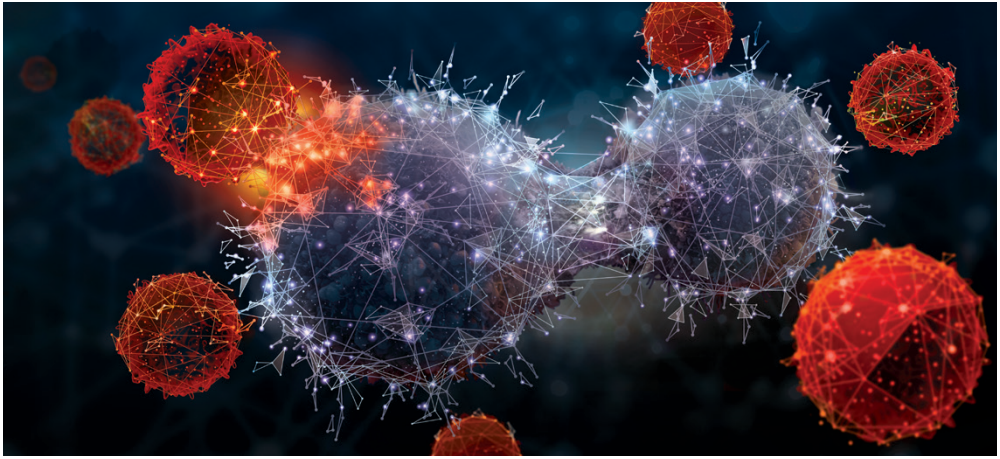
Science | sartorius

Research Xchange Forum 2019

Insights | Translation | Solutions

Transformative technologies: CAR-T cell therapy



April 25, 2019

Science | AAAS

Washington D.C. USA

The Sartorius & *Science* Prize for Regenerative Medicine & Cell Therapy

turning science into solutions

What to expect

The 3rd annual Research Xchange Forum (RXF) brings together academic and industry experts to foster exchange and enable novel collaborations. Inspiring talks given by leading scientists and business professionals, live demo session(s) highlighting groundbreaking technologies (the Intellicyt® iQue Screener PLUS and IncuCyte® S3 Live-Cell Analysis System) for CAR-T research (online registration required), and a panel discussion interrogating the present and future of CAR-T cell therapies ensure maximal ROI on your time.

The RXF will conclude with an exclusive Award Ceremony to honor the winner and the finalists of the 2018 "Sartorius & *Science* Prize for Regenerative Medicine & Cell Therapy". Limited seating is available for RXF participants. To enhance your chance to be invited to this exclusive event, make sure to register early and express your intent to participate on the online registration form.

We look forward to seeing you at our Research Xchange Forum.

Highlights

- Talks from leading scientists and industry experts in CAR-T research
- Panel discussion about the present and future of CAR-T therapies
- Live demos of the Intellicyt® iQue Screener PLUS and IncuCyte® S3 Live-Cell Analysis System
- Award Ceremony (evening event) - *Science* Prize Winners (*invitation only)

Bruce Levine
Founding Director of CVPF, Barbara and Edward Netter Prof. in Cancer Gene Therapy
Univ. of Pennsylvania
Photo: © Ed Cunicelli Photography

Dr. Richard Morgan
Senior Vice President, Editas Medicine

Other Speakers From:

- UCLA
- MD Anderson Cancer Center
- Boston University
- St. Jude Childrens Hospital
- Colorado State University
- Horizon Discovery
- more to follow...

The Sartorius & *Science* Prize for Regenerative Medicine & Cell Therapy

Awarded by sartorius Science

Speaker line-up*

Dr. Bruce Levine
Philadelphia, Pennsylvania, USA

Barbara and Edward Netter Professor in Cancer Gene Therapy at University of Pennsylvania

Biography: Dr. Bruce Levine, Barbara and Edward Netter Professor in Cancer Gene Therapy, is the Founding Director of the Clinical Cell and Vaccine Production Facility (CVPF) in the Department of Pathology and Laboratory Medicine and the Abramson Cancer Center, Perelman School of Medicine, University of Pennsylvania. He received a B.A. (Biology) from Penn and a Ph.D. in Immunology and Infectious Diseases from Johns Hopkins. First-in-human adoptive immunotherapy trials include the first use of a lentiviral vector, the first infusions of gene edited cells, and the first use of lentivirally-modified cells to treat cancer. Dr. Levine has overseen the production, testing and release of 3,000 cellular products administered to >1,200 patients in clinical trials since 1996.

