


PhD Virtual Presentation Day

 Friday, January 28, 2022 | 9:00 a.m.–4:00 p.m.
Via Zoom: kji.zoom.us/j/9939931204 | Meeting ID: 993 993 1204

Presentation Agenda



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TIME	SPEAKER
9:00–9:10 a.m.	<p>Welcome & Opening Remarks Sheldon Schuster, President, KGI</p> <p>PhD Overview Travis Schlappi, Interim PhD Program Director</p>
9:10–10:30 a.m.	<p>PhD Students—Oral Presentations</p> <p>Terezie Cernosek 9:10– 9:30 a.m. (1st year) Diandra Martinez 9:30–9:50 a.m. (2nd year) Noa Park 9:50–10:10 a.m. (2nd year) Alexander Burns 10:10–10:30 a.m. (1st year)</p>
10:30–10:40 a.m.	Break
10:40 a.m.–12:00 p.m.	<p>PhD Students—Oral Presentations</p> <p>Tristan Yang 10:40–11:00 a.m. (1st year) Christine Urrea 11:00–11:40 a.m. (3rd year) Mandar Makwana 11:40 a.m.–12:00 p.m. (2nd year)</p>
12:00–1:00 p.m.	<p>Keynote Speaker—Brian Meyer, PhD, Principal Scientist at Merck & Co. “Intradermal Delivery: An Overview”</p>
1:00–2:20 p.m.	<p>PhD Students—Oral Presentations</p> <p>Andres Camelo 1:00–1:20 p.m. (1st year) Jonas Otoo 1:20–1:40 p.m. (2nd year) Ijeoma Nnadozie 1:40–2:00 p.m. (1st year) Uchechukwu Anyaduba 2:00–2:20 p.m. (1st year)</p>
2:20–2:30 p.m.	Break
2:30–3:30 p.m.	<p>PhD Students—Oral Presentations</p> <p>Jason Lee 2:30–2:50 p.m. (2nd year) Dhruv Patel 2:50–3:10 p.m. (2nd year) Ross Steinberg 3:10–3:30 p.m. (1st year)</p>

Keynote Speaker

Keynote Speaker Brian Meyer, PhD, Principal Scientist at Merck & Co.

“Intradermal Delivery: An Overview”

About the Speaker



Brian K. Meyer is a Principal Scientist in Vaccine Drug Product Development, Merck Research Laboratories. His current role is in evaluating and implementing novel technologies, which include vaccine delivery and drying methods. His previous role was the development and implementation of novel reporter cell lines for live virus vaccines. Meyer has worked at Merck for 22 years and has held various positions during this time. He earned his PhD in Biochemistry, Microbiology, and Molecular Biology from the Pennsylvania State University and his BSE in Biomedical Engineering from Tulane University.

About the Presentation

Currently, vaccines, biologics, and small molecule drugs are routinely delivered utilizing either a needle/syringe image (vaccines/biologics), or orally (small molecules). Recently, there has been interest, especially in the vaccine space, to explore alternative delivery routes of administration, with intradermal (ID) delivery being a focus. ID delivery of vaccines may be achieved using hollow microneedles for liquid delivery, jet delivery, and microarray patch (MAP)(solid or dissolvable) technologies. The different ID devices have the potential for patient convenience and compliance, dose sparing, reduced pain, increased immunogenicity, and for MAPs, the potential for increased thermal stability and elimination of the cold chain. The various ID devices will be reviewed.

One method for ID delivery (hollow microneedles, Micronjet™), has been evaluated in the clinic with Zostavax®, and will be discussed.

Student Speakers

Presentation Titles | Bios

First Year PhD Students

Uchechukwu Anyaduba



Surrogate Endpoints in Oncology: Using Real-World Patient Data to Test and Improve Validation Methods

Ijeoma Nnadozie



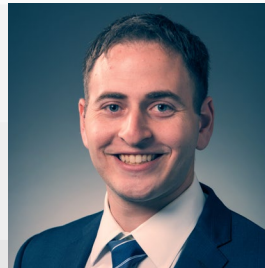
Identification of Functional Risk Variants Associated with Colorectal Cancer in African American Population.

Alexander Burns



Recombinant Adeno-associated Viruses (rAAVs) for Gene Therapy Applications

Ross Steinberg



Mitochondrial adaptation in response to liver diseases

Andres Camelo



Developing next-generation graphene field-effect transistors for single-molecule CRISPR-Cas interactions

Tristan Yang



Computational Reconstruction of a Signature of Pathogenic Fungi

Terezie Cernosek



Analytical platform method development for the characterization of monoclonal antibody-based therapeutics

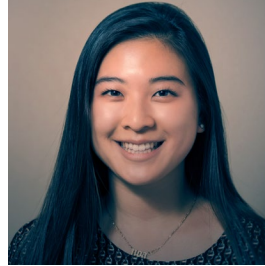
Second Year PhD Students

 **Jason Lee**



Modeling fluidic shear stress found in various bioprocess systems and its effect on cells

 **Noa Park**



Antimicrobial Preservatives for Multi-Dose Products

 **Mandar Makwana**



Using Reynolds stress model in computational fluid dynamics (CFD) to develop and characterize small scale upstream processes

 **Dhruv Patel**



The Role of GPR65 in T-cell Function

 **Diandra Martinez**



Productivity improvement of bispecific molecules using a high-throughput scale-down approach for Cell culture and Purification in Process Development

 **Jonas Otoo**



A primer payload delivery system for multiplex digital LAMP

Third Year PhD Student

Christine Urrea



**Continuous Bioprocessing: Technology for Next Generation
Biopharmaceutical Manufacturing**

Current industry standards for producing biopharmaceuticals includes manual fed batch production with batch isolation and purification. Nonproductive hold up steps are common in batch processing which increase processing time and contribute to the high cost of production. Continuous bioprocessing has been considered a solution to current limitations of the manual batch production of biopharmaceuticals. Technologies such as Raman spectroscopy, perfusion cell culture and continuous chromatography are currently being explored as solutions for continuous biopharmaceutical manufacturing.

Bio

Christine Urrea graduated from the University of California, Riverside with a major in Bioengineering and Keck Graduate Institute with a Master of Engineering in Biopharmaceutical Processing.

Innovators Start Here



ABOUT KECK GRADUATE INSTITUTE (KGI)

KGI, A MEMBER OF THE CLAREMONT COLLEGES, IS A RECOGNIZED LEADER IN BIOTECHNOLOGY AND HEALTHCARE EDUCATION. KGI OFFERS INNOVATIVE POSTGRADUATE DEGREES AND CERTIFICATES THAT INTEGRATE LIFE AND HEALTH SCIENCES, BUSINESS, PHARMACY, ENGINEERING, AND GENETICS, WITH A FOCUS ON INDUSTRY PROJECTS, HANDS-ON INDUSTRY EXPERIENCES, AND TEAM COLLABORATION.

WITH AN ENTREPRENEURIAL APPROACH AND INDUSTRY CONNECTIONS, KGI PROVIDES PATHWAYS FOR STUDENTS TO BECOME LEADERS WITHIN HEALTHCARE AND THE APPLIED LIFE SCIENCES. KGI CONSISTS OF THREE SCHOOLS: HENRY E. RIGGS SCHOOL OF APPLIED LIFE SCIENCES, SCHOOL OF MEDICINE, AND SCHOOL OF PHARMACY AND HEALTH SCIENCES.

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