



2018 UNDERGRADUATE RESEARCH POSTER SESSION

September 6, 2018
Student Center Atrium

It is my great pleasure to welcome you to the poster session of the 2018 Undergraduate Summer Research Award Program.

We use this event to raise awareness of the amazing research and scholarship being conducted at CSU, as well as highlight its relevance for personal, academic, and professional development.

This summer CSU's Office of Research sponsored 55 research projects from six colleges, involving 77 of our finest undergraduate students. The advisors of these projects are among the most outstanding faculty at CSU. The projects comprise a fascinating and diverse snapshot of the research and scholarship at the University, spanning areas such as cancer research, social media use, sexual health, rehabilitation, climate change, diversity issues, human tissue generation, and many others.

Some of this research will appear in professional conferences, and some will be published in academic research journals. Some of these students will go on to earn graduate degrees here or elsewhere. All of them will be able to use this experience as a springboard to even bigger and better accomplishments in their future academic efforts and careers. Thank you for coming to the 2018 Undergraduate Research Poster Session – I know that you'll enjoy seeing and hearing about CSU's undergraduate research and scholarship!



A handwritten signature in black ink, reading "J. Sawicki".

Jerzy T. Sawicki
Vice President for Research
Cleveland State University



Research is thriving at Cleveland State University! Our annual Undergraduate Research Poster Session highlights the outstanding contributions that CSU undergraduates are making to knowledge creation and its application to real-life issues, for the benefit of our community, our nation and our world. Please join me in celebrating the accomplishments of our student-scholars and the world-class faculty who advise them.

A handwritten signature in black ink, reading "Harlan".

Harlan M. Sands
President
Cleveland State University



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7	8	9	10	11	12

18	17	16	15	14	13
19	20	21	22	23	24

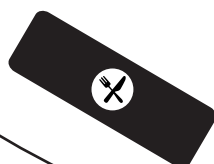
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31	32	33	34	35	36

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49	50	51	52	53
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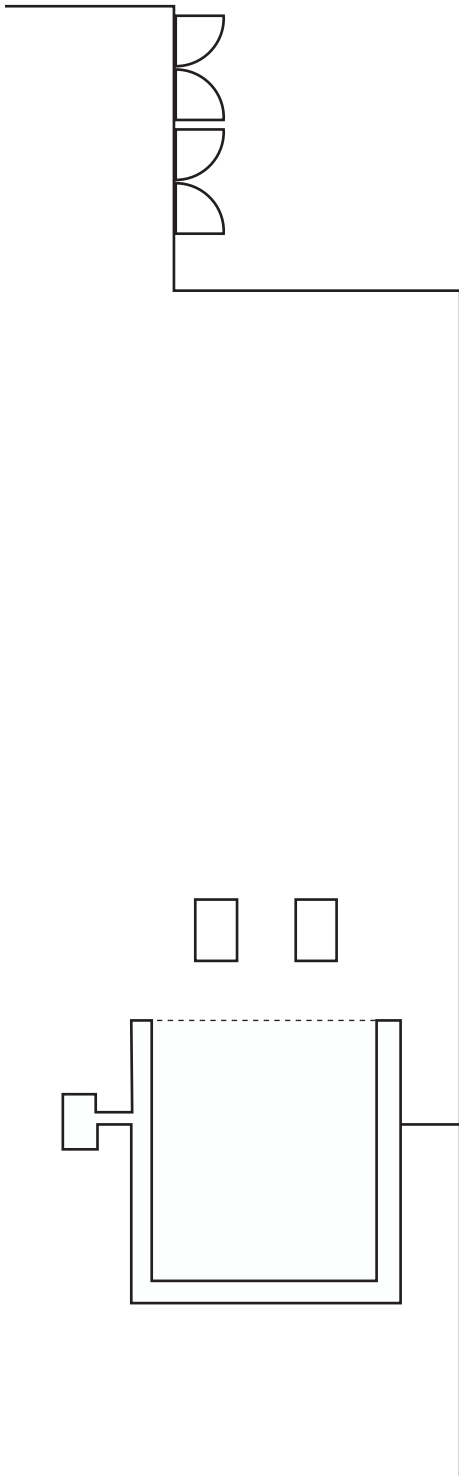
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68	67	66	65	64

69	70	71		
74	73	72		



2018 Undergraduate Research Poster Session Map

This showcase celebrates the breadth and depth of undergraduate research being conducted at CSU. Please use this map to explore all of the amazing research being highlighted.



Map Key

See pages 6-7 for poster details.