He is co-inventor of the first FDA approved gene therapy (Kymriah), chimeric antigen receptor T cells for leukemia and lymphoma, licensed to Novartis. Dr. Levine is co-inventor on 25 issued US patents and co-author of >160 manuscripts and book chapters with a Google Scholar citation h-index of 78. He is a Co-Founder of Tmunity Therapeutics, a spinout of the University of Pennsylvania. Dr. Levine is President Elect of the International Society for Cell and Gene Therapy and serves on the Board of Directors of the Alliance for Regenerative Medicine. He has been interviewed by the NY Times, Wall Street Journal, Washington Post, NPR, Time Magazine, National Geographic, Forbes, BBC, and other international media outlets.

*subject to change

Dr. Richard Morgan
Cambridge, Massachusetts , USA

Senior Vice President, Editas Medicine

Biography: Currently he is Senior Vice President Immunogenetics, Editas Medicine, Cambridge, MA and serves on the Board of Directors of the American Society of Gene and Cell Therapy. The majority of his career was spent in various roles at the National Institutes of Health, Bethesda MD. As a member of the team that published the first approved human gene transfer experiment in 1990 (*N. Engl. J. Med.* 323:570, 1990), he has seen the gene therapy field grow and has grown with it. For the last 15 years, his research concentrated on cancer immunotherapy. He has extensively published on T-cell receptor (TCR) gene therapy and was the first author on the initial report where this technology was shown to lead to cancer regression in patients (*Science* 314:126, 2006).

In 2013, he made the switch from academia to industry to lead the immunotherapy efforts at bluebird bio and recently moved to Editas Medicine to focus on gene editing applications in immunotherapy. As Vice President of Immunotherapy at bluebird bio, he oversaw research programs on various aspects of immunotherapy, including the development of bluebird's lead oncology product, an anti-BCMA CAR T cell. At Editas Medicine, his goal is to develop cellular treatments that go beyond standard TCR/CAR-based antigen targeting to produce gene edited effector cells designed to function within the hostile tumor microenvironment.

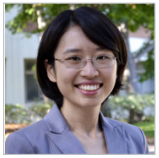
Speaker line-up

Dr. Verena Brucklacher-Waldert
Cambridge, United Kingdom

Principal Scientist at Horizon Discovery

Biography: Dr. Verena Brucklacher-Waldert is a Principal Scientist at Horizon Discovery Ltd, based in Cambridge, UK. Horizon Discovery is a gene editing company that designs and engineers genetically modified cells and then applies them to aid clients engaged at every stage of the healthcare continuum, from sequence to treatment. Verena received her doctorate in Neuroimmunology from the University of Tübingen, Germany, and gained a postdoctoral research fellowship from the German Research Foundation that enabled her to intensify her studies on T cell biology in Marc Veldhoen's lab in Cambridge, UK.

Before Verena joined Horizon Discovery, she developed assays for hit identification and lead characterization of multifunctional, oncology-relevant antibody-fragments for the biopharmaceutical company Crescendo Biologics. At Horizon Discovery, she is providing high level scientific expertise and technical leadership for new and ongoing activities within the Immunology services team.



Dr. Yvonne Chen
Los Angeles, California, USA

Assistant Professor in the Department of Chemical and Biomolecular Engineering at the University of California, Los Angeles

Biography: Dr. Yvonne Chen is an Assistant Professor in the Department of Chemical and Biomolecular Engineering at the University of California, Los Angeles. The Chen Laboratory focuses on applying synthetic biology and biomolecular engineering techniques to the development of novel mammalian-cell systems, particularly cell-based immunotherapy for cancer. Prior to joining the Department of Chemical and Biomolecular Engineering at the University of California, Los Angeles in 2013, Yvonne was a Junior Fellow in the Harvard Society of Fellows. Yvonne has been a recipient of the NIH Director's Early Independence Award, the Hellman Fellowship, the ACGT Young Investigator Award in Cell and Gene Therapy for Cancer, and the NSF CAREER Award.

She is also a Member Researcher in the Parker Institute for Cancer Immunotherapy. Yvonne earned her Ph.D. in Chemical Engineering from the California Institute of Technology, and completed postdoctoral training at the Center for Childhood Cancer Research within the Seattle Children's Research Institute, and at the Department of Systems Biology at Harvard Medical School. She received her B.S. in Chemical Engineering from Stanford University.

Speaker line-up

Dr. Jean Peccoud
Fort Collins, Colorado, USA

Professor of Chemical and Biological Engineering
Abell Endowed Chair in Synthetic Biology

Biography: Dr. Peccoud's research program focuses on synthetic biology informatics. His group combines computational and experimental efforts to develop predictive models of behaviors encoded in synthetic DNA sequences. He is particularly interested in using methods from synthetic biology to optimize biomanufacturing processes used to produce biologic drugs, antibodies, and other proteins of commercial interest. Peccoud is also actively engaged in efforts to understand the security implications of synthetic biology.

