JUDGE ADVISOR

Thomas Barone, P.E. is president of Sustainable and Innovative Solutions. He is the former Senior Director of Energy and Sustainability at the NYS Office of Parks, Recreation, and Historic Preservation where he managed the energy efficiency and renewable energy programs for the Agency’s 5,000 buildings. Previously, Tom was the Acting Vice President for Energy Services at the New York State Energy Research and Development Authority (NYSERDA) where he oversaw NYSERDA’s operations and energy efficiency and renewable energy deployment and services programs for commercial and residential buildings. Tom has over 30 years of experience in the energy efficiency industry in various roles within the commercial, industrial, residential, and multi-family sectors. Tom is a licensed professional engineer in New York State and received Bachelor of Science and Master of Science degrees in Civil Engineering from Rensselaer Polytechnic Institute. Tom has judged at the NY Tech Valley Regional for five years, the New York City Regional, the Hudson Valley Regional, the Central NY Regional, and the World Championships.

JUDGE MANAGER

John Neun, P.E. has had a long career determining how to make paper machines run more efficiently all over the world. Over the past 40 years, he has worked for manufacturing companies and consultants as a technical contributor and manager, and has developed proficiencies in machine design, structures, machine and structural vibration, experimental design and statistical analysis, project management, and paper manufacture. He is a past mentor and chairman of a founding FIRST robotics team and has been involved in educational robotics since 1999. He has Bachelor of Science and Master of Science degrees in mechanical engineering from Rensselaer Polytechnic Institute, has six US Patents, and is a registered Professional Engineer in New York State.

JUDGES

Peter Altenburger has been with National Grid since 1992 in a number of engineering and operations roles. He currently holds the position of Director – Substation Engineering leading a team of engineers and designers responsible for substation capital construction projects in National Grid’s upstate New York, Massachusetts and Rhode Island service territories. He received a Master of Science degree in Electrical Engineering from Rensselaer Polytechnic Institute and a Bachelor of Engineering degree in Electrical Engineering from Manhattan College.

Robert Brennan enlisted in the U.S. Navy Submarine Force as a nuclear reactor operator. After serving seven years he honorably finished his service as a quality assurance supervisor for submarine repair activities, working across multiple ship classes and propulsion plants. After separating from the U.S. Submarine Force, he joined semiconductor manufacturing as a field engineer for Tokyo Electron America where he was selected to be Engineer-in-Charge and Project Manager for the Single Wafer Deposition department. There he installed, maintained, modified, and repaired various engineering machines and processes from reactive ion etching to atomic layer deposition. Robert currently works as a Staff Equipment Engineer and Project Manager at GLOBALFOUNDRIES in Malta, New York. He has years of experience in the troubleshooting and repair of various atmospheric and vacuum manufacturing robots including those of Yaskawa, Kawasaki, Brooks Automation, and the JEL Corporation. Robert has a Bachelor of Science degree in Electrical Engineering and has a career focus in power systems, robotics, and leading engineering projects.

Dr. Wei Cai is the Technology Director of Functional Materials Organization at GE Research in Niskayuna, NY. In this role, Wei leads a team of material scientists & engineers, chemical engineers, chemists and physicists to develop innovative material and engineering solutions for GE businesses and customers. Examples of some cutting-edge technologies that Wei's team is currently working on include: Ceramic Matrix Composites that improves fuel efficiency for jet engines, Advanced Energy Storage that stabilizes the renewable energy network, and Wearable Sensors that monitor vital signs of human bodies to enhance physical performance and healthcare. Wei has over 17 years of research and development experiences in material space. She has more than 40 U.S. patents filed and authored over 10 journal articles. Wei has a PhD in Material Science from the University of Wisconsin-Madison. Besides work, Wei is on leadership roles for GE Women's Network and represents GE at the Society of Asian Scientists and Engineers (SASE).

Preeti De is currently the Assistant Principal for the PTech Program at Riverside High School in Yonkers. Preeti started her career at Raychem/Tyco Electronics as a Polymer Research Scientist and switched to a career in the education field. Preeti was a chemistry teacher who was asked to start an FRC team at Riverside HS. Here as a teacher and administrator revised the engineering, computer science and graphics design curriculum. Preeti has been involved with FIRST programs as a coach, administrator and volunteer of Jr. FLL, FLL, FTC and FRC for 13 years. For the past 5 years has been the tournament director for the FTC Regional Tournament in Yonkers. Preeti earned Bachelor of Science and Master of Science degrees in
Chemistry from Pune University, India, a Master of Science degree in Polymer Chemistry from Rensselaer Polytechnic Institute, a Master of Science degree in Science Education from City College of New York, and a Master of Arts degree and Professional Certification in School Building and District Leadership from Manhattan College.

