

GW HACKS: INNOVATION COMPETITIONS



GEORGE HACKS

GEORGE WASHINGTON UNIVERSITY'S
INAUGURAL INTERDISCIPLINARY
INNOVATION COMPETITION

MEET THE TEAM



Michael Ready is a junior studying International Affairs and Economics. He is the President of GW Hacks: Innovation Competition for the 2018-2019 school year. He brings hackathon experience from his work with Startup Chile.



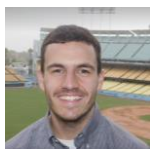
Konstantin Mitic, original founder of George Hacks, is a Senior studying Biomedical Engineering. He placed 3rd at VCU 2017, and 2nd at the Rensealer Technology Institute 2018 hackathon. Konstantin is team leader of George Hacks: Medical Solutions.



Paige Botie is a senior studying Biomedical Engineering. With extensive experience from the Biomedical Engineering Society, Paige was crucial to fundraising and recruitment of professional mentors and advisors for the competition.



Isabella Sardegna is a senior studying Economics with a double minor in Business Administration. She is part of the founding team for George Hacks: Medical Solutions, and focused in Corporate Outreach and Relations and Marketing.



Joseph Shiarizzi is a senior studying Computer Science Engineering. With previous experience as founder of Hackital at GWU, and Fourth Wave, Joseph acted as Student Experience advisor and created the website for the George Hack team.



Aaron Tielemans is a senior studying International Affairs with a minor in French, and brought experience from internships on Capital Hill and the Committee for Homeland Security. Aaron focused on the interdisciplinary nature of George Hacks.

THANK YOU TO OUR MENTOR AND BIGGEST FAN



ANNAMARIA KONYA TANNON is chief evangelist for innovation, entrepreneurship, and invention for the School of Engineering and Applied Science. She is also the executive director of the GW Innovation Center.

Annamaria is a technology entrepreneur and angel investor who has been involved in technology enterprise creation for more than 15 years, primarily in Silicon Valley. She also is the founder and CEO of Equita Accelerator, a non-profit corporation dedicated to advancing women-led technology companies. Prior to starting Equita, Annamaria served as a global data strategist for IBM with a focus on machine learning and data integration techniques for social media, and she served as national and global judging chair for Cleantech Open, the world's largest startup competition for emerging clean technology companies. She remains a CTO global ambassador.

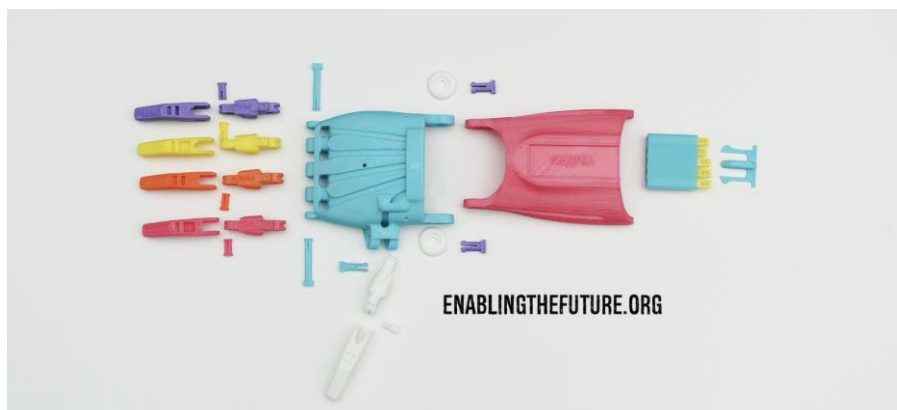
We want to thank Annamaria for being the reason the George Hacks Team was able to stay motivated, and for being the force behind all of our plans. Beyond her tireless support, we all learned so much through Annamaria's passion for innovation, and want to dedicate our Inaugural Event to her. Thank you for repeatedly reassuring us that planning an event in two months was a good idea, and bringing the poise and experience that our team desperately needed!

