

THE LIFE SCIENCES VOICE

The Georgia Bio Industry E-Newsletter

Newsletter Issue: July 2018

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Letter from the President



2018 is shaping up as a transformational year for our life science industry in Georgia. As we prepare for Georgia Bio's 30th anniversary next year, we take note of significant growth and are assessing what will take us forward for the next several decades. Between 2012 and 2016 alone, we saw a 100% increase in employment for biosciences in Georgia, and 75% growth in the number of companies. Check out this year's BIO/TEconomy reports to learn about the industry [nationally](#) and in [Georgia](#).

We are now conducting a comprehensive state-of-the-industry analysis for life sciences and global health, and are [seeking support for this report](#). This analysis will help us to catalogue our assets, determine our opportunities for growth and support, and create a referral database for our members. Our strategic priorities this year at Georgia Bio reflect the needs identified in our study last year with GRA; access to capital, improvements in workforce, and a "place" for the industry to come

together. We are currently developing plans for a Health Innovation District to create resource centers and laboratories for collaboration and coworking. If you are interested in being a part of the planning team, please contact Maria at mthacker@gabio.org.

Join us at the Georgia Bio Innovation [Summit](#) in October to learn about our findings and join the conversation to further advance our industry. An opening keynote presentation from **Gary M. Reedy, CEO of the American Cancer Society**, will set the stage for discussions, workshops and presentations throughout the day. Of course, the Summit is your top networking event of the year and is a chance to learn about the latest innovations in life science. [Consider a sponsorship](#) to elevate your presence and be a part of this exciting pivotal time!

Thank you,

Russell Allen
President & CEO



Teachers Get a Hefty Dose of Biotech at Week-Long Georgia Bio Workshop

*Jordan Rose, MPH, Senior Consultant,
Georgia BioEd Institute*

The Georgia BioEd Institute's Summer Biotech Immersion program, sponsored by local biopharma company UCB, provided a laboratory-intensive professional learning experience to eight high school biology/biotechnology teachers on June 4-8, 2018. If funded for summer 2019, the pilot program is intended to become an annual offering for Georgia educators from Georgia Bio, the state's life sciences industry association.

Georgia's biotechnology and medical device industry have grown at a rapid pace in recent years according to a recently released [report](#) from TEconomy & the Biotechnology Innovation Organization. According to the report, "the state's bioscience firms have grown their employment base by 10.6 percent since 2014 and employed just over 32,000 in 2016. Companies have also expanded their establishment count by 16 percent during this same period and now operate 2,431 across the state." Indicators like these show the need for preparing the workforce for this high-paying STEM sector.

"This was one of the best professional development experiences I have been a part of," said Iesha Harrison, biology teacher at South Cobb High School. "The resources and contacts that I have made will serve me well. I will be a better educator as a result."

The five-day workshop immersed teachers in basic and advanced laboratory methods, from using a micropipette, preparing buffer solutions and agar plates, and maintaining sterile technique, to transforming bacteria with plasmids, running gel electrophoresis, PCR, ELISA, and hydrophobic interaction chromatography. The sessions were led by 2017 Georgia Bio teacher of the year, Marc Pedersen, and his wife Tricia Pedersen, both biology and biotechnology instructors at the Paulding County High School Academy of Science, Research, and Medicine. The Pedersens shared lab protocols and teaching tips and discussed how to obtain the necessary equipment and supplies.

"We wanted to help teachers overcome the barriers that prevent them from implementing lab activities in the classroom," said Jordan Rose, the workshop's facilitator and consultant with Georgia Bio. "Equipping teachers with the confidence, skills, knowledge, and resources to implement labs will help them to prepare their students for the rigors of post-secondary education and the entry-level requirements of biotech careers."

Teachers' confidence in their knowledge, skills, and readiness in relation to teaching laboratory activities increased by 45% compared to self-ratings made before the workshop. "My confidence has elevated. I am not afraid to do something wrong in the lab," said Roberta Axson, biotechnology instructor at Newton College & Career Academy.