**Lynn DeRose** has worked at General Electric’s Global Research Center for 29 years and is a member of the Software Systems Technology Lab. She is currently working on developing technologies to enable the Industrial Internet of Things and Inspection as a Service. Her work is helping machines to become self and environmentally aware to enable GE’s Brilliant Factories. She is currently working on the development of a system to digitize and optimize manufacturing of autologous medicine, specifically CAR T manufacturing. She is the project leader for RFID implementation at various GE businesses. Her formal education is in Chemistry, but she has been working in the field of asset tracking, locating and condition monitoring for the past 18 years. Lynn has been the guest speaker at multiple international conferences, published several papers and filed more than 25 U.S. Patents. Lynn has been a volunteer for the FIRST Technology Challenge and the FIRST Robotics Challenge in the Greater Albany NY area for the past 7 years and recently started a Lego League Jr. team at GE Research.

**Wayne Gannett, P. E.** is a Senior Water Resources Engineer with the Albany office of Bergmann Associates, PC. Prior to that, he was the Principal Hydraulic Engineer with the New York State Department of Transportation (NYSDOT). He supervised the Hydraulic Engineering Unit in the Structures Division for 11 years, where he was responsible for stream hydraulic and scour analysis for new and rehabilitated bridges, as well as special projects in stream stability and highway protection, and climate change adaptation for NYSDOT. He is a member of the Transportation Research Board (TRB) Committee AFB60 on Hydraulics and Hydrology, and the American Society of Civil Engineers (ASCE). Mr. Gannett holds a Bachelor of Science degree in Civil Engineering from the University of Massachusetts and a Master of Business Administration from Rensselaer Polytechnic Institute.

**Jeffrey Goldmeer** is the Director of Gas Turbine Combustion & Fuel Solutions at GE Gas Power Systems. In this role he is responsible for the strategic development of gas turbine technologies supporting the use of alternative power generation fuels around the globe. His main focus in the last year has been on the use of hydrogen as a renewable, carbon-free fuel for power generation. Prior to this role, he was the manager of the Combustion Laboratory at GE’s Global Research in Niskayuna, NY. Overall, Jeffrey has more than 25 years of engineering experience related to fuels and combustion systems and has 11 patents on a range of combustion and propulsion technologies. Jeffrey received his Ph.D. in Mechanical Engineering from Case Western Reserve University; as part of his dissertation, he performed combustion experiments on board NASA’s low-gravity research aircraft (aka the Vomit Comet). He received Bachelor of Science and Master of Science degrees in Mechanical Engineering from Worcester Polytechnic Institute. When not working Jeffrey volunteers with local Boy Scouts, enjoys scuba diving and science fiction.

**John Kent** spends his career focused upon the design, development and manufacturing of semiconductors. He joined GLOBALFOUNDRIES quite recently, having moved to NY from Palo Alto, California. John has had executive technology roles at GLOBALFOUNDRIES, KLA-Tencor, Rambus and AMI Semiconductor. His early career years were spent at IBM Burlington, Vermont and East Fishkill, New York. John has worked on both logic and memory development over the years and currently heads the worldwide program management office at GLOBALFOUNDRIES. John holds a Bachelor of Science in Chemical Engineering from Michigan State University.

**David Krebs** was involved in the paper industry for over 42 years, working hand in hand with equipment manufacturers/suppliers and paper mills to produce the highest quality sheet of paper possible. He held a wide range of professional and leadership roles during his career, in manufacturing, technical, sales, product engineering, and specialized technical service. Dave recently retiring from Albany International after 30+ years of service. He has two electronics degrees from Hudson Valley Community College, and a bachelor’s degree from North Carolina State University. Dave is a member of the Hudson Valley Community College Mechanical Engineering Technology and Computer Integrated Technology Curriculum Advisory Committee, 2001 to present. He is the holder of 2 U.S. patents.