OUR SPEAKER FOR GEORGE HACKS: MEDICAL DEVICES 2018



Dorothy Jones-Davis is the Executive Director of Nation of Makers, a nonprofit whose mission is to support America's maker organizations through advocacy, resource sharing, and the building of community within the maker movement and beyond. In this role, she is deeply interested in creating connections between a diversity of makers, enabling them to use their collective skills to harness solutions for the world's challenges – grand and small. With a Ph.D. in neuroscience, Dorothy has previously held roles at the National Science Foundation, the Foundation for the National Institutes of Health, and the University of California, San Francisco.

WHERE CAN YOU FIND US NEXT?

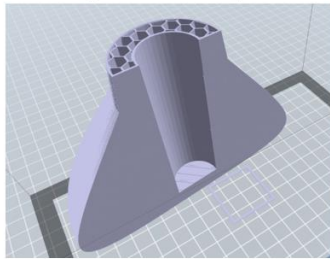


FINALISTS 2018

The first-place team: “Adapting Assistive Devices for Use in Burundian Refugee Camp in Tanzania.”

Team:

Erin Flynn, Mechanical Engineering
Steven Brunetto, Civil Engineering
Joseph Espy, Computer Science
Logan Bartholomew, Chemistry



This talented team of engineers designed a crutch for a refugee in Tanzania to offer a long term and affordable solution in the place of ill fitted and poorly designed traditional crutches. Their product consisted of two pieces, top and bottom, of a crutch that could be fitted to a shaft made of materials in the refugee’s environment. The team utilized data to demonstrate the significant need: over 40% require aid when walking in the refugee camp that our partner organization, HelpAge works in. HelpAge asked for an affordable and feasible solution for the people that they work with, and the winning team delivered!

They presented the problem, and successfully pitched their simple and cost-effective solution. While leveraging their knowledge of engineering, the team was able to demonstrate their understanding of market entrance and the cost of providing these goods to a developing country. Beyond basic design, the product is also adapted to last for a long time in a harsh environment (Teflon bulb with a hydraulic dampening system), and can be reused when a child grows out of their original device and needs a new crutch. The team successfully designed and 3-D printed their product using one of the two 3-D printers purchased for the GW Hacks: Innovation Competitions Organization that are now accessible to any students on campus! We hope that this combination of engineering and product development will aid students as they continue their education with GWU!

The second-place team: “Smart Hospital Technology to Improve Patient Mood and Satisfaction.”

Team:

Alexandra Kaplan, Public Health
Natalie Zukoff, Public Health
Ngozi Ihenacho, Public Health
Sayna Matinrazm, Creative English

This team of Public Health students developed a business plan and product overview for an application meant to target children during their stay at a hospital.

“Positive and effective doctor-patient relationships are vital in hospital communities.

However, this relationship lacks in pediatric care where the child communicates about 4% of the time. Our app’s main goal is to allow the patient to feel comfortable enough to communicate more, reduce their fears, provide a coping mechanism in a platform the child is comfortable with, and catalyze their involvement in their medical care.”

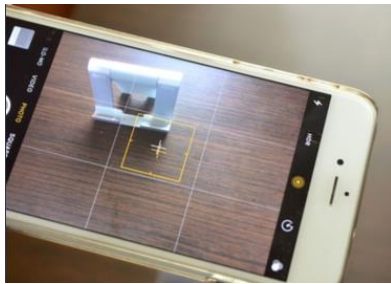


A sponsor of George Hacks, NCR-SHE developed this pitch to address Smart Hospitals, and the potential uses for new technology that is on the horizon. How can we integrate the patient experience into the hospital visit, and leverage human interaction by making all other processing and health monitoring streamlined and efficient? The second-place team developed their solution in 24 hours with a focus on the experience of a child, and how much faster their recovery could be if all aspects of their hospital stay could be monitored and leveraged through the application. This team successfully utilized the data available, presented their business plan, and developed a model for judges to critique. The sponsor requested the use of data to formulate a plan for technology that is still being invented. This type of forward thinking will help students understand the broad reach that their education has provided them. Their presentation was thorough and comprehensive, and they demonstrated that ‘innovation is for everyone’!

