

# NEO Battery Materials Forms R&D Task Force for Solid-State Battery Integration

written by Raj Shah | August 1, 2023

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- High Demand & Request from Global Battery Cell Manufacturers & EV Automakers for Solid-State Battery Compatible Silicon Anodes
- Forms *Solid-State Battery R&D Task Force* for Integration of Silicon Anodes into Solid-State Batteries
  - Secures Top Battery Professional Talent for Solid-State Battery Research
  - To Launch New Silicon Anode Product Line with Task Force

NEO Battery Materials Ltd. (“**NEO**” or the “**Company**”), a low-cost silicon anode materials developer that enables longer-running, rapid-charging lithium-ion batteries, is pleased to announce that the high demand from global battery cell manufacturers and EV automakers to integrate NEO’s silicon anode materials, NBMSiDE™, into solid-state batteries (“**SSB**”) have led to the formation of the *Solid-State Battery R&D Task Force*.

NEO has retained exceptional scientific advisors specializing in solid-state battery research, and the Company will continue to add to the talent pool to expand development capacity. NBMSiDE™ compatibility testing will commence with various solid-state electrolyte materials through research projects with the SSB R&D

Task Force advisors.

SSB-powered EVs have the potential to increase the energy density by 2 to 2.5 times, and downstream manufacturers have recognized NBMSiDE™ may demonstrate this required performance target due to a 70 to 80% higher initial energy capacity compared to current technologies. Accordingly, the Company seeks to launch an SSB-compatible NBMSiDE™ product line with the SSB R&D Task Force.

### **Dr. Dongmok Whang Promoted to Lead Scientific Advisor of Scientific Advisory Board**

Appointed as a Scientific Advisor in November 2021, Dr. Dongmok Whang has been promoted as the Lead Scientific Advisor of the Scientific Advisory Board. He will oversee the silicon anode integration into solid-state battery materials and advise on NEO's holistic research direction.

Dr. Whang is a distinguished scholar specializing in an array of functional nanomaterials, which have wide-ranging applications in lithium-ion batteries, fuel cells, and diverse energy storage solutions. With a prolific academic portfolio, he has contributed to ~200 scholarly papers and holds more than 80 patents. His influential research has garnered over 15,000 citations, underscoring the significant impact of his work in the field. He is currently a Professor at the School of Advanced Materials Science & Engineering and Advanced Institute of Nanotechnology at Sungkyunkwan University.

### **Dr. Jun Woo Park Appointed as Scientific Advisor of SSB R&D Task Force**

Dr. Jun Woo Park is an expert in the field of electrochemical materials and next-generation rechargeable batteries. Since 2013, he has been a Principal Researcher at the Battery Research Division of the Korea Electrotechnology Research Institute

(KERI). During his tenure, Dr. Park has committed to several high-impact research including sulfur-based solid-state electrolytes, cost-effective fabrication of all-solid-state batteries, and redox flow batteries. He owns over 50 exceptional research papers and holds more than 100 patents. In 2022, Dr. Park was honored with the Minister of Science and ICT Award from the Ministry of Science and ICT, and in 2021, he received the Minister of Trade, Industry, and Energy Award from the Ministry of Trade, Industry, and Energy. He received 2 billion won in technology royalties based on his research achievements.

In addition, Dr. Park is an Associate Professor in the Department of Electronic Functional Materials Engineering at the University of Science and Technology (UST) and is a committee member of the Industry Technology Evaluation group at the South Korean Ministry of Trade, Industry, and Energy. He also serves as a committee member at the Korea Technology and Information Promotion Agency for SMEs. Furthermore, Dr. Park holds a position on the Editorial Board of the Korea Battery Society (KOBIS). He earned his Master's and Ph.D. degrees under the guidance of Professor Masayoshi Watanabe at Yokohama National University, Japan, as a recipient of the prestigious Monbukagakusho (MEXT) Scholarship.

### **Dr. Hee-Dae Lim Appointed as Scientific Advisor of SSB R&D Task Force**

Dr. Hee-Dae Lim is a devoted researcher primarily focusing on the development of next-generation batteries with an emphasis on ceramic and carbon materials. Creating novel materials and conducting process research for commercialization, he specializes in electrode and active material technologies for energy storage devices, SSBs, and multivalent-ion batteries. Engaging in collaborative efforts with local companies and institutions, Dr. Lim actively contributes to the advancement of battery technology.

Possessing an impressive publication record, he has published over 80 SCI papers with more than 40 patents related to next-generation battery technologies. Currently, Dr. Lim has been an Associate Professor of Chemical Engineering at Hanyang University. He obtained his Ph.D. from Seoul National University in 2016 and served as a Postdoctoral Researcher at the University of California, San Diego (UCSD). He furthered his expertise as a Senior Researcher at the Korea Institute of Science and Technology (KIST).

### **Dr. Jiwoong Bae Appointed as Scientific Advisor of SSB R&D Task Force**

Dr. Jiwoong Bae specializes in electrochemical energy devices, focusing on solid-state batteries and next-generation batteries employing lithium-metal and silicon anode materials. With an ability to design high-performance energy systems, his expertise in materials chemistry enables exceptional results in the synthesis and selection of suitable materials for energy devices. Including collaborative research with Dr. John Goodenough, Nobel laureate and the inventor of the lithium-ion battery, Dr. Bae published numerous influential papers that advanced the field of SSBs and lithium-metal anodes.

Dr. Bae has been an Assistant Professor of Mechanical Engineering at Hanyang University since 2022. He obtained his Ph.D. from the University of Texas at Austin in 2020 and subsequently served as a Postdoctoral Fellow at the Molecular Foundry of Lawrence Berkeley National Laboratory (LBNL) from 2021 to 2022. Actively engaged in energy device manufacturing, Dr. Bae strives to commercialize high-performance batteries, and as vice chairman of the Green Manufacturing System at KSMTE, Dr. Bae demonstrates his dedication to sustainable manufacturing processes.

***About NEO Battery Materials Ltd.***

NEO Battery Materials is a Canadian battery materials technology company focused on developing silicon anode materials for lithium-ion batteries in electric vehicles, electronics, and energy storage systems. With a patent-protected, low-cost manufacturing process, NEO Battery enables longer-running and ultra-fast charging batteries compared to existing state-of-the-art technologies. Building the first commercial plant in South Korea, the Company aims to be a globally-leading producer of silicon anode materials for the electric vehicle and energy storage industries. For more information, please visit the Company's website at: <https://www.neobatterymaterials.com/>.

**On behalf of the Board of Directors**

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President and CEO

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