

The Jacobs Institute Newsletter

A Dose of Medical Innovation

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SPECIAL FEATURE Issue: 9

SEPTEMBER 2016



Welcome! The Jacobs Institute newsletter is where to find the latest information on our recent and upcoming industry programs, experiential learning opportunities, and community outreach events.

An Experience Unlike Any Other



About our Summer Internship Programs

The Jacobs Institute's summer internship programs offer undergraduate college and high school students the opportunity to work and learn in a multi-disciplinary clinical environment.

Over eight weeks, the "First Gen", college interns work on individual projects that are selected for them, based on the JI's needs and the interns' interests and capabilities. This year, the five first gen interns took on projects that ranged from getting the JI's balloon catheter equipment up and running to creating a 3D printed model of the brain's Circle of Willis that can be used in the JI's training and education programs.

To see the Intern Final Presentation, click here:

<http://bit.ly/2c4t2dw>

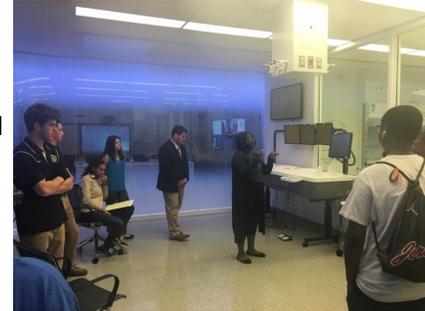
The four-week "Next Gen" program provided high school interns with a set

of lectures on vascular diseases and treatments from physicians and exposure to a number of different people and places on the Buffalo Niagara Medical Campus. Each intern chose a topic and prepared a five-minute TED talk style presentation that they gave on the final day of the program.

We'd like to introduce you to First-Gen intern, Jake Caldwell, and Next Gen intern, Gloriah Aytch, who tell about their summer experiences below.

Next-Gen Intern Gloriah Aytch, "I Had All the Resources I Needed Right Here at the JI"

It was amazing to be a part of the Jacobs Institute's summer internship program. I am so glad I was gifted with the opportunity to attend. During the program, we explored the medical campus, visiting Buffalo Manufacturing Works, UB's Center of Excellence in Bioinformatics and Life Sciences, the BNMC's Innovation Center and Unyts. I attended lectures with medical professionals such as Dr. Ken Snyder, a neurosurgeon, Dr. Vijay Iyer, an interventional cardiologist and Dr. Hakeem Shakir, who is a fellow at the Gates Vascular Institute. We talked to business people in the medical field such as Mr. Jody Lomeo, the CEO of Kaleida Health, Mr. Bill Maggio, the CEO of the JI and Niall Wallace, an entrepreneur and founder of Infonaut. We also heard from Dr. Norma Nowak about gene research and Dr. Dave Poulsen about his neuroscience research.

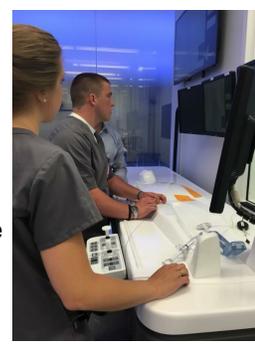


We watched some TED talks, which are 15 to 20 min videos of people sharing ideas or discoveries that could spark global innovation and we created our own TED talks on a topic that we chose. I did research on endovascular versus surgical treatment of diseases in the brain, presented a TED talk-like power point on this topic, and then shared my findings. The whole research process was great because I had all the resources I needed right here at the JI. The JI's college interns helped us with anything that we could ask for. The JI provided so much creative freedom that if we wanted to try something, they would help us find a way to do it. There was support for all of my ideas and the people were so friendly. The really cool thing about the JI is that it is located in a hospital so we watched tape recordings of surgical cases, and the interns who were old enough, got to go down to the cath lab to watch endovascular procedures. This internship was great for anyone who wants to be in the medical field. It doesn't matter what specialty you prefer because at the JI you will meet all kinds of incredible people with great insights into the world of health care.



Jake Caldwell, First-Gen Intern, "My Time at the JI Was Not Just an Internship"

Three years and over 100 credit hours had passed by the time this past summer had arrived. The bulk of my undergraduate education as a Biomedical Engineer had gone admittedly well, but I was yet to be certain that I could "perform" in the real world. A quieter yet more dangerous fear ate at me: what if I didn't like being a Biomedical Engineer in the real world? These concerns made me nervous yet all the more eager as I walked into the Jacobs Institute on the first day of my internship. I entered asking myself "could this field really be my career?" At the end of the summer, I left asking myself "how could it not?"



