



U.S. ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND  
PRESENTS



# 2022 SPRING RESEARCH FESTIVAL

**APRIL 27-28**

## Schedule of Events

### **Day 1: April 27, 2022**

9:00 am - 4:00 pm: Poster Display and Judging

10:00 am - 12:00 pm: Keynote Presentation - Dr. Alvin Smith

1:00 pm - 2:30 pm: Poster Blitz

2:30 pm - 4:00 pm: Young Investigator Symposium

### **Day 2: April 28, 2022**

9:00 am - 4:00 pm: Poster Display and Judging

10:00 am - 12:00 pm: Keynote Presentation - Dr. Peter Marks

12:00 pm - 4:00 pm: Collaborative Research Opportunity Showcase

**For more information, visit:**

<https://springresearchfestival.amedd.army.mil/>



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# 2022 Spring Research Festival Keynote Presentation



**April 27, 2022**  
**10:00 am - 12:00 pm**

**Alvin Smith, PhD, PMP**

Manager

Planetary Protection Center of Excellence  
Jet Propulsion Laboratory  
National Aeronautics and Space  
Administration

**Considerations for Backward  
Planetary Protection in Mars  
Sample Return Planning: Biological  
Safety from Flight to Facilities**

Dr. Alvin L. Smith is Jet Propulsion Laboratory's Backward Planetary Protection Lead for Mars Sample Return and Manager for the JPL Planetary Protection Center of Excellence (CoE). In these roles he provides scientific oversight to several research & development projects to meet stringent engineering requirements for planetary protection, as well as program management for training programs, university outreach, and interagency collaborations. His contributions have been instrumental in planning flight implementation for Mars 2020 (Perseverance rover), Europa Clipper, and the Mars Sample Return campaign, to include planning for the Mars Sample Receiving Facility. Alvin joined JPL after spending over 20 years as a researcher in high containment laboratories and as a consultant as a biodefense subject matter expert (SME) and focusing on the development of medical countermeasures and biodetection capabilities for HIV, human smallpox, Ebola, and other potential biological weapons. Alvin's expertise in chemical, biological, radiological, and nuclear (CBRN) threats has been leveraged by numerous government agencies including Congress, Department of Defense, Department of Homeland Security, Health and Human Services, and the intelligence community.

Alvin holds a doctorate in Medical Microbiology from Howard University and a bachelor's degree in Biology from Talladega College. He is also a certified Project Management Professional.



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# 2022 Spring Research Festival Keynote Presentation



**Peter Marks, MD, PhD**  
Director  
Center for Biologics Evaluation  
and Research  
Food and Drug Administration

**April 28, 2022**  
**10:00 am - 12:00 pm**

**Advancing the  
Development of Cell  
and Gene Therapies**

Dr. Peter Marks received his graduate degree in cell and molecular biology and his medical degree at New York University and completed Internal Medicine residency and Hematology/Medical Oncology training at Brigham and Women's Hospital in Boston. He has worked in academic settings teaching and caring for patients and in industry on drug development.

He joined the FDA in 2012 as Deputy Center Director for the Center for Biologics Evaluation and Research and became Center Director in January 2016.



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# 2022 Spring Research Festival

