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**Research & Development Council of New Jersey to Honor State’s Innovators, Patent Holders at 43rd Annual Edison Patent Awards**

*Princeton Professor and Nobel Prize Winner David W.C. MacMillan, Health Commissioner Judith M. Persichilli, and Senate Majority Leader Teresa Ruiz to Receive Individual Honors during November 3rd Ceremony*

Chatham, N.J. – The Research & Development Council of New Jersey (R&D Council) announced today the honorees and winners of the 2022 Edison Patent Awards, the state’s highest recognition for inventors and innovators. These 14 winning patents created by 54 inventors and the three individual award winners will be honored during the 43rd annual Edison Patent Award Ceremony and Reception on November 3,2022 at Liberty Science Center in Jersey City, N.J.

The R&D Council will honor Princeton Chemist and Nobel Prize Winner David W.C. MacMillan, Ph.D. with its highest honor: the Science and Technology Medal; New Jersey Health Commissioner Judith M. Persichilli will receive the Chairman’s Award; New Jersey Senate Majority Leader Teresa Ruiz will be honored with the Educator of the Year Award.

2022 Edison Patent Award winners include BASF, Celularity, Inc., Colgate-Palmolive, Ethicon, Inc. – a Johnson & Johnson Company, Kulite Semiconductor Products, Inc., Merck, New Jersey Institute of Technology, Princeton Plasma Physics Laboratory, Rowan University, Rutgers, The State University of New Jersey, Siemens Healthineers, Siemens Technology, and Stryker. The recognized patents range from consumer plastic packaging that can be recycled to an unmanned vehicle that can seamlessly move from underwater into the air.

Winners were selected by a team of R&D Council researchers who evaluated patents for the significance of the problem, utility/socio-economic value, novelty, and commercial impact. All winning patents must have at least part of the technical/scientific work completed in New Jersey. A complete list of winners, patent names, and numbers can be found below.

“The Edison Patent Awards is once again uplifting the inventors and companies that make New Jersey a global innovation leader,” said Dr. Kevin Campos, Chairman of the R&D Council Board of Directors and Vice President, Head of Process Research & Development at Merck. “Thomas Edison’s legacy lives on through the 57 honorees who are driving innovation and changing the world right here in the Garden State.”

David W.C. MacMillan, Ph.D. will receive the Science & Technology Medal for the development of asymmetric organocatalysis – a new type of catalyst that is greener than traditional metal catalyst. This innovation has transformed organic chemistry, leading the world to a new means of constructing drugs and materials. Dr. MacMillan, the James S. McDonnell Distinguished University Professor of Chemistry at Princeton University received the Nobel Prize in Chemistry in 2021 for this work. The Science & Technology Medal is awarded annually by the R&D Council to New Jersey innovators who have achieved outstanding and unparalleled advancements in the fields of science and technology and have extraordinary performance in bringing innovation from the laboratory to the marketplace.

New Jersey Department of Health Commissioner Judith M. Persichilli, R.N., B.S.N., M.A. will be honored with Chairman’s Award at the Edison Patent Awards. Commissioner Persichilli will be honored for her tireless efforts leading the state’s public health emergency response during the COVID-19 pandemic, culminating in the distribution and administration of more than 14 million­­–and counting–doses of COVID-19 vaccines in the state. The Chairman’s Award honors New Jerseyans for their outstanding effort and leadership in uniting industry, academia, and the state in pursuit of enhancing and emphasizing a research-based economy in New Jersey.

The Educator of the Year Award will be awarded to New Jersey Senate Majority Leader Teresa Ruiz (District 29). Prior to becoming Majority Leader in 2022, Senator Ruiz served as the Chair of the Senate Education Committee for 12 years where she fought for equity in education spaces. Senator Ruiz has been the leading force to in increasing access to early childhood education with the expansion of state-funded Pre-K in New Jersey. She has championed apprenticeship programs to support career pathways in high-growth industries and sponsored legislation to increase teacher diversity. The Educator of the Year Award recognizes a leader in New Jersey for their achievements in the advancement of STEM (Science, Technology, Engineering and Mathematics) education in New Jersey.

The 43rd annual Edison Patent Awards Ceremony and Reception will take place in person on Thursday, November 3, 2022 at the Liberty Science Center. During this ceremony each award winner will have a special tribute film premiered in their honor. For information on sponsorship, ads, and tickets, please visit [here](https://one.bidpal.net/edison2022/welcome). For more information on the award winners, the event, or the R&D Council, please contact Council Executive Director Kim Case at 908.875.7167 or email [kcase@rdnj.org](mailto:kcase@rdnj.org). This release can also be found online at [www.rdnj.org](http://www.rdnj.org).