Interspersed with the lab activities were guest speakers, including professionals from the Centers for Disease Control and Prevention, NSF Engineering Research Center (ERC) for Cell Manufacturing Technologies (CMaT), Mercer University College of Pharmacy, IHRC, Applied Bioinformatics Laboratory (ABiL), Saol Therapeutics, and workshop sponsor UCB. The teachers were exposed to a variety of bioscience career types; after the workshop, teachers were able to name 23 new careers in the life sciences that they had not thought of previously.

One of the highlights of the workshop was a design-thinking challenge, facilitated by experts from The STE(A)M Truck, a mobile makerspace. This activity centered around the real-life experiences of a Paulding County High School student living with epilepsy. In a deeply personal storytelling session, the student shared the physical and social challenges he experiences daily. Teachers created and prototyped solutions to address these challenges, including wearable technologies and biosensors. The session provided context for the biotechnology laboratory activities that would follow during the workshop, serving as an introduction to a patient-centered approach in the life sciences industry that seeks to develop innovative pharmaceuticals, medical devices, and other technologies to improve our health.



"At UCB we're committed to supporting science education in the greater Atlanta area and engaging the next generation of scientists and innovators. We're proud to support this program for teachers to enhance Georgia schools and help prepare the future STEM workforce," said Stephanie Hunter-Banks, Director, Patient and Stakeholder Experience - Neurology at UCB.

Additionally, a handful of students from the Paulding County High School biotechnology program served as laboratory assistants for the workshop, helping to prepare the labs and guide the teachers to refine their laboratory techniques. Other students shared their independent research projects to give the teachers an idea of what their own students could accomplish by applying these lab skills. In the end, the participating teachers created action plans outlining how they would bring these labs and lessons back to their own classrooms to cultivate the next generation of life science leaders.



The Georgia Tech Institute for Electronics & Nanotechnology: A Unique Research Resource in Midtown Atlanta

Paul Joseph, PhD, Principal Research Scientist, IEN External User Coordinator, Institute for Electronics and Nanotechnology, Georgia Tech

The Institute for Electronics and Nanotechnology (IEN) is one of the 11 different interdisciplinary research institutes at Georgia Tech. The mission of the IEN is to establish and maintain resources supporting nano-scale and micro-scale fabrication and characterization tools, laboratory facilities, and skilled staff to enable Georgia Tech to be the hub of nanotechnology research in the Southeast. The IEN houses a \$200 million open-access user facility, one of the largest in the nation, in which academic, industry, and government researchers can access over 200 pieces of high end analytical, characterization, fabrication, machining, device functionalization, imaging, and life science tools for nominal fees. Nanotechnology research at the IEN covers a wide range of disciplines including electrical, computer, mechanical, chemical, materials and biomedical engineering as well as physics, chemistry, and biology. The combination of facility, experience, and expertise creates an environment conducive to applications of nanoscience, nanoengineering, microelectronics, nanobio systems, nano/microfluidics, and microelectromechanical systems (MEMS and BioMEMS).

Georgia Tech is home to one of the 16 sites that comprise the National Nanotechnology Coordinated Infrastructure (NNCI), an integrated networked partnership of academic nanotechnology user facilities across the US, serving the needs of nanoscale science, engineering, and technology. In a collaboration with the Joint School of Nanoscience and Nanoengineering (JSNN) in Greensboro, NC, IEN created the Southeastern Nanotechnology Infrastructure Corridor (SENIC). More information on SENIC may be found at <http://senic.gatech.edu/>

The IEN is located in the Marcus Nanotechnology Building and the Joseph Mayo Pettit Microelectronics Research Building. The Pettit building houses an 8500 sq. ft. cleanroom (75% class 100, 25% class 10). The Marcus building includes 20,000 sq. ft. of inorganic cleanroom space for nanofabrication as well as 10,000 sq. ft. of organic and biological cleanroom space, including Biosafety level 1 and 2 (BSL-1 and BSL-2) labs. Additional space is provided for characterization and metrology, chemical processing, and biotechnology. The overall Marcus cleanroom design