**Dan Lehane** is the Manager of Shipboard Electrical Systems for the Naval Nuclear Laboratory. He has been with the Knolls Atomic Laboratory in Niskayuna, NY since 1983. He is responsible for the development, testing and qualification of software and the development of electrical systems for the US Nuclear Navy. He has worked in a variety of areas including Power Plant Operations, Instrumentation and Controls development, Construction and Power Plant Electrical Engineering. He was previously a mentor for FIRST Robotics and FIRST Technology teams. Mr. Lehane has a degree in Electrical Engineering from SUNY Maritime College.
Martha McCormick retired as Director of Education for To Life!, a Capital Region Breast Cancer support organization. Previously she spent most of her career at Rensselaer Polytechnic Institute in professional student life positions, and as an instructor of professional and leadership development for Engineering and Management undergraduate students. She has been Director of Training and Consulting, as part of Capital Employee Assistance Program, providing specialized training, staff development and Human Resource Development support throughout the region. She holds a Master of Science degree in Counseling Psychology and Student Development from the State University of New York at Albany.

Greg Mohr (known as “Doc”) is an Advisor Engineer for the Naval Nuclear Laboratory. He currently works at the Knolls Atomic Power Laboratory in Niskayuna, NY, and served previously at the GE Global Research Center and GE Inspection Technologies. He holds a Ph.D. in experimental physics from Washington University in St. Louis, is a Fellow of the American Society for Nondestructive Testing and a member of the Nondestructive Testing Committee of ASTM International, and holds 15 US patents. He has significant technical experience in industrial x-ray nondestructive testing and imaging applications, and in the development of digital imaging, computed tomography, and filmless radiography products and technologies. “Doc” is dedicated to teaching and training the next generation of technical achievers and has been active in FIRST Robotics since 2010.

Philip Mueller is the Knolls Laboratory Site Director at the Fluor Marine Propulsion Corporation Naval Nuclear Laboratory (FMP), for Knolls Laboratory. He brings 35 years of professional experience to the field. Previously, he was the Test Operations Manager and the Prototype Operations Manager at the Knolls Atomic Power Laboratory. He was the Plant Manager for Lockheed Martin Information Technology for six years. Mr. Mueller has a degree from the US Merchant Marine Academy.

Dr. Ted Nygreen is a retired computer scientist, CIO, corporate Managing Director, and college STEM Dean. Ted was VP of MIS at NBC, and then spent 15 years as Managing Director of an international management consulting firm. His corporate career continued with 12 years as General Manager of a broadcast software company with offices in 18 countries, until he retired and served as a dean in higher education. Ted earned a Bachelor of Science from MIT and Ph.D. from Princeton.

Ryan Oldaker is a manager with ASML supporting GLOBALFOUNDRIES, IBM and Micron and has been with the company since 2006. His current role is leading the team managing the parts and tools supply for ASML in the eastern US. In his previous role as a project lead at ASML he oversaw Extreme Ultraviolet readiness at GLOBALFOUNDIES, the successful implementation of over 25 lithography and metrology machines and several major repairs and upgrades projects. Prior to moving to New York, Ryan led the introduction of NXT systems at IM Flash in Lehi, Utah. He also began his career with ASML as a service engineer in Lehi before becoming a project lead. Ryan is also a veteran of the Army having served in Iraq for Operation Iraqi Freedom. He has a Bachelor of Science degree in Electronic Engineering from DeVry University.

Elizabeth Papa is a Manager of Automation at Regeneron Pharmaceuticals, Inc. and has been with the company since 2013. Liz graduated from the College of Saint Rose in 2008 with her Bachelor of Science degree in Biochemistry and minor in Computer Science. She later attended the Sage College of Albany to receive her Master's in Business Administration in 2017. Liz’s primary focus at Regeneron is leading a team of 20+ Automation professionals to design, support, and maintain a series of Automated Manufacturing and Process Controls Systems which include chromatography and cell analysis. While Liz is building her team, she is also focusing on continuous improvement of these process control systems and policies. Liz has an interest in STEM early on and participated in Odyssey of the Mind, along with several science and math team competitions.

Spencer Raggio has spent more than 40 years in the communications field, working in journalism, typography, graphic design, marketing and web development. He currently works as a consultant, assisting clients in higher education, healthcare and renewable energy with business communications strategy, and website usability and accessibility. As an avid sailor and certified sailing instructor, Spencer has a particular interest in adaptive systems and equipment for sailors with disabilities, including joystick and sip-and-puff controls used by quadriplegic sailors. Spencer volunteers with US Sailing as a member of their National Faculty and as Para Sailing Committee chair and runs the Y-Knot Adaptive Sailing program on Lake George, NY.

