

Kevin L. Scruders
kscrudde@purdue.edu • (740)-260-4521
221 N. 6th St Apt. 1210, Lafayette, IN 47901

Education

Purdue University (West Lafayette, IN)

- Ph.D., Biochemistry

Expected May 2024

Heidelberg University (Tiffin, OH) [abbr. HU]

- B.S., Biochemistry and Philosophy

May 2019

Research Experience

Purdue University

Graduate Research with Dr. Shalini T. Low-Nam

West Lafayette, IN

Oct 2019 – Present

CAR T-cell Activation Thresholds

- Single molecule, single cell reconstitution of T cell activation thresholds
- T-Cell activation thresholds in 3D cell-cell junctions

Teaching Experience

CHM 339 – Biochemistry Laboratory, TA

Oversaw two sections of weekly laboratory

Jan 2020 – June 2020

CHM 129 – Gen. Chem. with a Biological Focus, TA

Oversaw two sections of weekly laboratory and recitation

Aug 2019 – Dec 2019

Leadership Experience

Student-Led “Frontiers In Biophysics Seminar Series” Selection Committee
(Chair 2022, Member 2021)

Aug 2021 - Present

“The Hitchhiker’s Guide to The Biomolecular Galaxy” Symposium Committee

Spring 2022 & 2023

Purdue Biochem. Div. Seminar, Student-led Speaker Selection Committee

Fall 2020 & 2022

Heidelberg Univ. ACS Student Chapter

Aug 2014 – May 2019

(President 2018, President 2017, VP 2016, Treasurer 2015)

Fellowships/Awards/Honors

NIH T32 Fellowship – Molecular Biophysics

Aug 2021 – July 2023

The Pancoast Family Scholarship [HU]

May 2019, May 2020

The Robert E. Oleson Outstanding Student Leader Award [HU]

May 2019

Publications

Curtis, Ryan W.; Scruders, Kevin L.; Ulcickas, James R. W.; Simpson, Garth J.; Low-Nam, Shalini T.; Chmielewski, Jean, *Supramolecular Assembly of His-Tagged Fluorescent Protein Guests within Coiled-Coil Peptide Crystal Hosts: Three-Dimensional Ordering and Protein Thermal Stability*, ACS Biomaterials Science & Engineering, **April 4th, 2022**, doi: 10.1021/acsbmaterials.2c00155

Abstracts/Posters

Scrudders, Kevin L.; Luo, Weichuan; Zheng, Suilan; Menon, Vinay; Breinig, Tanvi; Rodriquez-Lopez, Kenneth; Philip, Low; Low-Nam, Shalini, *Bridging the Gap: reconstitution of engineered T cell activation with single-cell, single-molecule resolution*, Gordan Research Conference: Biointerface Science, **Jun 12-17th, 2022**

Scrudders, Kevin; Luo, Weichuan; Zheng, Suilan; Philip, Low; Low-Nam, Shalini, *Single-molecule, single-cell reconstitution of engineered T cell activation*, 17th Annual Garnet E. Peck Symposium, **April 7th, 2022**

Scrudders, Kevin; Luo, Weichuan; Zheng, Suilan; Philip, Low; Low-Nam, Shalini, *Single-molecule, single-cell reconstitution of engineered T cell activation*, Abstracts of Papers, 263rd ACS National Meeting, San Diego, CA, United States, **Mar 20-24th, 2022**, BIOL 3656534

Scrudders, Kevin L.; Muralidharan, Kaushik; Lyon, Angeline; Low-Nam, Shalini T.; *Reconstituting PLC β Domain Function using Supported Lipid Bilayers*, 733 Wilhelm Und Else Heraeus-Stiftung Seminar, Online Seminar, **Mar 17-18th, 2021**, Poster 37

Scrudders, Kevin; Cohn, Melanie; Ihrig, Colin; Malone, Kiera; Iwanek, Kathryn; Morrison, Chase; Beres, Nathaniel, *Green Chemistry at Heidelberg University*, Green Chemistry Student Chapters: Stories of Success (Invited), 257th ACS National Meeting, Orlando, FL, United States, **March 31 – April 4th, 2019**, CHED-234

Scrudders, Kevin; Beres, Nathaniel, *Antimicrobial Properties of Menthol and its Derivatives*, Abstracts of Papers, 257th ACS National Meeting, Orlando, FL, United States, **March 31 – April 4th, 2019**, CHED-117

Scrudders, Kevin; Bauer, Alexandra; Blum, Dani; Webb, Rebecca; Raimondo, Rachel; Beres, Nathaniel, *Chemistry outreach with Heidelberg University's ACS Chapter*, Abstracts of Papers, 255th ACS National Meeting, New Orleans, LA, United States, **March 18-22nd, 2018**, CHED-1893

Bauer, Alexandra; Scrudders, Kevin; Blum, Dani; Hogle, Markilynn; Riffle, Erica; Beres, Nathaniel, *Chemistry in the Heidelberg University community*, Abstracts of Papers, 253rd ACS National Meeting, San Francisco, CA, United States, **April 2-6th, 2017**, CHED-1785

Scrudders, Kevin; Chandler, Claire; Beres, Nathaniel, *Antimicrobial properties of lavender and cinnamon derivatives*, Abstracts of Papers, CHED 251st ACS National Meeting, San Diego, CA, United States, **March 13-17th, 2016**, CHED-1293

Skills and Techniques

- Various Microscopy Applications and Modalities
 - Total Internal Reflection Fluorescence (TIRF)
 - Wide field (Epifluorescence)
 - Interference Reflection Microscopy (IRM)
 - Diascopic (transmitted)
 - Single Molecule Localization and Tracking
 - Live and Fixed Cell Imaging
 - Förster Resonance Energy Transfer (FRET)
- MATLAB coding/data analysis (multi-dimensional imaging processing, statistical analysis)
- Mammalian cell culture (Primary and Cell Lines)
- Supported lipid bilayer (SLB) reconstitution
- Short-length peptide synthesis