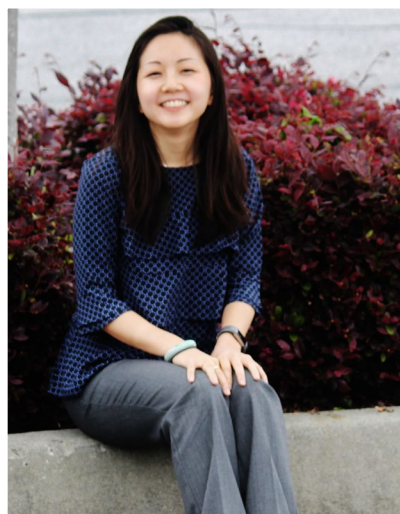
contains an organic and biological cleanroom adjacent to the inorganic cleanroom. This rare design of adjacent physical and biological cleanrooms enables a fusion of the top-down (physical) directed assembly approach and the bottom-up (biological) self-assembly approach to nanotechnology.

The IEN hosts a bi-monthly Nano@Tech seminar series that is focused on promoting nanotechnology research and education, as well as a bi-annual symposium, the NanoFANS (Focusing on Advanced Nanobio Systems) Forum that seeks to connect the medical/life sciences /biology and nanotechnology communities. The goal is to reach out to the biomedical/life sciences areas and let them know what nanotechnology can offer them in the advancement of their research. IEN also offers two hands-on workshops, "Microfabrication" and "Soft Lithography for Microfluidics", which benefit the user community.

For detailed information related to IEN cleanroom facilities, capabilities, user access, and short courses or seminars, please visit our website <http://www.ien.gatech.edu> or call Dr. Paul Joseph at 404-894-5209 or email at paul.joseph@ien.gatech.edu.

Neta Scientific Is Proud to be Your Source for Lab Supplies and Diversity Requirements

Sharon Tan, Business Development Manager, Neta Scientific Incorporated



Neta Scientific is a life science and chromatography distribution company that has been a leading supplier of laboratory solutions and consumables since 1999. Proud to be a member of the Georgia Bio Summit, we are one of the industry's largest distributors of scientific lab equipment and

supplies with a robust portfolio of leading industry suppliers including Agilent Technologies, GE Healthcare Life Sciences, IKA®, Corning Life Sciences, LI-COR, Waters, Chemglass, Spectrum Chemical and OHAUS, among others.

As a diverse aggregator and neutral provider, our products are trusted, preferred and always offered at a fair market price. We service customers in market segments such as biopharma, academia, government, food and flavors and other key industry sectors.

Our Diversity Certifications



We are a certified woman and minority owned business enterprise. Our national certification is fully listed and accredited by WBENC. Our other certifications

include Small Business Enterprise and Small Business Disadvantaged Company. In addition to supplying leading-edge products, we also provide our suppliers with Tier 1 Diverse Spending Requirements to fulfill government requirements for research grants and diverse program obligations.

Southern Region Contact Details

Sharon Tan, Neta Scientific's Business Development Manager for the Southern Region, is your prime contact for inquiring about our products and services. Sharon is a member of the Georgia Bio Summit Association and resides in Atlanta, GA. A bright and personable individual, Sharon takes pride in assisting lab managers and scientists with selecting the right lab equipment and supplies. She holds a Master of Science degree in Plant Molecular and Cell Biology from the University of Florida.



Georgia Tech Announced Its Plans to Launch New Healthcare Focused Vertical at the Advanced Technology Development Center with Atlanta based partner NASCO

Kirk Barnes, Startup Catalyst, ATDC

Recently, the Advanced Technology Development Center, [ATDC](#), [announced](#) its launch of a new vertical that will be dedicated to the start-up companies that have a focus on healthcare related technology. These technologies cover a broad range of applications including but not limited to: digital health, artificial intelligence, medical devices, IoT, healthcare robotics, genomics, drug discovery tools, blockchain, big data analytics and drug delivery vehicles.

The new health technology vertical is possible by a gift to the Georgia Tech Foundation, which funds ATDC, by Atlanta based NASCO. [NASCO](#) is a leading provider of information technology products and services designed to help healthcare payers across the United States address unique business challenges and revolutionize business operations, and is owned by and exclusively serves Blue Cross and Blue Shield Plans.