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*As the Research & Development Council of New Jersey, we collaborate among industry, academia, and government to grow and strengthen STEM in education, innovation, and the economy. The R&D Council is a nonprofit 501(c)(3) organization whose membership includes representatives from academia, government, and industry, including several Fortune 500 companies. More information can be found at the R&D Council’s website:* [*www.rdnj.org*](http://www.rdnj.org/)*.*

***Growing STEM. Advancing Innovation. Impacting the World.***

**2022 Edison Patent Award Winners**

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| **Organization** | **Category** | **Inventor Names** | **Patent Name and Number** |
| BASF | Environmental | David Weinberger, Wolfgang Ruettinger, Pascaline Tran, Laif Alden, Ting Gu, Feng Zhao, Anju Shi, Nils Lawrenz, and Lukas Wengeler | Manganese Oxide Based Catalyst and Catalyst Device for the Removal of Formaldehyde and Volatile Organic Compounds, U.S. Patent 11,203,009 B2 |
| Celularity Inc. | Emerging Therapies | Robert J. Hariri, MD, Ph.D. | Method of Collecting Placental Stem Cells, U.S. Patent 10,113,146 |
| Colgate-Palmolive | Consumer | Jun Wang | Dimensionally Stable Recyclable Plastic Package, U.S. Patent 10,889,093 B2 |
| Ethicon, Inc. - a Johnson & Johnson Company | Medical Device | Jason Perkins, Jesse Nawrocki, Jason Huff, and David Lindh, Sr. | End Effector for Wound Closure Device, U.S. Patent 10,336,001 |
| Kulite Semiconductor Products, Inc | Aerospace | Martin A. Sanzari | Thermally Stable High Temperature Pressure and Acceration Optical Interferometric Sensors, U.S. Patent 9,810,594 B2 |
| Merck | Pharmaceutical | Carl A. Baxter, Edward Cleator, Faye Sheen, Shane W. Krska, Neil Strotman, Gavin Stewart, Debra J. Wallace, and Timothy Wright | Process for the Preparation of an Orexin Receptor Antagonist, U.S. Patent 9,108,959 |
| New Jersey Institute of Technology | Emerging Technology | Wen Zhang and Wanyi Fu | Microwave-Assisted Antifouling Membrane Filtration System, U.S. Patent 10,583,402 |
| Princeton Plasma Physics Laboratory | Industrial Processes | Hantao Ji, Philip Efthimion, Erik Gilson, Eric Edlund, and Adam Cohen | Advanced Liquid Centrifuge Using Differentially Rotating Cylinders and Optimized Boundary Conditions, and Methods for the Separation of Fluids, U.S. Patent 10,300,410 |
| Rowan University | Biomaterials | Anthony Lowman, Erik Brewer, and Nigel Smith | Cross-Linked Hydrogels and Method of Making the Same, U.S. Patent 10,507,264 |
| Rutgers, The State University of New Jersey | Defense | Francisco Javier Diez-Garias and Marco M. Maia | Unmanned Air and Underwater Vehicle, U.S. Patent 10,315,762 |
| Rutgers, The State University of New Jersey | Biotechnology | Shengkan Jin and Juan-Carlos Collantes | A Nuclease-Independent In Vivo Targeted Gene Editing Platform and Uses Thereof, U.S. Patent 15/744,505 |
| Siemens Healthineers | Medical Health | Florin-Cristian Ghesu, Eli Gibson, Bogdan Georgescu, Grbic Sasa, and Dorin Comaniciu | Medical Image Assessment with Classification Uncertainty” (U.S. Patent 11,275,976 |
| Siemens Technology | Energy | Chao Yuan, Amit Chakraborty, Holger Hackstein, and Leif Weibking | Discriminative Hidden Kalman Filters for Classification of Streaming Sensor Data in Condition Monitoring” (U.S. Patent 10,565,080 B2 |
| Stryker | Enabling Technology | Joseph Robinson, Lewis Mullen, Robert Klein, Nicholas Dong, Matthew Poggie, Eric Jones, Christopher Sutcliffe, Dan Jones, and Robin Stamp | Surface Modified Unit Cell Lattice Structures for Optimized, Secure, Freeform Fabrication (U.S. Patent 9180010 B2 |