The third-place team: “Reverse View Camera for Wheelchairs.”

Team:

Shirali Nigam, Biomedical Engineering
Bianca Karpinecz, Biomedical Engineering
Patrycja Mikolajczyk, Biomedical Engineering
Mercedes Suazo, Biomedical Engineering



The pitch chosen by the third-place team was developed with Professor Robert Carroll From the Engineering School at the George Washington University. The students developed a device that improved upon existing technologies for reverse wheelchair cameras. This device brought more functionality and control to the user while incorporating the use of Bluetooth technology. This allows the user to see where they are going using their phone or any Bluetooth device that is handy to them rather than a screen attached to their wheelchair. The product allowed patients the freedom and accessibility that most items currently available do not offer.

In addition to developing the camera and connection capabilities, the team successfully demonstrated cost effectiveness and ease of implementation without the hassle of wires all over the wheelchair. Their pitch was a great example of utilizing engineering skills along with a business and market understanding required for Innovation! Pitches such as this are what inspired George Hacks, and we hope that these teams will continue their professional development, and participate in future events like the New Venture Competition.

The fourth-place Team: “Redesigning Stores and Shelving for People in Wheelchairs.”

Team:

Karandeep Singh, Biomedical Engineering
Daniel Buford, Biomedical Engineering
Abigail DeMassi, Mechanical & Aerospace Engineering
Sebastian Lora, Mechanical Engineering and Law



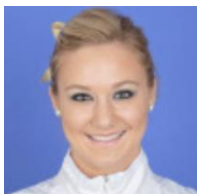
This team of engineers took an unexpected approach to a pitch asking for a solution for disabled students on campus. This pitch was made in partnership with Dorothée Stieber who encouraged the George Hacks team to pitch solutions for the community that we live with: George Washington University. She asked the teams who selected her problem pitch to conceptualize an idea that offers the same level of accessibility to any user of a grocery store.

“IMAGINE WHEELING INTO A STORE WITH THE FULL COMFORT OF NOT CAUSING ANY MORE TROUBLE THAN ANY PEDESTRIAN.” - Dorothée Stieber

The team spent hours gathering their data and actually went into a grocery store, utilized a wheelchair, talked to customers and employees, and developed an understanding of the problem that they were attempting to present a solution for. They proceeded to develop a Certification of Handicap Functionality that goes beyond existing ADA regulations, and designs a functional and accessible experience to all stores that choose to invest. Similar to the LEED certification that brings an ever increasing value to newly constructed buildings, this certification will only be more valuable as CSR becomes more essential.

Their presentation was thorough and extremely well thought out. The team presented a feasible and creative solution, and demonstrated their abilities beyond engineering skills! This pitch and our partnership with the Disabled Students Collective will continue throughout GW Hacks: Innovation Competitions events!

MENTORS 2018



ALEXIS PETRIKIS graduated with the class of 2017 as a gymnast on GWU's NCAA Varsity Gymnastics team. Alexis majored in Biomedical Engineering. She joined Medtronic as a Clinical Specialist in the Cardiac Rhythm and Heart Failure Division. Medtronic is a global leader in medical technology- alleviating pain, restoring health and extending life for people around the world.



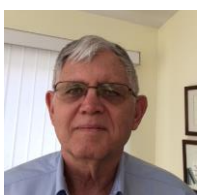
ANURADHA DAYAL is a board-certified pediatrician who specializes in pediatric hospitalist medicine. My interests include medical education, newborn nursery, cost-consciousness in healthcare, health care quality, meaningful use and innovative health care technology for children and young adults. She is a fellow for the American Academy of Pediatrics.



BRENT GROCE currently runs a Philadelphia-based Solar Design and Installation company. Groce led community development projects in Uganda, including building a town library. He has also worked as a Project Manager in telecommunications equipment, and as Financial Manager for non-profits. He holds a degree in Mechanical Engineering, and a graduate degree in International Business.



