Tae Seok Moon, Ph.D. and Nan Zhu, Ph.D. join J. Craig Venter Institute faculty

JCVI continues to actively recruit faculty to expand core research areas, including human health and synthetic biology

J. Craig Venter Institute Logo

LA JOLLA, CALIFORNIA, UNITED STATES, May 1, 2024 /EINPresswire.com/ -- J. Craig Venter Institute (JCVI) is pleased to announce Tae Seok Moon, Ph.D. and Nan Zhu, Ph.D. are joining its faculty effective May 1, 2024. Both will join JCVI's synthetic biology group, under the direction of John Glass, Ph.D. in the La Jolla, California facility. Professor Moon's research explores synthetic biology approaches to solve global agricultural, environmental, manufacturing, and health needs. Associate Professor Zhu's research focuses on epigenetics of stem cells that develop into cancer, particularly leukemia. JCVI continues to actively recruit faculty for both La Jolla, California and Rockville, Maryland sites.

> Nan and Tae Seok both bring the energy, curiosity, and creativity needed to solve big questions. We look forward to the success that Nan and Tae Seok and their teams will bring to JCVI."
> *J. Craig Venter, Ph.D., CEO and chair of JCVI*

J. Craig Venter, Ph.D., CEO and chair of JCVI, commented, "We continue to invest in deepening and widening our capabilities through our faculty. Our success comes from our ability to assemble talented, multidisciplinary teams, which can operate in an open and collaborative environment that maximizes the risk-reward ratio. Nan and Tae Seok both bring the energy, curiosity, and creativity needed to solve big questions. We look forward to the success that Nan and Tae Seok and their teams will bring to JCVI."

Tae Seok Moon

Dr. Moon joins us from Washington University in St. Louis where he was a professor in the McKelvey School of Engineering. He comes with an extensive resume securing 26 grants since

2012, publishing 95 papers (84 as the principal investigator), 10 patents, 190 invited talks, and 172 contributed presentations, serving as a mentor and advisor to over 100 students and postdoctoral researchers from diverse backgrounds, and receiving many awards and accolades, including a Langer Prize for Innovation and Entrepreneurial Excellence, a B&B Daniel I.C. Wang Award, an NSF CAREER award, and an ONR Young Investigator Award.

He and his team aim to understand and engineer biological networks that genes and cellular processes use to solve energy, environmental, agricultural, and health problems. His body of work includes engineering probiotic bacteria for medical applications, engineering bacteria to enable efficient production of biofuels, biomaterials, and chemicals from biomass and waste plastics, developing biocontainment strategies to prevent release of engineered microbes in the environment, building application-relevant biosensors and dynamic sensor-regulators, understanding and engineering microbiota and microbiota-host interactions using computational and experimental approaches, engineering biology for space exploration and engineered living materials, preventing antibiotic resistance spread by implementing engineering approaches, and engineering predictable RNA regulators.

Dr. Moon also commits significant energy to mentoring young researchers. In addition to students and postdoctoral researchers in his lab, he has mentored iGEM student teams and provided teaching kits to high school teachers and K-12 students. Among the most impactful of his initiatives is founding and administering the weekly SynBYSS seminar series, since August 2021, that features a rising young scientist paired with a seasoned investigator. Dr. Moon is the chair of the inaugural in-person SynBYSS conference, which will take place December 9-12, 2024, in Hawaii.

He currently serves as a reviewer, an editor-in-chief (New Biotechnology), an associate editor (for 8 journals), and an editorial board member (for 6 journals), including those published by Nature, Science, Cell, Nucleic Acids Research, and PNAS. He has actively participated in organizing more than 20 international conferences as a conference co-chair or organizer.

Dr. Moon earned his BS and MS in chemical technology from Seoul National University in Seoul, Korea, and a Ph.D. under the guidance of Kristala Prather in chemical engineering with a minor in biological chemistry from Massachusetts Institute of Technology (MIT). He completed a postdoctoral fellowship in the Christopher Voigt Group in the Department of Biological Engineering & Synthetic Biology Center at MIT and in the Department of Pharmaceutical Chemistry at the University of California-San Francisco.

Nan Zhu

Most recently, Dr. Zhu was an investigator at Versiti Blood Reach Institute in the Stem Cell and Hematopoiesis Program and held a joint appointment as an assistant professor at the Medical College of Wisconsin in the Department of Cell Biology, Neurobiology and Anatomy.

At Versiti, her laboratory studied the epigenetic regulation of stem cells and how dysregulation of these pathways contributes to cancer development. Epigenetics is the study of how one's behavior and environment can cause changes that affect the way genes work. Epigenetic mechanisms play an important role in maintaining tissue-specific gene expression patterns and are essential for normal development processes.

In leukemia, cancer cells often harbor multiple genetic mutations that cause them to divide in an uncontrolled manner, leading to tumor formation and growth. Mutations in epigenetic regulators are frequently found in leukemia, highlighting their importance in malignancy.

At JCVI, Dr. Zhu's research will build upon this body of work. Her lab will focus on understanding the epigenetic regulation of normal and malignant hematopoiesis (the process by which the body makes blood cells), especially as it relates to Acute Myeloid Leukemia, the most aggressive form of the disease.

Dr. Zhu earned a BS in biochemistry from Nanjing University in China and a Ph.D. in biology from Boston University. Her post-graduate training includes research fellowships at Brigham and Women's Hospital at and Children's Hospital Boston (both at Harvard Medical School). She has published over 25 peer-reviewed papers, including many top-tier journals. Dr. Zhu is a member of the American Society for Hematology and serves as an ad hoc reviewer for several academic journals.

About J. Craig Venter Institute

The J. Craig Venter Institute (JCVI) is a not-for-profit research institute in Rockville, Maryland and La Jolla, California dedicated to the advancement of the science of genomics; the understanding of its implications for society; and communication of those results to the scientific community, the public, and policymakers. Founded by J. Craig Venter, Ph.D., JCVI is home to approximately 120 scientists and staff with expertise in human and evolutionary biology, genetics, bioinformatics/informatics, information technology, high-throughput DNA sequencing, genomic and environmental policy research, and public education in science and science policy. JCVI is a 501(c)(3) organization. For additional information, please visit www.jcvi.org.

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