Through this new health technology related vertical, ATDC and NASCO together formally join the Atlanta and Georgia healthcare ecosystem, by nurturing technologies that will strive to improve patient outcomes, reduce costs, increase efficiencies while creating jobs and spurring innovation.

Furthermore, the partnership between ATDC and NASCO bridges the Atlanta and Georgia to the NASCO owned Blue Cross Blue Shield Plans and their respective ecosystems across more than 10 states throughout the U.S. What this means is that the start-up companies that are a part of ATDC, now have a direct path to potential customers for beta testing, pilot programs and possible commercialization, which are otherwise extremely difficult given the complexities of navigating managed healthcare organizations as well as the healthcare systems and employers that do business with them. In addition, this joint collaboration will help NASCO and their respective BCBS owners offer more options and value added solutions to their members, while increasing the valuation of the ATDC companies by expeditiously generating proof of concept, customer traction and revenue generation.



Lastly, ATDC will make forthcoming announcements related to the additional sponsors of its vertical as well as strategic partnerships within the Georgia healthcare ecosystem. Also, ATDC was selected as one of the ten cities throughout the U.S. that were identified by the Department of Health and Human Services (DHS), to host an innovation road show that will help start-up companies understand how to best engage the largest player in the U.S. This event is set to take place with an invitation only dinner event on September 11, and an all day event of key speakers from DHS, FDA, and CMS on September 12th. Both events will be hosted at ATDC.

For more information about ATDC, please visit [ATDC.org](#), or email info@atdc.org. For more information about NASCO, please visit [NASCO.com](#).



Raising Cancer Awareness through the Georgia Cancer Center

*Candace J. Poole, 4th year
Biochemistry and Cancer Biology
Ph.D. candidate, Augusta University*

The Georgia Cancer Center (GCC) at Augusta University (AU) is a growing leader in cancer clinical care, discovery innovation, translational research while promoting professional education and public awareness. The GCC (a five-story, 167,000-square-foot research building) houses offices, laboratories and special equipment core facilities, such as flow cytometry, integrated genomics, small-animal imaging, and next-generation sequencing resources. Recently, the GCC has expanded and now physically connects to the AU Health Clinical Cancer Center (a 57,000 square-foot outpatient center), bridging basic and translational research, both literally and figuratively. Basic science research programs in the GCC include tumor immunology & microenvironment, molecular oncology & biomarkers, and tumor angiogenesis & signaling, while the Clinical Cancer Research Unit oversees clinical trials with patients, and supports translational researchers to develop new investigational therapeutics and design human clinical trials. Ultimately, the GCC provides an interdisciplinary environment for students, trainees, faculty, and healthcare providers to grow and thrive as basic and clinical scientists.



One of the pioneers at the heart of the cancer center's vision is Dr. B. R. Achyut, an Assistant Professor in the Department of Biochemistry and Molecular Biology. Recently, he has been recognized on the Top 10 list of 'Young Professionals to Watch' by the Augusta Metro Chamber of Commerce, in partnership with Augusta Magazine. Georgia Trend Magazine further recognized him as one of Georgia Trend's 40 professionals

under 40 years old. Most recently, he was awarded the Emperor Science Award by Genentech, Bristol-Myers Squibb Company, and Novartis, along with Stand Up To Cancer, Entertainment Industry Foundation and PBS Learning Media to serve as a virtual mentor for a high school student. Dr. Achyut joined Dr. Ali S. Arbab's lab in the GCC in 2014 after completing his post-doctoral fellowship from the National Cancer Institute at the National Institutes of Health, focusing his research interests on inflammation, the tumor microenvironment, immune suppression, angiogenesis, and vasculogenesis, as well as metastasis hallmarks in malignant cancers. "I started studying resistant glioblastoma in 2013 using nuclear medicine technologies, which are highly

translational tools. We're using these tools to untangle therapeutic resistance mechanisms." These tools available at the GCC have allowed Dr. Achyut to progress his research into very exciting translational studies. Dr. Achyut stresses, "At present, cancer imaging is very powerful and a highly translational modality." They are hoping to translate some of their most recent findings using the tools available at the GCC, into Phase I clinical trials soon for glioblastoma. He explains, "Our research team led by Dr. Ali S. Arbab has found an arachidonic metabolite, 20- HETE, is induced by the tumor microenvironment and the inhibitor we use prevents the accumulation of this metabolite and has worked efficiently in both breast cancer and glioblastoma."



