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CELLULAR BIOMANUFACTURING 2023

Date: Thursday, 10th August 2023

Time: 8:30am-5pm, Reception: 5pm-7pm

Location: Children's National Research and Innovation Campus

7144 13th PI NW, Washington, DC 20012

The objective of the “Cellular Biomanufacturing 2023” workshop is to explore the current state-of-the-art technologies, scientific gaps, and opportunities since the first NSF workshop on Cellular Biomanufacturing was organized in 2017 with a primary focus on therapeutic cell manufacturing. The First workshop provided a unique opportunity to discuss the field with peers from academia and other relevant organizations. Since then, the field has evolved to the point where immunotherapies are increasingly being utilized by various medical institutions.

Inspired by these recent advancements, NSF is sponsoring a follow-up workshop to bring investigators together for scientific discussions, networking, and encouraging new collaborations. In addition to the NSF officials, representatives from other agencies, including NIH, NCI, FDA, etc. will be present to share ideas and the trajectory of the field. Such broad and trans-agency representation on a focused topic is unique and further highlights the ongoing collaborative efforts in support of this scientific area. The workshop is highly focused by design to enable interactive brainstorming sessions and networking.



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Thursday, August 10, 2023	
IN-PERSON MEETING	
8:30 - 9:00	Check-in and Breakfast
WELCOME/OPENING REMARKS	
9:00 - 9:15	Bhavana Singh , Staff Scientist, Children's National Hospital, Washington DC Patrick Hanley , Director, Children's National Hospital, Washington DC
KEYNOTE PRESENTATIONS	
9:15	Steven Peretti , Program Director, NSF – CBET. <i>NSF Support for Discovery Science and Engineering for Cell-Based Products.</i>
9:30	Catherine Bollard , Director, Program for Cell Enhancement and Technologies for Immunotherapy, Children's National Hospital, Washington DC. <i>Developing next-generation cell therapies for pediatric cancers.</i>
9:45	Peter Marks , Director, FDA, Center for Biologics Evaluation and Research. <i>Regulatory Considerations for Cellular Biomanufacturing.</i>
10:00	Rosemarie Hunziker , Director, Advanced Regenerative Manufacturing Institute (ARMI), Manufacturing the Future of Biofabrication (BioFabUSA), Manchester, NH. <i>Establishing the Industrial Base for Cell, Tissue, and Organ Manufacturing.</i>
10:15	Jain Krotz , Partnerships & Engagement Lead, Innovation and Commercialization Office, NIH. <i>NIH Grants and SBIR/STTR Funding.</i>
10:30-11:00	Coffee Break
11:00	Kelley Rogers , Federal Technical Program Manager, NIIMBL-NIST. <i>Biomanufacturing Ecosystems and Biometrology for a Vibrant Bioeconomy.</i>
11:15	Rosemarie Aurigemma , Associate Director, Developmental Therapeutics Program, Division of Cancer Treatment and Diagnosis, NCI-NIH. <i>NCI Support for Cell Therapy.</i>
FLASH TALKS BY NSF EAGER AWARDEES	
11:30	Ipsita Banerjee , University of Pittsburgh. <i>Biomanufacturing of thymus organoids - charting the path for manufacturing therapeutic T cells.</i>
11:40	Christina Chan , Michigan State University. <i>Drugs and Biomarkers for COVID.</i>



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11:50	Mark DeCoster , Louisiana Tech University. <i>Use of metal-organic biohybrids (MOBs) for cell transformation and cellular biomanufacturing potential.</i>
12:00	Jingjiao Guan , Florida State University. <i>Engineering microdevices and phagocytosis for enhancing cellular therapies.</i>
12:10	Jeffrey Jacot , William Marsh Rice University. <i>Strategies for vascularization of engineered cardiac tissue scaffolds.</i>
12:20	Philip LeDuc , Carnegie-Mellon University. <i>Cells as Systems: Manufacturing using Cells and Interfaced with Cells.</i>
12:30-1:30	Networking Lunch
FLASH TALKS BY NSF EAGER AWARDEES CONTINUES	
01:30	Sean Palecek , University of Wisconsin-Madison. <i>Multi-omic analysis of human pluripotent stem cell-derived cardiac progenitors reveals features predicting cardiomyocyte differentiation capacity.</i>
01:40	David J Klinke , West Virginia University Research Corporation. <i>Rule-based modeling of cell-level networks in immuno-oncology: implications for dose-scheduling.</i>
01:50	Margaret Liu , Ohio State University. <i>Dual-payload antibody-drug conjugate for immune-chemotherapy of TNBC.</i>
02:00	Krishanu Saha , University of Wisconsin-Madison. <i>Nonviral biomanufacturing of precision, gene-edited cell therapies.</i>
02:10	Brendan Harley , University of Illinois at Urbana-Champaign. <i>Hydrogel constructs for hematopoietic stem cell biomanufacturing.</i>
02:20	Nitin Agrawal, Program Officer, NHLBI – NIH. Briefing of the 2017 workshop and guidance for breakout sessions.
02:25-3:00	Coffee Break and Relocation to Breakout Discussion Areas
3:00-4:30	PARALLEL BREAKOUT SESSIONS / DISCUSSIONS
SESSION A (Theater)	Sean Palecek (Lead), Christina Chan (Scribe) Patrick Hanley, Jingjiao Guan, Kasia Bourcier, Margaret Liu, Krishanu Saha, Brendan Harley, Ipsita Banerjee, Rosemarie Aurigemma, Catherine Bollard, Steven Peretti, Anju Singh, Zhang-Zhi Hu, Mark DeCoster



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SESSION B (Conference room)	Peter Marks (Lead), Jeffrey Jacot (Scribe) , Rosemarie Hunziker, Allison Gillaspy, Nitin Agrawal, Jonathan Kulwatno, Muller Fabbri, Kolaleh Eskandanian, Jain Krotz, Philip LeDuc, David J Klinke, Kelley Rogers, Bhavana Singh, Steven Zehnder
4:30-5:00	RECONVENE FOR BREAKOUT SESSIONS SUMMARY
	CLOSING REMARKS AND ADJOURNMENT
5:00-7:00	RECEPTION

Other Participants
Zhang-Zhi Hu , Program Director, Immuno-Oncology Branch (IOB) Developmental Therapeutics Program (DTP), Division of Cancer Treatment & Diagnosis (DCTD) NCI, NIH
Kasia Bourcier , Program Director, Biological Resources Branch, Developmental Therapeutics Program, DTP/ /DCTD/ NCI
Anju Singh , Program Director, NCI-NIH
Muller Fabbri , Associate Director Center for Cancer and Immunology Research, Children's National Hospital, Washington DC
Allison Gillaspy , Director, Biorepository and Data Science, NHLBI-NIH
Jonathan Kulwatno , AAAS Science & Technology Policy Fellow, NSF
Steven Zehnder , Associate Program Director, Engineering Biology and Health Division of Chemical, Bioengineering, Environmental, and Transport Systems, NSF
Kolaleh Eskandanian , VP & Chief Innovation Officer, Children's National Hospital, Washington DC