My time at the JI was not just an internship. An internship can feel like pencil pushing. Several friends and classmates accept the "grunt work" that is prevalent in many internships as the necessary grind that one must go through, as though it was some initiation process. Honestly, I was ready for that too. Instead, the JI wasted little time in giving every intern a project that would meaningfully affect the company. Our first day was punctuated with this idea that what we would do over eight weeks would make the JI a better institution, and that they believed we had the ability to accomplish these tasks. This feeling of legitimacy and value became a driving force for my project; through obstacles, long days, and some late nights I always felt that I absolutely had to finish my project because I knew that it was needed and would be used.

Of course, the JI did not just leave us with the responsibility of a project, but bolstered us with a supportive environment that guided our success. Indeed, this is where the Jacobs Institute shines. You see, the JI is not a machine, but an organism. It's small, personal size created an environment of collaboration between all members. We all had a hand (or at least an interest) in each other's success. Finding the resources I needed (i.e. neurosurgeons, rad techs, project mentors, etc.) was never difficult (except for the part where they are constantly saving lives).



Indeed, this accessibility and collaboration was pivotal to my project's success. As I developed a medical imaging manual to explain what imaging modalities (X-Ray, CT, MRI, etc.) exist and how they are used in the neurovascular field, I was able to handle the broad technical aspects of the manual. However, how to use these techniques in the diagnosis and treatment of strokes and aneurysms was entirely beyond me. I had a lot of questions and needed to learn a lot myself if I hoped to author something that would teach others with any kind of credibility. At first I feared that the likes of professionals such as Dr. Siddiqui and Dr. Snyder would never be able to find time to work with me. Yet, they would always give me a couple of their precious free minutes when I had questions. Better yet, they were already teaching JI's business partners on their frequent visits, that I had ample opportunity to just sit and listen. I was in a whole new classroom: one in which the examples came from real life, not a convenient calculation; where I could find more practice in a live surgery a floor away rather than at the back of a textbook. I am convinced that this combination of qualities, environment, support, and resources is a unique conglomeration, and therefore one that I would not have been able to experience had I not been at the Jacobs Institute.

Now that more than a month has passed, the school year has begun, and I've had time to step back and reflect, I realize that the specific facts I learned, while valuable, were the least important things that I learned. Only by chance did I learn specific material related to medical imaging, just as I could have learned about hydrocephalus or balloon catheter manufacturing if had I been given a different project. The lasting value, then, lies in the setting in which it all took place. I worked among doctors pioneering their fields. I saw what a work environment looks like when everyone believes in the legitimacy of their mission. I operated with autonomy as an individual,

yet with the guidance of key mentors. These experiences and skills are the transferrable traits that I can take with me into my senior year, a graduate program, and someday the workplace. Each of them are individually valuable, and I'm sure I would've gained one or two of them at any placement this past summer. But if there's one thing I've learned, it's that the Jacobs Institute sits at the apex of several frontiers at once. So, it's no surprise that I would receive all of them only through a summer spent at the JI.

Intern-Produced Documentary Captures Spirit of Summer



Noah Horan, as part of the First-Gen internship projects, created a documentary about the 2016 summer internship experience.

It includes candid interviews with the interns about their projects, the resources and guidance provided to them, and beautiful shots of the JI.

To see the 5-minute video, click here: <http://bit.ly/2bOfouT>

Looking Ahead to Class of Summer 2017

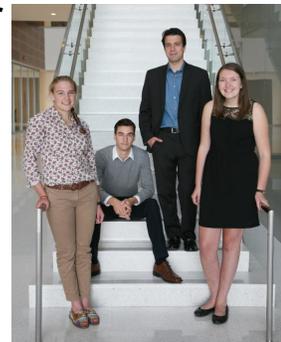
Application Process Opens December 1, 2016

We are already receiving inquiries about our 2017 college-level internship program!

Please note that our application process will open on December 1, 2016 and will close on March 15, 2017. We will notify applicants by April 1, 2017.

Next summer's program will be a 9-week program, running June 1, 2017-August 4, 2017.

Please continue to check our web site for our future intern needs. If you have any questions, please reach out to us at 716-888-4815 or akupferman@jacobsinstitute.com.



The Jacobs Institute mission is to create the next generation of medical technology to improve the treatment of vascular diseases--such as heart attack and stroke--in Western New York and beyond.

The institute was named in memory of the late Lawrence D. Jacobs, MD. Located in the heart of the Buffalo Niagara Medical Campus (BNMC) in downtown Buffalo, the Jacobs Institute is positioned between University at Buffalo's Clinical and Translational Research Center (CTRC) and Kaleida Health's Gates Vascular Institute (GVI).



As such, the Jacobs Institute is uniquely positioned to foster collaborations of the best minds and collisions of new ideas.

We invite you to **come innovate with us.**

Please visit <http://www.jacobsinstitute.com>

Sincerely,The Jacobs Institute