CAN SUER is an Electrical Engineer with two Master's Degrees, focused on Electromagnetics and Photonics. He is a member of the Applied Electromagnetics Lab at GWU where he is researching remote sensing. Suer has co-authored papers and abstracts on Electromagnetic Theory, photonics, Light Matter Interaction, Transparent Conducting Oxides, and Antenna & Waveguide Design.



CARL E. WICK, D. Sc., is Professor Emeritus, U.S. Naval Academy. He is a Professional Lecturer in the Biomedical Engineering Department at GWU. His specialties include microcontrollers, hardware and software, automatic control systems, sensors and communication systems.



DAVE WILSON is a men's rowing alum of GWU who graduated with a degree in Electrical Engineering from SEAS. He is Founder and President of the Invario Network of Engineers which provides information technology support for small to medium sized businesses. He was previously a consultant at Winstar Communications.



DR. DAVID LEE is an Associate Professor of Practice in Biomedical Engineering at GWU. He is the course director for BME capstone courses. In that role, he is developing collaborations to create assistive and adaptive devices with physical therapy faculty. He earned his Ph.D in Experimental Condensed Matter Physics from Ohio State University.



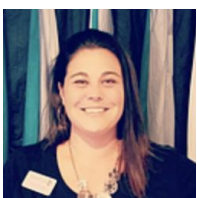
DIANNA ABREU is a Senior Consultant with Booz Allen Hamilton with a background in health systems management and public health. Ms. Abreu worked with the Office of Connected Care to coordinate the national deployment of mobile health applications for Veterans. She is an innovation strategist for the VA's Center for Innovation, where she works to ensure the VA remains at the forefront of science, and innovation.



GREGORY PRINCE is a Founder of Madison House Autism Foundation, one of the first and only organizations in this country working exclusively on the issues facing adults on the autism spectrum. Dr. Prince co-founded Virion Systems Inc. that was ultimately licensed by the FDA of RespiGam™ for the prevention of RSV pneumonia in high-risk infants. He has also published several works on Mormonism.



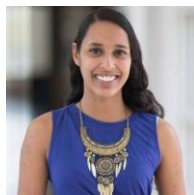
IDA SHIANG Ida Shiang has a background in communications, marketing, and public policy. Her work at AJW surrounded environmental issues, energy solutions and circular economy. Currently she works as the Communications and Marketing director at HelpAge USA starting in 2017.



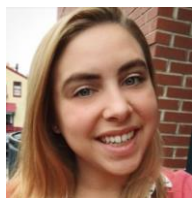
JACLYN HOSTETTER serves as Valley Director for AmeriCare Plus. She also assists in maintaining their website as well as recruitment efforts statewide. With 14 years of experience providing care for the elderly and disabled, she has proven capabilities in developing out of the box solutions for her patients.



JONATHAN STEFKOVICH graduated with a B.S. in Physics from UMBC in 2013, and is very enthusiastic about the IoT Industry. He joined Schneider Electric right out of college. He has experience in the business development and design of Smart Buildings utilizing Schneider Electric EcoStruxure.



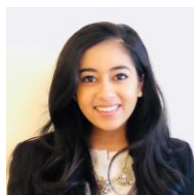
LILY SOOKLAL has experience working at biotech startups & hackathons. She was a founder of Technica, an all ladies hackathon, & an organizer of Bitcamp, a co-ed hackathon. She is now a Systems Engineer at Becton Dickinson Diagnostic Systems, Co-President of the Women's Initiative Network, & involved in internship recruitment.



MELISSA SUAVE specializes in program planning implementation, and evaluation with a focus on population health/health disparities. She has 3 years of experience in consulting, 5 years of experience in the health care industry. She is currently a senior consultant with Booz Allen Hamilton, offering data management, analysis and project management skills.