Dr. Achyut is not only focusing his work in academia but has been establishing a startup company focused on "developing an educational and entertainment application for cancer awareness." "There is a huge gap in cancer awareness, and no one talks about it these days," says Dr. Achyut. He is working to overcome this major obstacle with his innovative startup project, which will draw awareness at the school level to why cancer is so important and why everyone should care about cancer research. "I am learning a lot with Christopher Scott Hardigree, at Georgia Tech's ATDC startup catalyst." When asked about his current goals and plans for the future, he excitedly states "Significant changes are happening in my life right now," as Dr. Achyut is very eager and continuing to work on humanized and patient-derived cancer models to test in-house or FDA approved therapies, meanwhile pushing his startup project forward to increase cancer awareness at the grass-root level. He is actively looking for investors to fund his upcoming startup company. Dr. Achyut's story is just one of hundreds at the GCC that involve really excavating the cancer field in order to understand how cancer works and how we can better treat patients.

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Welcome New Members

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- Formulated Solutions
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- Neoletix Labs, Inc.
- Omega Bioservices
- Stark Scientific Testing
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Save the Date

for our signature fundraising event to benefit the Georgia BioEd Institute biotech & medtech STEM programming

Tuesday September 4, 2018

New Location! The Manor Golf & Country Club; Milton, Georgia

A blue silhouette of a golfer in mid-swing, positioned to the left of the text.

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The Fourth Annual Georgia BioEd Golf Outing

[MORE INFO AND REGISTRATION >](#)

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[Learn more here.](#)

Featured New Supporting Member: **Macalaster Bicknell**

MacBick is a boutique lab supply company that is female-owned and operated by an industry veteran. MacBick helps empower labs with the tools they need to discover the future of science by embracing new technology, standardizing data, and leveraging cloud infrastructure.

[Learn more here.](#)

Upcoming Events

[New York Venture Summit](#)

July 10-11, 2018

[Member Benefits Webinar ft TriNet](#)

July 10, 2018

[Bench 2 Business Workshop: Session 3](#)

July 19, 2018

[From the Laboratory to Leadership \(Day 1\)](#)

August 13, 2018

[Bench 2 Business Workshop: Session 4](#)

August 16, 2018

[Careers in Life Sciences](#)

August 21, 2018

[From the Laboratory to Leadership \(Day 2\)](#)

August 27, 2018

[Athens Area BioBash](#)

August 28, 2018

[Swings Fore STEM Golf Outing 2018](#)

September 4, 2018

[Medtech Women @SEMDA](#)

September 5, 2018

[From the Laboratory to Leadership \(Day 3\)](#)

September 10, 2018

[BioPharm America 2018](#)

September 10-11, 2018

[World Drug Safety Congress 2018](#)

September 10-11, 2018

[Careers in Life Sciences](#)

September 18, 2018

[From the Laboratory to Leadership \(Day 4\)](#)

September 24, 2018

[Bench 2 Business Workshop: Session 5](#)

September 27, 2018

[Health Connect South 2018](#)

September 27, 2018

[GSU All Majors Fair](#)

October 3, 2018

[2018 Georgia Bio Innovation Summit](#)

October 9, 2018

[2018 International Society for Vaccines Annual Congress](#)

October 28-30, 2018

[World Vaccine Congress Europe 2018](#)

October 29-31, 2018

[World Immunotherapy Congress 2018](#)

October 29-31, 2018

[World Orphan Drug Congress 2018](#)

November 6-8, 2018

[SEBIO 2018](#)

November 13-14, 2018

[Drug Development Boot Camp](#)

November 14-15, 2018

[World Vaccine & Immunotherapy Congress West Coast](#)

November 28-30, 2018



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