

# The Jacobs Institute Newsletter

*A Dose of Medical Innovation*

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Issue: #3

June 2015



Welcome! The Jacobs Institute newsletter is where to find information on our recent and upcoming programs with industry, schools, and more.

## New Jacobs Institute Clinical Training Manager

### Tom Nemeth Joins the Staff

The Jacobs Institute is pleased to announce that Tom Nemeth has joined the Jacobs Institute as Clinical Training Manager. Chris Randby has left the Jacobs Institute to pursue opportunities in California. We wish him well and warmly welcome Tom to the team.



As Clinical Training Manager, Tom is responsible for the execution of each program held at the Jacobs Institute. In this capacity, he will work with our medical device industry clients to implement a first-rate clinical training program. Tom will also nurture ongoing customer relationships to insure satisfaction.

Tom worked for Philips Healthcare for 14 years in various capacities. He served as a Modality Programs Manager where he managed all aspects of clinical education for the nuclear medicine (NM) and computed tomography (CT) modalities. Tom was also a National Clinical Specialist where he was responsible for training clinical education specialists on new products and he served as the primary liaison between engineering, sales, and marketing for new product introductions. Tom travelled throughout North America and abroad to gain customer feedback during medical device development. He also has experience as a Clinical Education

Specialist training technologists and physicians on the proper use of nuclear medicine equipment.

Tom is a certified Nuclear Medicine Technologist and worked at Kaleida Health and a cardiology office in Williamsville, New York, prior to his time at Philips. Tom is a CompTia CTT+ certified technical trainer. He is also an active member of the Society of Nuclear Medicine and Molecular Imaging. Tom received his B.S. in Nuclear Medicine Technology from SUNY at Buffalo.

Tom is married with two children. He is passionate about youth sports, overseeing several soccer teams on Grand Island and is a US Soccer-licensed coach.

## Clinical Immersion Programs (CIP) in April

### Three Programs for Medical Device Companies

The Jacobs Institute organized three Clinical Immersion Programs (CIP) for three medical device companies in April. The immersion programs were tailored to the individual needs of the industry groups - one group was comprised of engineers, one was made up of sales reps, and one was comprised of physicians visiting from four different medical centers in China. All of the programs included a mix of clinical observation in the catheterization laboratories (cath labs), physician lectures, and hands-on learning opportunities using the Mentice VIST-Lab endovascular simulator and the vascular flow models.



The engineers were particularly interested in seeing their own and competitors' devices used in the cath labs and in gaining physician feedback on their decision making process when selecting devices. One of the engineers commented, "I gained additional clinical experience that will help me as an engineer better understand the clinical environment and clinical applications of existing devices. This experience will help me develop more relevant new technologies."

The CIP for the industry engineers also included a device-testing component that was conducted in the University at Buffalo's (UB's) Toshiba Stroke and Vascular Research Center (TSVRC). The engineers deployed a recently-developed device multiple times in vascular flow models of increasing difficulty with a physician in order to gain clinical feedback on the device's ease of use and efficacy. They reported that, "testing our device with a physician provided valuable feedback and could



be a highly desirable tool in the future."

The immersion program for the four visiting Chinese neurosurgeons involved a particular focus on clinical observation and physician interaction. The physicians were struck by how different their experience in China was from that of neurosurgeons in the United States. In China, neurosurgeons operate only and do not see patients in clinic for diagnosis or follow-up. This is a different patient care model than here at the Gates Vascular Institute (GVI), where neurosurgeons follow their patients through the entire process.

The CIP for industry sales reps was the second of a quarterly immersion program for a particular medical device company. Responses to pre-arrival participant surveys allowed us to tailor the physician lectures and discussions to their questions and needs. Most of them sought a better understanding of physicians' treatment decisions and the decision-making process around the use of particular devices.



## Inaugural Needs Identification Program a Success

### Providing Value to Industry



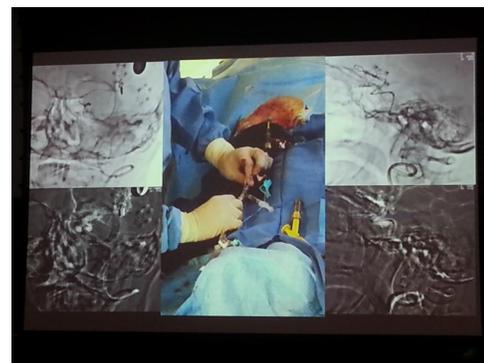
The JI also held the first session of its Clinical Needs Identification Program (CNIP) in April. The program guides the participant teams through the clinical needs identification stage of the biodesign process so they emerge at the end of the week with clear, validated needs

statements. These needs statements can subsequently be used to develop new medical device solutions. The CNIP is a one-week experience that combines clinical immersion in the cath lab and the operating room, roundtable discussions, group work, physician-led educational sessions on neurovascular diseases and treatments with training in the needs identification methodology.