SCOTT CODE joined LeadingAge CAST in 2014 after 7 years at SelfHelp Community Services in NY. Code has become an expert in leveraging technology to help senior citizens stay independent and socially engaged. Scott has a Masters in Gerontology and Business, providing him with the ability to evaluate and implement new technology with Independent Senior Housing Programs and Nazi Victim Programs.



SONAALI ARGARWAL graduated from Cornell University with a B.S in Policy Analysis and Management. She works for Booz Allen Hamilton as a senior health care consultant, supporting the Centers for Medicare and Medicaid Services Her projects evaluate and facilitate health care quality improvement on the federal health insurance Exchanges. She previously worked at Evolent Health in clinical informatics.



SYED HOSSAIN is a Consultant at Booz Allen Hamilton, and graduated from The Johns Hopkins University in 2017. He was elected three consecutive years as president of student body.



WILLIAM MURPHY is an engineer, a cancer researcher, a life-long learner and a colonial. He currently works with BioMarker Strategies, LLC, developing and evaluating the companies proprietary ex vivo medical devices. He was a graduate research fellow in the Entcheva Optogenetics Laboratory where he created a device for the in vitro testing of light-activated cancer therapies.

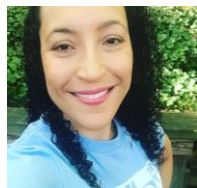
JUDGES 2018



ANTHONY SCOVAZZO holds a certificate as a Healthcare Facility Design Professional from ASHRAE, and is a registered Professional Engineer in three states and in the District of Columbia. Tony has a Master of Engineering Administration from George Washington University (Go Colonials!) and has 40 years of experience in building environmental systems design.



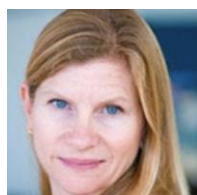
DONNA CORDNER is a Co-founder and Managing Partner in OKM Capital, a venture focused on early and min-stage integrated digital healthcare solutions. Cordner is on the board for HelpAge, an international NGO that helps older people claim their rights. Ms. Cordner also serves on the board for Lia Diagnostics, a start-up with FDA approval for the first flushable pregnancy test.



DOROTHY JONES-DAVIS is Executive Director of Nation of Makers, a nonprofit whose mission is to support America's maker organizations through advocacy, resource sharing, and the community building within the maker movement and beyond. In this role, she is interested in creating connections between a diversity of makers, enabling them to use their collective skills to harness solutions for the world's challenges.



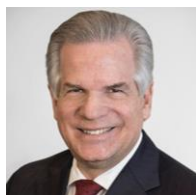
EMILIA ENTCHEVA is recognized for pioneering cardiac optogenetics. The goal of Prof. Entcheva's laboratory is to work out the biophysical limits of and develop the technological innovations needed for a fundamentally new highly-parallel framework for all-optical cardiac electrophysiology in vitro and in vivo.



ERICA WORTHAM is a cultural anthropologist and videographer with interest in indigenous media. Wortham is Project Lead for the Innovation Center for GWU, building the innovation infrastructure through multidisciplinary engagements. Her research includes the ILADMA, the Indigenous Latin American Digital Media Archive, to preserve and archive visual media created by indigenous peoples of the Americas.



FRANKIE ABRALIND is an experience designer who loves interviewing people. Abralind studied design at Cornell University and earned his M.B.A from the University of Maryland, where his classmates voted him 'most energetic'. At Sibley, Abralind works to improve the healthcare experience. He teaches entrepreneurship to graduate students outside of his work at Sibley.



GREGORY PRINCE is a Founder of Madison House Autism Foundation, one of the first and only organizations in this country working exclusively on the issues facing adults on the autism spectrum. Dr. Prince co-founded Virion Systems Inc. that was ultimately licensed by the FDA of RespiGam™ for the prevention of RSV pneumonia in high-risk infants. He has also published several works on Mormonism.



