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SITC Announces Three Recipients of the 2020 Richard V. Smalley, MD, Memorial Award and Lectureship

MILWAUKEE – The Society for Immunotherapy of Cancer (SITC) is pleased to announce Lieping Chen, MD, PhD, from Yale Cancer Center, Gordon Freeman, PhD, from the Dana-Farber Cancer Institute, and Arlene Sharpe, MD, PhD, from Harvard Medical School, as the 2020 recipients of the Richard V. Smalley, MD, Memorial Award and Lectureship, the society's highest honor.

The research conducted by Drs. Chen, Freeman and Sharpe formed the foundation for developing immune checkpoint blockade immunotherapies and will be featured during the society's 35th Anniversary Annual Meeting in November at the Gaylord National Hotel & Convention Center in National Harbor, Md.

"The contributions Drs. Chen, Freeman and Sharpe have made to the area of immune checkpoint inhibitors have fundamentally changed the treatment of cancer," said SITC President Mario Sznol, MD. "The current success of cancer immunotherapy can be traced back to their foundational mechanistic studies and commitment to translating their findings to the clinic."

Dr. Chen's lab studied lymphocyte costimulation and coinhibition and their application in treating human diseases for over 25 years. In 1992, his lab published the first proof-of-concept study showing that manipulation of B7-CD28 family molecules could be used for cancer immunotherapy by introducing B7-1 into tumor cells to enhance tumor immunity.

This study led to additional studies utilizing antibodies targeting CTLA-4, a B7-CD28 family molecule, for the treatment of human cancer. From 1999–2002, Dr. Chen's lab cloned the B7-H1 (PD-L1) molecule and discovered the PD-1/PD-L1 pathway's role in the evasion of tumor immunity and established this pathway as a target for cancer immunotherapy.

Dr. Chen will deliver his Richard V. Smalley, MD, Memorial Lectureship, "Why were we interested in immunity within the tumor microenvironment in the 1990s?" at SITC 2020. He explained, "Early in our research, less attention was paid to our work. But then, the most exciting thing we found was that the PD-1/PD-L1 pathway play a key role in cancer escape from immune attack, which led us to investigate further to help development of anti-PD-1/PD-L1 therapy."

Dr. Chen is the United Technologies Corporation Professor in Cancer Research, Professor of



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Immunobiology, Dermatology and Medical Oncology at Yale School of Medicine, and co-leader of the Cancer Immunology Program at the Yale Cancer Center. Dr. Chen earned his medical degree from Fujian Medical School and earned his doctorate from Drexel University School of Medicine.

The research conducted by Dr. Freeman's lab identified the major pathways that control the immune response by inhibiting T cell activation (PD-1/PD-L1 and B7-2/CTLA-4) or stimulating T cell activation (B7-2/CD28). His group's discovery of PD-L1 and PD-L2 demonstrated that these molecules were ligands for PD-1, thereby defining the PD-1 pathway and the potential of drugs to block these interactions. Dr. Freeman demonstrated that PD-L1 is highly expressed on many solid tumors as well as some hematologic malignancies, which allows these tumors to inhibit immune responses. He made antibodies that blocked the PD-1 pathway and showed they enhanced immune responses.

"The PD-L1/PD-1 Pathway: Discovery and New Insights," is the title of Dr. Freeman's Richard V. Smalley, MD, Memorial Lectureship. "This success of PD-L1 and PD-1 immunotherapy has given patients new hope and energized scientists and drug developers as never before. We are finding what works, what's safest, how it works, and who it will work for," said Dr. Freeman when describing the impact of his work.

Dr. Freeman is in the Department of Medical Oncology at Dana-Farber Cancer Institute and is a Professor of Medicine at Harvard Medical School. Dr. Freeman earned his bachelor's degree in biochemistry and molecular biology, and doctorate in microbiology and molecular genetics from Harvard University. Dr. Freeman is a Fellow of the AACR Academy and the recipient of the 2014 William B. Coley Award for Distinguished Research in Tumor Immunology and the 2017 recipient of the Warren Alpert Foundation award.

