21	Visualizing The Impacts of Laboratory Class Design on Student Performance
Mercedes Casado	College of Science Pilot REU Program	22	Lipid Membrane Interactions with Recombinant Proteins
Moore	Beckman Scholars	23	Histotripsy: Cancer Treatment using Focused Ultrasound inducing Mechanical Ablation, Successfully Ablates Pancreatic Tumor
Morgan	Independent	24	Exploring Computational Methods in Wet Lab Sciences
Newman	Fralin SURF	25	Measuring circulating glucose concentrations in dairy cattle to predict the response to summer heat stress.
O'Hara	David Lyerly Foundation Undergraduate Microbiology Research Fellowship	26	Detergents Including Bile Salts Promote Increased Bacterial Twitching Motility
Orlando	Fralin SURF	27	Exploring patterns in microbial activity across altered stream flowpaths
Paka	Independent	28	Potential Role of L-Arabinose as Chemoattractant in Sinorhizobium meliloti
Peters	Fralin SURF	29	Understanding Altruistic Enzymes: Biochemical characterization of the self-sacrificing p-aminobenzoate synthase from Nitrosomonas europaea
Russell	Independent	30	Stereoselective Glycosylation via Dynamic Kinetic Resolution
Samson	Fralin SURF	31	Expression and purification of Chi phage tail fiber protein to study interactions with Salmonella enterica flagella

Seymour	Independent	32	The Influence of Deadline and Distraction on Children's Task Performance
Smith, R.	Fralin SURF	33	The Wonderful World of Eosinophils: Assessing the Role of NIK on Eosinophil Proliferation and Maturation in a Murine Model
Stein	GlycoMIP SURF	34	Mucinomics: Characterizing the carbohydrates from human and lab-grown mucins
Styles	Fralin SURF	35	Temporal Expression of Key Herpes Simplex Virus Proteins During Latency Establishment
Svetanant	Independent	36	Peripheral-derived immune cells contribute to the remodeling of pre-existing pial collateral vessels following ischemic stroke
Thomas	Undergraduate Scholar in VT Biochemistry	37	Radical SAM Catalyzed Methylation for Tetrahydromethanopterin Biosynthesis in Methanogenic Archaea
Vaughan	Fralin SURF	38	Effects of Embryonic Heat Conditioning on the Hypothalamic Responses to Stress, Appetite, and Thermoregulation in Broiler Chicks
Walsh	GlycoMIP SURF	39	Mucinomics: Characterization of glycoproteins in human tissue and synthetic mucus
Wangler	ICTAS Undergraduate Research Fellowship Program	40	Motor Characterization of a Wearable Device to Treat Upper Extremity Lymphedema
Wilkes	Fralin SURF	41	Examining the Role of Lrp during growth of <i>Pantoea stewartii</i> in Extracted Corn Xylem Fluid
Youngs	Beckman Scholars	42	Determining Histotripsy Treatment Parameters to Successfully Ablate Pancreatic Tumors and Understanding the Role of Immunological Response
<b>Poster Session 4: 2-2:50pm</b>			
Registered Presenter	Program Affiliation	Poster number	Poster Title
Ajyeman	Solving Problems with Data Science REU	1	Sexual Dimorphism in the Feeding Apparatus of Blood Feeding Mosquitoes
Alading	Solving Problems with Data Science REU	2	Data Analysis for Florida Red tide-induced respiratory irritation: Feature Identification and Forecasting Model
Band	TOUR	3	Resolution and Accuracy Improvements of Whole-Room Indirect Calorimeters
Blacksten	Solving Problems with Data Science REU	4	Look Mom, No Hands: Effects of perch diameter on vertical gap crossing capabilities in arboreal snakes
Blackston	Solving Problems with Data Science REU	5	Tracking Atmospheric Microplastics Using Trajectory Modeling
Callin	Neutrino Physics REU	6	Calibration of Fe-57 Mössbauer Spectrometer for Hyperfine Interaction Analysis
Cashman	Independent	7	Does the fungal microbiome of germinating orchid seeds change in response to habitat disturbance?
Catterton	STEER REU	8	Stepwise Recycling of Unsaturated Polyester Resin to Benzene and Uncrosslinked Polyesters
Chen	Independent	9	Cathepsin S as mediator of acidosis-associated organ damage
Chester	Independent	10	Utilization of Texture Analysis to Identify Echocardiogram Features in Patients with Reduced Left Ventricular Ejection Fraction
Copeland	STEER REU	11	C-H Bond Functionalization and Copper (II) Metalation
Coughlon	STEER REU	12	Molecular Ionic Composites as Solid Electrolytes for Lithium Metal Batteries
DeShong	Neutrino Physics REU	13	Angular Dependence of Compton Scattering Within Plastic Scintillators
Dooley	Solving Problems with Data Science REU	14	Do snakes feed differently in an arboreal environment?
Ellis	TOUR	15	Exploring the Impact of Long-Term and Short-Term Usage of Aspartame and Sucralose on Glycemic Control
Garg	Neutrino Physics REU	16	Analyzing Neutral Hydrogen and Midplane Pressure in NGC 3941
Harris	STEER REU	17	Phosphine-catalyzed Hydroamidation of Alkynoates
Kern	Solving Problems with Data Science REU	18	Studying Biofilm Formation of Environmental Bacteria Samples on Various Types of Microplastics
Kibue	TOUR	19	Effects of nutrient availability on ATP synthesis and thyroxine-mediated changes in neurogenesis in the optic tectum of <i>Xenopus laevis</i> larvae
Klemba	Solving Problems with Data Science REU	20	Comparing Multispectral Satellite and Drone Imagery for Monitoring Harmful Algal Blooms
Krishnan	TOUR	21	Nitric Oxide alters Skeletal Muscle Mitochondrial Quality Control
Lattig	TOUR	22	Dance on the Brain: Examining how dance enhances social skills through physiological synchrony
Le, T.	TOUR	23	Determining the Effects of Varying Amounts of NIK Gene Expression on the Function of Epithelial Cells
Liu	Sure program	24	Squares of bivariate Goppa codes