The participants were struck by how critical it is to observe the full clinical context to understand how product performance is impacted by many different factors and how it tested their assumptions and opened their eyes to new possibilities. One participant said that the program "was a critical experience to better appreciate the challenges being faced by clinicians on a daily basis".

All of the JI's programs are enriched by its audio-visual system that allows remote live observation of neuroendovascular and neurosurgical cases from the JI board room. Participants can see the hands of the physician performing the procedure in the cath lab as well as the fluoroscopy images that the physician is using to guide his/her way through the patient's vasculature. Two-way audio allows participants to hear what is going on and interact with the operating physician.

One engineer said, "The program allowed our 8-member team to go into the hospital environment with an unparalleled opportunity of access to surgeons. The environment is entirely designed for industry to become immersed into the clinical experience."



We are looking forward to using participant feedback to continuously update and improve our industry- and physician-facing programs.

## Brain Boot Camps & MASH Camp

### Nichols School & Health Sciences Charter MASH Camp

On March 27, 2015, Nichols School sent 30 students to participate in our Brain Boot Camp. Students toured the Jacobs Institute, learned about stroke and aneurysm, and worked on a medical simulator. They also had the opportunity to visit UB's Toshiba Stroke and Vascular Research Center (TSVRC) to hold human and animal brains, along with seeing a 3D printer and touching the vascular flow models produced by the printer.



Students concluded the visit by watching a pre-recorded surgery performed at the GVI to see how physicians treat aneurysms.

The Jacobs Institute partnered with Kaleida Health to co-host a MASH Camp for 15 Health Sciences Charter School students on April 16. They heard from Francesca Mesiah, Kaleida manager of advocacy and outreach, to get an overview of Kaleida Health. To learn about the community of healthcare and potential career paths, students heard from Father Richard, director of pastoral care; Debbie Brownsey, a Kaleida nurse; and Dr. Jody Leonardo, UB Neurosurgery. The students asked questions and genuinely wanted to know more.



Then students learned the basics about vascular intervention from Allison Kupferman from the Jacobs Institute before heading on their walking tour. Students had a cross-cutting view inside the GVI and BGMC. They went onto the BGMC helipad, down to the GVI Emergency Department to learn how strokes are treated, into an interventional catheterization lab on the 4th floor, and up to UB's TSVRC on the 8th floor to hold brains.

Lastly, it was a busy May for hosting community members! Nardin Academy, Lancaster High School, Buffalo Urban League, and WNY STEM all visited the Jacobs Institute to participate in the Boot Camp.

## First Student Essays Rave About Brain Boot Camp

### **Nardin Academy Elementary Students Have A Memorable Experience**

The Jacobs Institute hosted 30 students from Nardin Academy Elementary in the busy month of May. Students were excited when Dr. Elad Levy, Chairman of Neurosurgery at University at



Buffalo, unexpectedly stopped to talk to them for 15 minutes during the boot camp and answered their questions. It was a lively discussion, and the students asked good questions.

Two of the 30 Nardin Academy Elementary students were hand-selected by their teacher to write about their experience at the Jacobs Institute. The 7th and 8th graders were inspired by their visit. An 8th grade girl enthusiastically wrote about handling a brain, "She even let us hold the brain! When it came to be my turn, I was able to identify the different areas and that made me excited that one day I could do this for a living. I think I'll remember that for the rest of my life." This same student was excited about working on the Mentice medical simulator, "It seems easy

from a distance, but now I know why you need nine years of medical training after medical school! Immediately after this, I fell in love with the feeling of pride I got when I fixed the aneurysm...This program has made me positive that I want to be a neurosurgeon."

A 7th grade girl said, "This experience helped me understand the brain's fragility, and that there are people trying to help solve these problems." She concluded, "I experienced many new and exciting things that I would not have had access to outside of this field trip...I have become more aware of the complex world that is medicine."

The girls also commented on Dr. Levy's surprise guest appearance. "He told us about what he does every day, and I was amazed. It is so hard to believe that he saves people's lives every day. It seems impossible to operate on an aneurysm without performing a craniotomy, but I learned that you can." The 7th grader noted, "We learned about strokes and aneurysms and how to fix them. We talked to a doctor about the possible situations that may happen in surgery..."

The Jacobs Institute prides itself on exposing students to a variety of concepts and activities they would not otherwise be exposed to in an classroom setting. We also hope to spark awareness of and interest in the variety of health and science careers available to all students.