Dr. Sharpe has used genetic approaches to discover T cell costimulatory molecules and understand their functions. Her studies with B7 (CD80) deficient mice led to the discovery of B7-2 (CD86) and the realization that it was the major CD28 ligand. Her work on CTLA-4 knockout mice convinced the field that CTLA-4 was a critical inhibitory molecule and a key mediator of T cell tolerance. Her studies of PD-1 and its ligand revealed that the inhibitory functions of this pathway control resolution of inflammation and tolerance in tissues.

Recently, her laboratory has developed a CRISPR/Cas9 screening platform to identify genes that regulate T cell tolerance and T cell exhaustion in immune cells, and is using this approach to determine how perturbation of coinhibitory receptors and other immunoregulatory genes can improve responses to PD-1 checkpoint blockade. Dr. Sharpe will deliver her Richard V. Smalley, MD, Memorial Lectureship titled, "Discovery of New IO Targets and Mechanisms Leveraging CRISPR" discussing her recent work. "The PD-1 story emphasizes the value of discovery and curiosity-driven research," she says. "This work did not start out to understand how to cure cancer. We were studying how the immune system was regulated, and discovered a key mechanism tumors use to evade immune attack."

Dr. Sharpe is the George Fabyan Professor of Comparative Pathology, Chair of the Department of



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Immunology at Harvard Medical School, and Co-Director of the Evergrande Center for Immunologic Diseases at Harvard Medical School and Brigham and Women's Hospital. She is a member of the Department of Pathology at Brigham and Women's Hospital, a Member of the Broad Institute of MIT and Harvard, Leader of the Cancer Immunology Program at the Dana-Farber/Harvard Cancer Center. Dr. Sharpe earned her medical degree and doctorate from Harvard Medical School and completed her residency in pathology at Brigham and Women's Hospital. She is a member of the National Academy of Sciences and the National Academy of Medicine. Dr. Sharpe is the 2014 recipient of the William B. Coley Award for Distinguished Research in Tumor Immunology, the 2017 recipient of the Warren Alpert Foundation Prize for her contributions to the discovery of the PD-1 pathway, and a fellow of the AACR.

The Smalley Memorial Award, established by SITC in 2005 and awarded annually to a clinician or scientist who has significantly contributed to the advancement of research in the field of cancer immunotherapy, is named in honor of the past SITC president and charter member of the society.

Previous recipients of the Smalley Award are: Olivera J. Finn, PhD; Philip D. Greenberg, MD; Paul M. Sondel, MD, PhD; Suzanne L. Topalian, MD; Tasuku Honjo, MD, PhD; Giorgio Trinchieri, MD; Carl H. June, MD; Theresa L. Whiteside, PhD; Ralph M. Steinman, MD; James P. Allison, PhD; Isaiah J. Fidler; DVM, PhD; Giorgio Parmiani, MD; Ernest Borden, MD; Ronald Levy, MD, and Steven A. Rosenberg, MD, PhD.

To learn more about this award, <u>visit SITC CONNECT</u>. Registration is now underway for the 35th Anniversary Annual Meeting (SITC 2020), <u>click here</u> to register, submit research, view sessions and more.

About SITC

Established in 1984, the Society for Immunotherapy of Cancer (SITC) is a nonprofit organization of medical professionals dedicated to improving cancer patient outcomes by advancing the development, science and application of cancer immunotherapy and tumor immunology. SITC is comprised of influential basic and translational scientists, practitioners, health care professionals, government leaders and industry professionals around the globe. Through educational initiatives that foster scientific exchange and collaboration among leaders in the field, SITC aims to one day make the word "cure" a reality for cancer patients everywhere. Learn more about SITC, our educational offerings and other resources at sitcancer.org and follow us on Twitter, LinkedIn, Facebook and YouTube.

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