**COLLEGE OF EDUCATION
AND HUMAN SERVICES**

1-3

**COLLEGE OF LIBERAL
ARTS & SOCIAL SCIENCES**

4-12

**COLLEGE OF SCIENCES &
HEALTH PROFESSIONS**

13-55

**MAXINE GOODMAN LEVIN
COLLEGE OF URBAN AFFAIRS**

56-58

**MONTE AHUJA COLLEGE
OF BUSINESS**

59

**WASHKEWICZ COLLEGE
OF ENGINEERING**

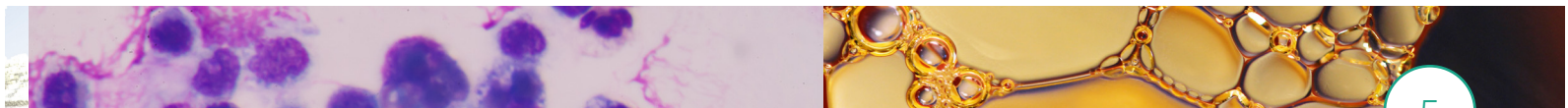
60-74



Information & Evaluation Forms



Refreshments



Undergraduate Research Posters

1-3 COLLEGE OF EDUCATION AND HUMAN SERVICES

1. **King-White, Dakota** Assessing the social, emotional, and mental health needs in urban schools
2. **Liao, Kelly Yu-Hsin** The harmful effects of the strong black women ideal: A mediation model
3. **Chan, Paula** Evaluating three methods for recruiting student feedback in the college classroom

4-12 COLLEGE OF LIBERAL ARTS AND SOCIAL SCIENCES

4. **Berry, Anne / DeBoth, Kelle / Schaefer, John** How can content management systems be customized for better user experience?
5. **Li, Qian** Bubble suit animation
6. **Novisky, Meghan** The impacts of trauma exposure and differential access to medical services on the incarceration experience
7. **Wanyerka, Phil** Archaeological investigations at the Fort Hill earthwork complex
8. **Rose, Shelley / Souther, Mark** Oral histories: Out of the archive and into the classroom
9. **Olszewski, Carol** RAS expanded: Visual and tactile cueing for individuals with gait disorders
10. **Lieske, Joel** Trumped: How Donald J. Trump defied the odds and won the presidency
11. **Fuller, Kimberly / Clonan-Roy, Katie** How does current sex education perpetuate rape culture?
12. **Medina-Rivera, Antonio** Intercultural bilingual education in the urban Andes

13-55 COLLEGE OF SCIENCES AND HEALTH PROFESSIONS

13. **Dean, Jeffrey** Influence of stimulus amplitude on African clawed frogs' choices between two stimuli
14. **Gore-Panter, Shamone** The use of retinoic acid to promote atrial and ventricular "like" cells
15. **Kim, Hee-Sook** Roles of H3v in *Trypanosoma brucei*
16. **Kondratov, Roman** Circadian clock proteins CRYs are involved in control of diet dependent ACOT expression
17. **Kondratov, Roman** Effect of feeding regimens of YAP signaling
18. **Krebs, Robert** Changes in Alzheimer's models in response to neuroprotective compound
19. **Li, Bibo** Screen for interacting factors for *Trypanosoma brucei* telomere protein RAP1
20. **Mueller, Kevin / Rauschert, Emily** Quantifying the ability of common invasive shrubs to acquire and use water, to tolerate drought, and compete with native plants within Holden Arboretum, Ohio
21. **Rauschert, Emily** Weed communities in urban agriculture
22. **Sam-Yellowe, Tobili** Expression of full-length recombinant *Plasmodium falciparum* PfMC-2TM
23. **Santiago, Josué** Simulation of abiotic hurricane effects on lotic meiofauna abundance and composition
24. **Severson, Aaron** A targeted genetic screen to identify meiotic cohesin regulators
25. **Severson, Aaron** Meiotic drive in *C. elegans*: A violation of Mendel's second law
26. **Vitali, Jacqueline** Toward the crystallization of an archaeal dihydrorotase
27. **Bayachou, Mekki** Anti-thrombotic coatings for blood contacting medical devices and implants
28. **Berdis, Anthony** Increasing the efficacy of doxorubicin against breast cancer
29. **Sandlers, Yana** Dodecanedioic acid treatment in VLCAD fibroblasts
30. **Su, Bin** Off targets toxicological investigation of anti-cancer tubulin inhibitors
31. **Sun, Xue-Long** Synthesis of sialic acid derivative for modifying cell surface sialylation
32. **Zhou, Aimin** TMC01 is a novel target for cancer chemotherapy
33. **Bickel, Jessica / Heus, Thijs** Peer quizzing: Are two heads really better than one?
34. **Fodor, Petru / Streletsky, Kiril** Characterization of microgels in ionic liquids
35. **Resnick, Andrew** Construction and applications of an inexpensive muon detector
36. **Streletsky, Kiril / Kaufman, Miron** The effects of chemical crosslinker on polymeric microgels
37. **Streletsky, Kiril / Kaufman, Miron** Towards understanding microgel volume phase transitions
38. **Heus, Thijs / Ryan, Shawn** An alternative means for observation-based cloud size distributions
39. **Heus, Thijs / Ryan, Shawn** Characterizing the turbulent structure of the CBL and the entrainment
40. **Heus, Thijs / Ryan, Shawn** Determining cloud cover with machine learning
41. **Heus, Thijs / Ryan, Shawn** Investigating the influence of cloud size on cumulus cloud entrainment