## **Buffalo Niagara Medical Campus (BNMC) Student & Parent Day**

### **First-Ever, Open-Campus Day for Students & Parents**

Over 300 students and parents walked the Buffalo Niagara Medical Campus (BNMC) in hopes of exploring careers, internships, and volunteer opportunities on the campus. JI participated in the BNMC Student and Parent Day on the morning of Saturday, April 25. The event was open to 7th-12th graders and their parents.

The Jacobs Institute did an abbreviated Brain Boot Camp for students and parents. They learned about parts of the brain, along with stroke and aneurysm, while holding a real human brain in our Training Center. Then participants moved into the Simulation Lab, where a biomedical engineer showed them how to practice endovascular surgical techniques on the Mentice VIST-lab simulator. Finally, attendees watched a pre-recorded surgical case with live narration by a JI staff member to help them understand more about stroke treatment.

Seven other campus residents also opened their doors, including Roswell Park Cancer Institute, UNYTS, BGMC/GVI, University at Buffalo (UB) Center of Excellence in Bioinformatics and Life Sciences, Hauptman Woodward Institute, Buffalo Manufacturing Works, and dig/BNMC. Staff, researchers, and doctors talked about what they do, provided hands-on learning experiences, and shed light on future developments.

Additionally, the event was designed to tap into social media with a photo booth at Hauptman Woodward and cardboard cutouts at each location where students pretended to be doctors, scientists, or researchers. The Black Market food truck was also on campus as the event wrapped up at noon.



**Picture Yourself on the Buffalo Niagara Medical Campus**  
EXPLORE CAREER, INTERNSHIP & VOLUNTEER OPPORTUNITIES

Tour Medical Campus facilities and hear from experts at University at Buffalo's NYS Center of Excellence in Bioinformatics and Life Sciences, Roswell Park Cancer Institute, Kaleida Health, Hauptman-Woodward Institute, the Jacobs Institute, Uhyts, and the Innovation Center

<p><b>WHO</b> 7<sup>th</sup> - 12<sup>th</sup> graders and their parents</p> <p><b>WHEN</b> Saturday, April 25 9:00am - Noon Breakfast begins at 8:30 a.m.</p> <p><b>WHERE</b> Start your exploration of the Buffalo Niagara Medical Campus at 69, B40 Elliott Street, Buffalo. Free parking across the street.</p>	<p>See state-of-the-art, research labs, hospital rooms, creative spaces and more!</p> <ul style="list-style-type: none"> <li>✓ Visit the Dr. H. H. Hooper Surgery Simulator (H2O)</li> <li>✓ Use a microscope to view cancer cells</li> <li>✓ Visit an award-winning laboratory</li> <li>✓ View a 3D anatomical lab</li> <li>✓ Watch a pre-recorded surgery</li> <li>✓ Pitch for Dark Tern - student edition</li> <li>✓ Learn about the career and training opportunities at the Medical Campus</li> <li>✓ And much more!</li> </ul>	<p><b>THIS EVENT IS FREE.</b></p> <p>Space is limited and registration is required. <b>RSVP by April 15 at <a href="http://www.bnmc.org/April25">www.bnmc.org/April25</a>.</b></p> <p>Be sure to check out The Black Market Food Truck on the Medical Campus during our event!</p>
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brought to you by   

## GVI/CTRRC/JI as a Model for Others

### Yale New Haven Hospital Visits Our Site

The JI organized a daylong visit for a team from Yale New Haven Hospital (YNHH) who is involved in setting up a new Cerebrovascular Center there.



The visit grew out of the participation of Dr. Charles Matouk, Assistant Professor of Neurosurgery and Diagnostic Radiology at YNN, in a physician-training program at the JI last year. Dr. Matouk thought that a team visit to the Gates Vascular Institute (GVI) would help them to gain insights into the things that make the GVI's stroke program internationally renowned.

The Yale team started the day by attending the endo conference during which a multidisciplinary group of physicians and staff discussed treatment options for selected patients. Dr. Robert Sawyer, Director of the Neurology Stroke Service of the Gates Vascular Institute, Dr. David Janicke, Medical Director of the Emergency Department (ED), and Sharon Przybylak, Nurse Manager of the ED then took them on tours of the ED, the endovascular cath labs and OR in the GVI and the neuro patient units in the Buffalo General Medical Center (BGMC).

The Yale visitors also met with members of the GVI's Stroke Team including, in addition to Drs. Sawyer and Janicke; Dr. Adnan Siddiqui, Director of the GVI's Neurosurgical Stroke Service; Dr. Ken Snyder, Assistant Professor of Neurosurgery; Dr. Jody Leonardo, Medical Director of the Neuro Intensive Care Unit; and Debbie Steck, Stroke Coordinator.