Makatura	Solving Problems with Data Science REU	25	Effect of physiological stress on the evolution of chromosome and centrosome numbers in newly formed tetraploid cells
Marsh	Solving Problems with Data Science REU	26	Distribution of Winter Injury on Bermudagrass Athletic Fields Relative to Athlete Movement
Mehari	TOUR	27	The Role of eNOS in Mediating Hepatic Mitochondrial Quality Control
Miyazaki	Solving Problems with Data Science REU	28	Validating an Atmospheric Dispersion Model using a Historical Field Experiment
Moy	VT Data Science for the Public Good	29	VCE: Optimizing Extension Services
Odibo	Solving Problems with Data Science REU	30	Development of a Surface-Enhanced Raman Scattering (SERS) based Nanoprobe for Leaf pH Detection
Parker-Rollins	TOUR	31	Psychological Safety in Higher Education
Price	Solving Problems with Data Science REU	32	Understanding Perceptions Limiting Adoption of Precision Turfgrass Management: An Analysis of Barriers
Pudasaini	Solving Problems with Data Science REU	33	Autonomous Systems for Specialty Crops Load, Canopy, and Disease Estimations
Pulla	VT Data Science for the Public Good	34	Effects of Prenatal Exposure to Flooding on Child Health Outcomes: Evidence from Bangladesh
Robinson Jr, D.	STEER REU	35	Synthesis of Cyclam-Based Metal-Organic Framework for Water Oxidation
Sawyer	Independent	36	Raising Black Soldier Fly Larvae to Recover Value from Food Waste
Smith, D.	STEER REU	37	Synthesis and Characterization of Ion-Imprinted Polymers for Selective Lanthanide Separation
Veraa	Neutrino Physics REU	38	Commissioning of Data Acquisition System for Gamma Ray Spectroscopy
Wiggins	VT Data Science for the Public Good	39	Land Use and Solar Farming Assessment in Hanover County, Virginia
Xiang	Solving Problems with Data Science REU	40	Early Stress Detection in Tomato Plants using Computer Vision and 2D/3D Imaging
Yu	TOUR	41	Young Adult Eating Habit(YAEH)--Influence of Ultra-Processed Food on Brain Reward Response and Energy Intake
Zaslavsky	Independent	42	Scaling Analysis of Taenidia in Beetle (Zophobas morio) Tracheae

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