Shortly after completing a graduate research project in molecular immunology, Jean Peccoud's scientific interests shifted to computational biology. In 1989, he published one of the first articles describing a mathematical model of molecular noise in gene regulatory networks. In 1993, he recognized the importance of real-time PCR and developed new statistical techniques suitable to analyze this new type of data. In 2002, he observed with excitement the very early developments of synthetic biology. After exploring the potential applications of this new technology to plant biotechnology, he blazed a trail in synthetic biology informatics.

Jean Peccoud came to Colorado State University from the Virginia Bioinformatics Institute at Virginia Tech. He brought with him a diverse experience that includes working for Fortune 500 and start-up companies. He is the founding Editor-in-Chief of the journal Synthetic Biology published by Oxford University Press.

Yaron Fuchs, PhD
Israel

Grand Prize Winner 2018. Assistant Professor in the Faculty of Biology, the Lokey Interdisciplinary Center for Life Sciences & Engineering and the Technion Integrated Cancer Center

Biography: Born in Haifa, Israel, Dr. Fuchs is an Assistant Professor in the Faculty of Biology, the Lokey Interdisciplinary Center for Life Sciences & Engineering and the Technion Integrated Cancer Center. Dr. Fuchs is also a Deloro Career Advancement Chair and an Alon Fellow.

He began his academic career at Haifa University where he received a B.Sc., followed by a direct Ph.D. track for outstanding students, which was conducted at the Technion Israel Institute of Technology. Upon completion of his doctorate degree, he performed his post-doctoral research at The Rockefeller University and Howard Hughes Medical Institute. Recently he returned to the Technion where he heads the Laboratory of Stem Cell Biology and Regenerative Medicine.

Dr. Fuchs has had a long-term interest in different modes of cell death and how they regulate diverse aspects of stem cell biology and stem cell-dependent processes. His research has taken advantage of state-of-the-art mouse models where he manipulates and traces different stem cell populations.

Throughout his career, Dr. Fuchs has received more than 20 awards for his scientific excellence and his unique teaching style. He has published in leading scientific journals and has spoken nationally and internationally about his own research focusing on adult stem cells in regeneration and cancer.

Speaker line-up

C. Florian Bentzinger, PhD
Quebec, Canada

Finalist 2018. Assistant Professor in the Department of Pharmacology-Physiology at Université de Sherbrooke

Biography: Dr. Florian Bentzinger is an Assistant Professor in the Department of Pharmacology-Physiology of the Université de Sherbrooke in Canada. His lab studies the skeletal muscle stem cell niche in health and disease. Florian received his Master's and PhD degree in Molecular Biology with a minor in Pharmaceutical Biology under the supervision of Prof. Markus Rüegg from the University of Basel in Switzerland.

During his early studies, he focused on the molecular mechanisms underlying different forms of muscular dystrophy. He then became a postdoctoral researcher under the direction of Prof. Michael Rudnicki at the Ottawa Hospital Research Institute (OHRI), Sprott Center for Stem Cell Research in Canada, and began to focus on the microenvironmental regulation of skeletal muscle stem cells. Before his appointment at the Université de Sherbrooke, Prof. Bentzinger held a permanent position in the Skeletal Muscle Aging Department of the Nestlé Institute of Health Sciences in Lausanne, Switzerland.

Ritu Raman, PhD
Cambridge, Massachusetts, USA

Finalist 2018. Postdoctoral Fellow at Massachusetts Institute of Technology

Biography: Ritu Raman is a AAAS L'Oréal USA For Women in Science postdoctoral fellow in the lab of Prof. Robert Langer at MIT. She is passionate about understanding and utilizing the dynamic adaptive nature of biological systems, and aims to establish a lab designing responsive biohybrid implantable devices that improve human health and quality of life. Ritu graduated Magna Cum Laude with a degree in Mechanical Engineering from Cornell University in 2012, and earned her M.S. (2013) and Ph.D. (2016) as an NSF Graduate Fellow from the University of Illinois at Urbana-Champaign. She has received several awards for her commitment to scientific innovation, including being named to the Forbes 30 Under 30 list for Science, nominated as an Innovation and Technology Delegate to the International Achievement Summit, shortlisted for the Nature Research + Estée Lauder Inspiring Science Award, and awarded the Illinois Innovation $15K Prize. Ritu grew up in India, Kenya, and the United States, and learned to appreciate and thrive in diverse and dynamic environments.