Paula Rosenberg is a Marketing/Communications professional who recently retired as Program Manager of the New York City office of the New York State Energy Research and Development Authority (NYSERDA). In her 25 years with NYSERDA, she worked in a variety of positions, ranging from writing and editorial, to project management, assistant director of the NYC office, and as NYSERDA representative to the Tech Valley Angel Network (TVAN). At TVAN, Paula vetted companies and entrepreneurs with the potential to participate in NYSERDA's research and development or deployment programs. Her background includes more than a decade of owning a marketing firm and a more than eight years with General Electric’s Corporate Communications and Marketing Operations, working with all departments in the Power Systems Sector and as editor of “Electric Forum” magazine. Paula holds Bachelor of Arts and Master of Library Science degrees from the State University of New York at Albany and is currently creative director of Art & Design.
Subhrajit Sahoo is a Senior Test Chip Design Automation Engineer at GLOBALFOUNDRIES, Malta, NY. He had been designing test structures on cross-technology nodes for the past 18 months. He designs and supports the designs for all the technologies supported and differentiated by GF. He is responsible for design and verification of circuitry for all the technologies both in automated as well as custom design technologies. He has a Master of Science degree in Electrical and Electronics Engineering majoring in Digital VLSI Design from the University of Southern California, Los Angeles and his Bachelor of Science degree in Electrical and Telecommunication Engineering from Veer Surendra Sai University of Technology, Odisha, India.

Dr. Tobi Saulnier is the founder and CEO of 1st Playable Productions, a game development studio founded in 2005 that creates games for handheld, console, web and mobile platforms, for both well-known entertainment brands as well as games for education and social change, including retail and research titles. The studio is also known for innovative gameplay, including networked features, downloadable content, and integration of real and virtual worlds. Before joining the game industry, Tobi managed R&D in embedded and distributed systems at GE Research and Development, where she earned 16 patents and wrote articles appearing in over 25 professional publications. She earned her Bachelor of Science, Master of Science, and PhD in Electrical Engineering from Rensselaer Polytechnic Institute. Tobi has been a volunteer and judge for the FIRST Robotics Challenge since 2014.

Andrea Schmitz has 30 years of R&D experience, with 26 of them at General Electric’s Research Center. She’s currently working as a Senior Engineer focused on system design and the development of software and electronics for Aviation Engine controls and Additive manufacturing. Andrea has worked in a variety of research areas including polymer modeling, non-destructive testing and inspection systems for Aviation and industrial applications and systems and detectors for healthcare. Andrea led several government sponsored healthcare system and detector development programs focused on applying these technologies to Breast Cancer detection using Digital Breast Tomosynthesis, increasing imaging access with a portable x-ray system for military or rural hospital use and translating portable technology to the industrial world through development and modification of existing products. She is a co-inventor on 5 patents and has over 15 publications and several conference presentations to her credit. Andrea has been a volunteer for the FIRST Technology Challenge and FIRST Robotics Challenge judge for the past 4 years. She is active and passionate about STEM advocacy; this includes mentoring in local schools and providing consulting and acting as a Technical Advisor on the board for the not-for-profit STEM outreach program, Rise High. Andrea earned her Bachelor of Science and Master of Science degrees in Computer Science from Rensselaer Polytechnic Institute.

Gene Terwilliger is the Enterprise Integration Director for the Naval Nuclear Laboratory. He has been at Knolls Atomic Power Lab in Niskayuna, NY since 1989. In his current role, he is responsible for Information Technology, Materials Management, Procurement, Security, Communications, Project Management and Continuous Improvement. He previously served as Advanced Technology Programs Manager, responsible for thermal hydraulics and structural development, advanced concepts, and scientific programming. Gene also is the Naval Nuclear Laboratory’s Spokesperson. He earned Bachelor of Science and Master of Science degrees in Mechanical Engineering from Union College and a Master of Business Administration from Rensselaer Polytechnic Institute.

Heidi Voelk is a Senior Manager with the GE Healthcare Radiation Safety Program. She is a certified health physicist with over 30 years of experience in radiation protection and radiation safety program management in medical, academic, research, and regulatory settings. In her current role, she provides health physics support to the Healthcare Sales and Service teams and manufacturing sites throughout the world, along with cross-business support for GE Aviation, Additive, and Power. Prior to joining GE Healthcare, she was a Radiation Safety Expert for the Corporate Radiation Center of Excellence and served for ten years as the Radiation Safety Program Manager for GE Global Research. Before joining GE, she was the Director of Radiation Safety for Albany Medical Center. Heidi earned a BS in Physics from Rochester Institute of Technology and an MS in Health Physics from Rensselaer Polytechnic Institute.

A big “thank you” to our impressive team of volunteer judges. We appreciate all you do in support of our event!