JESSICA FLOEH, founder of Patient X, and is an award-winning designer in healthcare, owner of Hanky Pancreas, and former Lead Healthcare Experience Designer at Intel. She has a Masters in Design and Technology from Parsons the New School for Design. She speaks at healthcare conferences and conceptualizes projects about improving patient experiences. She has received accolades from The Mayo Clinic and AARP.



JASON ZARA has spent 18 years in development of novel imaging instrumentation and software for the detection and evaluation of epithelial cancers and human diseases. In 2006, Professor Zara received the Wallace H. Coulter Foundation Early Career Translational Research Award for work in microfabricated OCT scanners. He holds 7 U.S. patents and founded two start-ups, including Lumacoustic Systems, LLC.



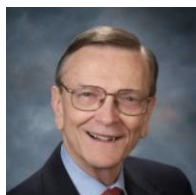
JOEL MYKLEBUST is the deputy director of the Office of Science and Engineering Laboratories in the Center for Devices and Radiological Health in the FDA. As an intramural lab, they are responsible for providing the scientific basis for regulatory divisions regarding medical devices ranging from wheelchairs and prosthetics to cardiovascular, orthopedic and neurological implants.



LEX MCCUSKER, PhD, is the Director of Student Entrepreneurship Programs at GWU, where he also directs the GW New Venture Competition. He is also the Principle Investigator for the NSF I-Corps Site Program at GW, AccelerateGW. McCusker was previously Dean of the School of Business at Stevens Institute of Technology in Hoboken, NJ.



PIERRE VIGILANCE is an advisor who weaves health into civic innovation & social impact. He held senior executive positions in the non-profit, government & academic, & developed broad experience in public health leadership, management, program creation & policy development. He is the Associate Dean for the Public Health Practice and Associate Professor of Health Policy & Management.



RANDY GRAVES has 50 years of experience in aerospace technology research, development, and management. He worked 26 years for NASA, finishing as Director of the Aerodynamics Division in the Office of Aeronautics and Space Technology. He was CEO of several start-ups, most recently a solar cell startup, DayStar Technologies. He is currently Chairman of GWU's National Advisor Council for SEAS.



RODNEY LAKE is an Assistant Professor of Finance, and Director of GW Program on Applied Research and Investing. Lake is the founder and Chief Investment Officer of the Benvall Group LLC which provides consulting to growing companies. Lake previously worked as Senior Investment Officer in the George Washington University Investment Office, managing the \$15 billion endowment fund.



ROLLINS DUANE is an educator, and non-profit leader working for SEED SPOT. Prior to SEED SPOT, he worked as a UX and Instructional Designer at 18F, a digital consultancy within the GSA. Duane worked at Threespot where he led digital strategy engagements with clients like the Department of State. He also co-founded STEMLY, a non-profit that advocates for STEM education for underrepresented groups.



RUMA SAMDANI previously managed integration for innovation and strategic initiatives for AARP. She led the organization's seminal multicultural innovation work by implementing a framework for business challenges. Samdani previously was an adjunct professor for GWU in the Department of Organizational Sciences and Communications where she taught strategic communications and critical thinking.



SHANNON HEINTZ is an experienced public health professional with 10 years domestic and international experience with a focus on family planning programs and policy, maternal and infant health, HIV, training and facilitation. Heintz worked with Booz Allen Hamilton since 2016, and is currently a Lead Technologist where she executes contracts and manages an administrative team for new business development.



Susannah Fox is former CTO for the U.S. Department of Health & Human Services, where she led an innovation lab & an initiative focused on medical devices. She was the entrepreneur-in-residence at the Robert Wood Johnson Foundation & associate director at the Pew Research Center. She serves on board of directors of Cambia Health Solutions, Atlas of Caregiving, & the Lemelson Center for the Study of Invention & Innovation at Smithsonian Institution.

OUR PARTNER ORGANIZATIONS



Thank you to the many partner organizations that submitted pitches and volunteered mentors and judges to make George Hacks possible! We hope to continue our relationships! If you are interested in joining GW Hacks Innovation Competitions as a member, partner organization, judge or volunteer please apply on our website at georgehacks.org



SEAS



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