They learned about the GVI's stroke protocol and the imaging that is used for treatment decision making and shared their plans for the architecture and organization of their new center.

They also spent time with Lorie Mariano, Senior Director of Vascular Procedural Services to discuss management of the cath labs and with Jen Gay and Mary Hartney to discuss the clinical research being carried out at the GVI.

The meetings were fruitful not only for the Yale team, but also for physicians and clinical staff at the GVI who had the opportunity to see themselves and their work from an outside perspective.

## 2014 Distinguished Service Award Winner

### **Jl Recognized by Visitor's Bureau**

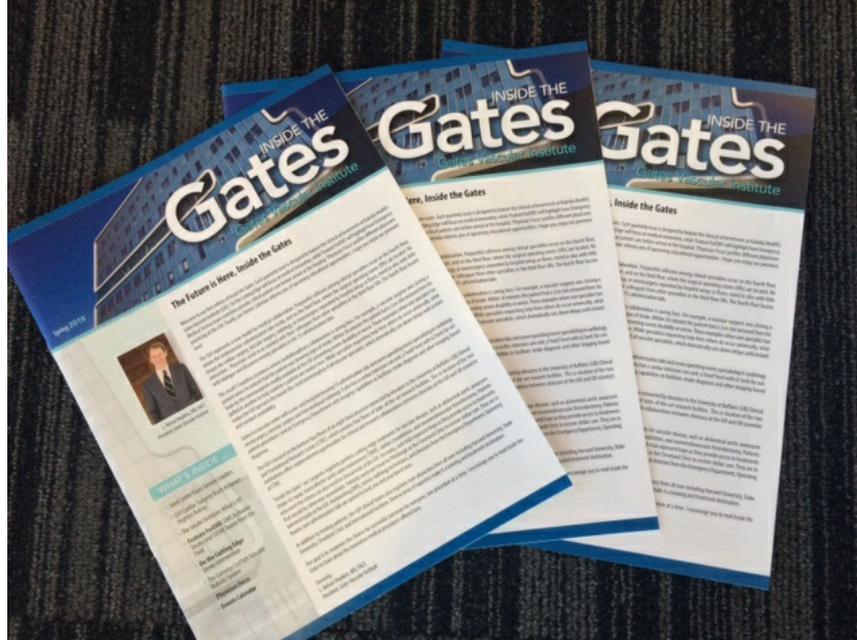
The Jacobs Institute was one of the winners of the 2014 Distinguished Service Awards from Visit Buffalo Niagara (VBN). The award recognizes JI for bringing various clinical training program attendees to Buffalo. Our attendees stay in area hotels, dine in local restaurants, order catered food, and occasionally participate in sightseeing activities. JI had a \$24,736 economic impact in 2014. Visit Buffalo



Niagara hosted the 5th annual Beacon Awards luncheon on Monday, May 4, at the Buffalo Niagara Convention Center. Over 500 people attended the luncheon which honored and recognized individuals and organizations that go the extra mile to enhance travel and tourism throughout the region. The event highlighted National Travel and Tourism Week.

## 'Inside the Gates'

### **New Gates Vascular Institute Newsletter Launches**



In May, the Jacobs Institute produced the inaugural issue of the Gates Vascular Institute's (GVI) quarterly newsletter, *Inside the Gates*, in collaboration with Kaleida Health. The newsletter is designed to feature the clinical achievements of the GVI and will have recurrent articles about the cutting edge procedures that physicians perform here and about the state-of-the-art equipment that they use, while also profiling the physicians themselves.

In addition to letters from the president of the GVI--Dr. Nick Hopkins--and the GVI service leaders, the first issue has articles about the critical role of EMS in responding to stroke and heart attacks in the field. It also discusses five recent stroke trials that provided conclusive evidence that stroke intervention using endovascular tools combined with the clot dissolving agent, tPA, can offer significantly better patient outcomes than standard of care treatment including the use of tPA alone. The newsletter also highlights a relatively new piece of equipment, the Corindus CorPath Vascular Robotic System, which addresses some of the drawbacks for patients and physicians of percutaneous coronary interventions. Finally, the newsletter recognizes some of the recent awards and accreditations that the GVI has received.

The next issue of *Inside the Gates* is expected to be released in September.

## Upcoming Feature Issue

The next issue of the JI newsletter will focus on the June 4 dinner reception, to honor the legacy of Dr. Lawrence Jacobs and the vision of Dr. Nick Hopkins.

Stay tuned.

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, where ideas improve lives.**

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