## Poster Blitz Presenter Schedule

April 27, 2022 ~ 1:00 PM - 2:30 PM

Presentation Title	Name	Agency
Inhibition of Neutral Sphingomyelinase 2 Blocks HIV-1 Maturation and Replication	Eva Agostino	NCI
COX2, NOS2, and the Spatial Organization of Epithelial-to-Mesenchymal Transition in an in vitro model of a Hypoxic Tumor Microenvironment	Sneha Anmalsetty	NCI
SARS-CoV-2 IgG Spike Antibody Levels and Avidity Following Natural Infection or Vaccination with mRNA-1273 or BNT162b2	Jimmie Bullock	NCI
Characterization of SARS-CoV-2-Induced Disease in Young, Aged, and hACE2 Golden Hamsters by CT and 18F-FDG PET	Yu Cong	NIAID
Development of a Scalable Retroviral Vector Production Platform for Cell Therapy	Alokesh Ghosal	NCI
Wnt stabilizes pSmad1/5 by inhibiting Gsk3 activity and blocks digit joint formation	Bau-Lin Huang	NCI
Investigating Primary Cilium Membrane Assembly by Quantitative Analysis of 3D Electron Microscopy Images	Ziam Khan	NCI
Soluble Human ACE2 (APN01) as a Novel Aerosol Intervention for COVID-19	Rebecca Matthews	NCI
An efficient microRNA library preparation and sequencing analysis pipeline	Julie Park Yuliya Kriga	NCI
Single-cell immune profiling of CAR-T cells produced using CRISPR/Cas9 genome editing	Rahul Purohit	NCI
AAV9 Vector Production from HEK293T-PCCA Stable Cell Line, An Innovative Approach of Gene Therapy for Propionic Acidemia	Debalina Ray	NCI
Accelerating Therapeutics for Opportunities in Medicine (ATOM)	Titli Sarkar	NCI
Msn1 regulates ingress, migration, and differentiation of mesodermal progenitors to coordinate cell fate decisions and axial extension	Ruby Schnirman	NCI
Genome-wide CRISPR Screening to Uncover Alternative Splicing Regulatory Networks	Shreya Kordale	NCI
Development of virus-based tools for gene expression and gene silencing in maize	Lucy Stewart	USDA

The links, event codes, and event passwords will be available on the Spring Research Festival Website at <https://springresearchfestival.amedd.army.mil/> during the event. User must be registered to view the Webex access information.





# 2022 Spring Research Festival

## Young Investigator Schedule

April 27, 2022 ~ 2:30 PM - 4:00 PM

Time	Title	Speaker	Agency
2:30-2:40	Introduction and Welcome	Balamurugan Kuppusamy	NIH
2:40-2:50	Development, Phenotypic Characterization and Genomic Analysis of a Francisella tularensis Panel for Tularemia Vaccine Testing	Beth Bachert	USAMRDC
2:50-3:00	Dexmedetomidine as a Countermeasure for Nerve Agent Poisoning	Antonia Santoro	USAMRDC
3:00-3:10	Mechanical benefits of bone adaptation during Army Basic Combat Training	Nathaniel Smith	USAMRDC
3:10-3:20	Dendritic cells exposed to IL-27 release less HIV-1 virions due to expression of a novel host factor ANKRD22	Anthony Mele	NIH
3:20-3:30	Saturation and multiplexing of genetic variants to simultaneously measure Homologous recombination and Olaparib sensitivity	Sounak Sahu	NIH
3:30-3:40	Comparison of promoter strength in murine and human T cells	Haley Wilt	NIH
3:40-3:50	An early pulse of Sonic Hedgehog specifies all digits through relay signals	Jianjian Zhu	NIH
3:50-4:00	Questions and Closing	Balamurugan Kuppusamy	NIH

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# 2022 Spring Research Festival

## Collaborative Research Opportunity Showcase Schedule

April 28, 2022 ~ 12:00—4:00 PM

Time	Speaker	Agency
12:00-12:05	Welcome and Opening Remarks Dr. Paul Dabisch	National Biodefense Analysis and Countermeasures Center (NBACC)
12:05-12:15	Dr. Edward Diehl	Medical Technology Transfer United States Army Medical Research and Development Command (USAMRDC)
12:15-1:00	Dr. Connie Schmaljohn & Dr. Claudia Mani	National Institute of Allergy and Infectious Diseases (NIAID)
1:00-1:30	Dr. Daniel McVicar	National Cancer Institute (NCI)
1:30-2:00	Dr. Lucy Stewart	United States Department of Agriculture (USDA)
2:00-2:30	Dr. Wendy Sammons-Jackson	Office of the Principal Assistant for Research and Technology United States Army Medical Research and Development Command (USAMRDC)
2:30-3:00	Dr. George Korch	National Biodefense Analysis and Countermeasures Center (NBACC)
3:00-3:30	COL Todd Bell	United States Army Medical Research Institute of Infectious Diseases (USAMRIID)
3:30-4:00	Dr. Kimberly Bishop-Lilly	Naval Medical Research Center (NMRC)

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