Her experiences have taught her that technical innovation drives positive social change, and this inspires her to democratize and diversify STEM education around the world. She is deeply invested in science communication, policy, and outreach, and has been recognized with several honors for her commitment to advancing underrepresented minorities in STEM, including receiving the highest collegiate honor from the Society of Women Engineers and being named the Cambridge Science Festival's Curious Scientist of the Year.

Speaker line-up

Daniele VF Tauriello, PhD
Barcelona, Spain

Finalist 2018. Postdoctoral Fellow at IRB Barcelona

Biography: Dr. Daniele Tauriello received his degrees (Chemistry and Biomolecular Sciences) and his doctorate (Cell Biology) from Utrecht University and the University Medical Centre Utrecht, the Netherlands. During his doctoral research, he used and developed biochemical tools to study molecular mechanisms in receptor-proximal Wnt signaling. While a postdoctoral fellow at the Institute for Research in Biomedicine (IRB) Barcelona, Spain, he developed an immunocompetent, metastatic and transplantable mouse model for intestinal cancer, and leveraged this new platform to uncover the immuno-evasive role of TGFβin the tumor immune microenvironment of colorectal cancer metastasis.

His work may contribute to an expanded efficacy of checkpoint inhibition therapy across patient cohorts and cancer types. In 2019, Daniele will set up his lab at the Radboud Institute for Molecular Life Sciences (RIMLS), Radboudumc in Nijmegen, the Netherlands. There he will continue his immuno-oncological work on overcoming stromal immune evasion mechanisms to improve immunotherapy in cancer.

Demonstrations and Award

Attend live demonstrations of the latest groundbreaking technologies being utilized to propel CAR-T therapy research forward including:

- **IncuCyte® S3 Live-Cell Analysis System** – Enables real-time, automated imaging and analysis of immune cell activation and function, directly from the incubator over days, weeks or months.

- **Intellicyt® iQue Screener PLUS** – High throughput, suspension cell and bead analysis platform for rapidly profiling cell phenotype and function in cell therapy workflows.

Awards Ceremony for the Winners of the Sartorius & *Science* Prize
The winner and finalists competing for the "Sartorius & *Science* Prize for Regenerative Medicine & Cell Therapy" will receive their awards at a ceremony held in their honor.

Agenda

Thursday, April 25

8:00 - 09:00	Registration

Chair: Dr. Del Trezise

9:00 - 09:30	Welcome & Introduction
9:30 - 10:15	**Session 1: CAR-T Beginnings** Keynote presentation **– Dr. Bruce Levine, University of Pennsylvania** Barbara and Edward Netter Prof. in Cancer Gene Therapy
10:15 - 10:45	Coffee Break
10:45 - 1:45	**Session 2: Genome editing: CRISPR**
11:45 - 1:00	Lunch | Live IncuCyte®/Intellicyt demos

Chair: Dr. Dan Appledorn

1:00 - 1:40	**Session 3: Solid tumors**
1:40 - 2:00	Coffee Break
2:00 - 3:00	**Session 4: Synthetic Biology**
3:00 - 3:30	Coffee Break

Chair: Dr. Tom Duensing

3:30 - 4:30	**Panel Discussion: The present & future of CAR-T cell therapies**

Registration

April 25, 2019

To register and to obtain further information, please visit our website:
sartorius.com/rxf2019

Registration includes admission, all coffee breaks, and lunches. Advance registration is required.

Venue:
Science | AAAS
1200 New York Avenue NW
Washington, DC 20005

Your Contact:
Mabelle Ashe, PhD
Sartorius Corporation
Phone: 1.734.780.4809
forum@sartorius.com

If you have any questions, just contact us at any time – we would be happy to help you.

Please note that photos and videos will be taken during the event. If you do not wish to be photographed, please let us know upon registration.

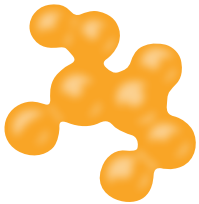
Follow us on Twitter #rxf2019

Research Xchange Forum 2019

Get insights into the latest developments from internationally renowned academic and industry speakers.

Special Sections:
Panel Discussion on the present & future of CAR-T cell therapies

Sartorius & *Science* Prize Awards Ceremony (* invitation only)
Sartorius is proud to sponsor the Sartorius & *Science* Prize to promote the advancement of young, up and coming scientists in the field of Regenerative Medicine and Cell Therapy.



The Sartorius & *Science* Prize for Regenerative Medicine & Cell Therapy

Awarded by sartorius Science

April 25, 2019
Register now!

To register and to obtain further information, please visit our website:

sartorius.com/rxf2019

Sartorius Corporation
5 Orville Drive, Suite 200
Bohemia, NY 11716