42. Goncy, Elizabeth
43. Naser, Shereen / Goncy, Elizabeth
44. Rowlett, Maria
45. Smith, Albert F.
46. Smith, Albert F.
47. Smith, Albert F.
48. Espy, Debbie
49. Hammonds, Michael / Sahley, Tony / Woodside, Brian
50. Jeziorowski, John
51. Knackstedt, Rebecca
52. Lammers, Andrew
53. Reinthal, Ann / Ekelman, Beth
54. Wendland, Madalynn / Giuffre, Suzanne / DeMarco, Jodi
55. Yorke, April

The impact of the mother-daughter relationship on teen pregnancy
Perspectives on adolescent drug use: Interviews with community providers

Perception of time and post-surgery physical rehabilitation
The impact of adjacent-letter flanking bigrams on lexical decision performance
Reading between the bigrams
Programming to transition psychological experiments from SuperLab to MATLAB
Development of a controlled harness system to increase flexibility
Learning to do in vivo neural responses in mice

Case concentration: An academic arcade game for physical therapist education
Indication of abdominal wound complication within breast cancer reconstruction
Effects of greater palatine nerve anesthesia on hyoid musculature
Balance training using the multi-directional harness system
The T.E.A.M approach to interprofessional education

Reading-related phonological processing interventions

56-58

MAXINE GOODMAN LEVIN COLLEGE OF URBAN AFFAIRS

56. Rubado, Meghan / Kaufman, Sanda
57. Tighe, J. Rosie
58. Wukich, Clayton

Environmental certification program ISO 14001

Effectiveness of anti-discrimination policies: An analysis of housing advertisements
The formation of Twitter networks among U.S. city mayors

59

MONTE AHUJA COLLEGE OF BUSINESS

59. Gallagher, Vickie Coleman / Porter, Tracy / Valcea, Sorin / Baran, Ben

Socioeconomic mobility of local refugees: An analysis of Syrian, Congolese and Ukrainian / Russian refugees

60-74

WASHKEWICZ COLLEGE OF ENGINEERING

60. Ao, Geyou
61. Damaser, Margot
62. Gatica, Jorge
63. Gumma, Sasidhar
64. Holland, Nolan
65. Kothapalli, Chandrasekhar / Fodor, Petru / Borkar, Tushar
66. Kothapalli, Chandrasekhar / Fodor, Petru / Borkar, Tushar
67. Lee, Moo-Yeal
68. Lee, Moo-Yeal
69. Tewari, Surendra
70. Wirth, Christopher / Ryan, Shawn
71. Jenkins, Jacqueline
72. Zhao, Wenbing
73. Borkar, Tushar
74. Borkar, Tushar

Surface functionalization of pure-chirality carbon nanotubes
Treatment of non-epithelial vaginal cells from lysyl oxidase
Multi-phase waste gasification – reaction engineering for sustainable living environments
Investigating particle size manipulation for the metal organic framework Cu-BTC
Characterizing complexes of DNA and elastin-like polypeptides
Methodology development for the implementation of microfluidic mixers

Implementation of a reverse staggered-herringbone microfluidic mixer for high-throughput polymer nanoparticle synthesis
Prediction of metabolism-induced neurotoxicity on a 384-pillar plate
A 3D cancer cell migration assay on a 384-pillar plate with sidewalls
Dendrite morphology of Pb-5.8 Sb alloy
Boundary effects on the locomotion of active Janus particles

Civil engineering surrounds you
Virtual reality based serious games for STNA training
Spark plasma sintering of soft magnetic materials
Comparative study of the microstructure and mechanical properties of high entropy alloys

**ENGAGED
LEARNING**



Office of
Research

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