

EDUCATION

University at Buffalo

- ▶ B.S. Biomedical Engineering, B.A. Chemistry
 - ▶ Magna Cum Laude, Class of 2015
 - ▶ Ph.D. Biomedical Engineering, Spring 2016 – Current
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EXPERIENCE & PERFORMANCE

UNIVERSITY AT BUFFALO

PHD CANDIDATE, QUANTITATIVE IMAGING AND MEDICAL DEVICE DEVELOPMENT LAB

Buffalo, NY
2015 - Current

Purpose and Scope: Responsible for coordination and execution of all lab cardiac 3D printing research efforts. Manage research progress and assist in academic development of four students in the cardiac 3D printing lab subgroup.

Organizational Impact | Contributions:

- ▶ **Established clinical need, use cases, and methods enabling cardiac 3D printing** by continually engaging and establishing close partnership with interventional cardiologists.
- ▶ **Received \$40,000 grant from medical device manufacturer** to study performance of interventional device in vascular model by planning, coordinating, and executing research plan.
- ▶ **Validate clinical accuracy of 3D printed models** by leading first of its kind clinical trial as part of industry sponsored research grant

PRENTICE FAMILY FOUNDATION

FELLOW, WESTERN NEW YORK PROSPERITY FELLOWSHIP

Buffalo, NY
2017 - Current

Purpose and Scope: To advance the professional growth of individuals that show promise to be leaders in their industry and community. The fellowship connects individuals who possess an entrepreneurial drive with industry leaders to enhance the fellow's professional development while they pursue their academic degree.

THE JACOBS INSTITUTE

RESEARCH ASSOCIATE, BIOMEDICAL ENGINEERING

Buffalo, NY
2015 - 2017

Purpose and Scope: Responsible for development and execution of all industry sponsored medical 3D printing research. Develop joint research goals and effectively coordinate long-term project execution with a team of 10 engineers at an industry 3D printing partner.

Organizational Impact | Contributions:

- ▶ **Achieved Recognition as Stratasys Center of Excellence in Medical 3D Printing**, and secured \$250,000 research funding by engaging in high profile unique research work.
- ▶ **Lead external 3D printing research efforts** in collaboration with a team of 8 Israeli based Stratasys engineers
- ▶ **Built local physician engagement with 3D printing team** by engaging various surgical subspecialties in complex surgical planning operations.

INTERN, BIOMEDICAL ENGINEERING

2014 - 2015

Purpose and Scope: Responsible for developing and executing an 8-week summer internship which engages local physicians, researchers, and any relevant industry partners.

Organizational Impact | Contributions:

- ▶ **Developed first 3D printed cardiac model for surgical planning**, by engaging local physicians and national 3D printing manufacturers in a unique surgical planning case to impact the life of a Western New York Resident.
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COMPUTER COMPETENCIES

MANUFACTURING COMPETENCIES

Design for Additive Manufacturing (Polyjet & Metal) | 5-Axis CNC Fabrication
Silicon and Polyurethane Casting & Molding | Polymer Electrospinning & Electrospaying

PROFESSIONAL MEMBERSHIPS

Biomedical Engineering Society (BMES)
Society of Photo-Optical and Imaging Engineers (SPIE)

SELECTED PUBLICATIONS & PRESENTATIONS

- ▶ **Izzo R**, O'Hara R, Iyer V, Hansen R, Meess K, Nagesh SV, Rudin S, Siddiqui A, Springer M, Ionita C. "3D Printed Cardiac Phantom for Procedural Planning of a Transcatheter Native Mitral Valve Replacement" Proc. SPIE 9789, Medical Imaging 2016: PACS and Imaging Informatics.
- ▶ **Izzo R**. Invited Speaker. Gates Vascular Institute Regional Structural Heart Symposium. "Applications of 3D Printing to Interventional Cardiology". University at Buffalo Clinical and Translational Research Center, Buffalo, NY, November 14, 2015.
- ▶ **Izzo R**. Keynote Speaker. "3D Printing in Cardiology; The Woman who Held her Heart". Online Conference Webinar, Brighttalk 3D Printing in Medicine Summit, January 26, 2016
<https://www.brighttalk.com/webcast/13395/185713>
- ▶ Hubbell R, Ludwig E, **Izzo R**, Lazar S. "Healthcare Innovation" Jacobs Institute Internship Presentation, Gates Vascular Institute, Buffalo, NY, Jul 31 2015
<https://youtu.be/eps98a6NtuY?t=36m47s>
- ▶ Svintozelsky A, Hubbell R, Shaw E, O'Hara R, Springer M, **Izzo R**, Optimization of 3D Printed Cardiac Models Used in Surgical Planning
- ▶ **R. L. Izzo**, R. P. O'Hara, V. Iyer, R. Hansen, K. M. Meess, S. V. S. Nagesh, et al., "3D Printed Imaging Phantom to Assist in Procedural Planning of a Transcatheter Native Mitral Valve Replacement," ed. University at Buffalo Biomedical Engineering 2016.
- ▶ **Izzo R**, Griffin N, Shaw R, Leonardo J, Reynolds R, Ionita C, Springer M. "Development of Non-Occluding Cerebral Shunts For The Treatment of Pediatric Hydrocephalus" (Abstract 2977). Oral Presentation, 2015 Biomedical Engineering Society Annual Meeting, Tampa FL, October 7-10, 2015.
- ▶ **Izzo R**, Reynolds R, Springer M. Invited Speaker. Biomedical Engineering Society Annual Meeting. "BMES Technology Transfer & Licensing – Best Practices in Transferring Technologies from Academia and the Clinic into Industry". Tampa, FL, October 9, 2015.
- ▶ **Izzo, R. L.**, Shaw R, Griffin N, Carletta M, Springer M, Reynolds R, Leonardo J, and Ionita C. N. "Development of Occlusion-Delaying Cerebral Shunts for the Treatment of Hydrocephalus." Poster presented at the SUNY Buffalo Celebration of Student Academic Excellence, Buffalo, NY, 4/16/2015 2015.
- ▶ **Izzo R**. Invited Speaker. SUNY at Buffalo Principles of Biomedical Engineering BE201 Class. "Fluid Dynamics in Biomedical Engineering". University at Buffalo BE201 Class, Buffalo, NY, November 18, 2015.
- ▶ Meess KM, **Izzo RL**, Dryjski ML, Curl RE, Harris LM, Springer M, et al., editors. 3D printed abdominal aortic aneurysm phantom for image guided surgical planning with a patient specific fenestrated endovascular graft system. SPIE Medical Imaging; 2017; Orlando.
- ▶ Shepard L, Sommer K, **Izzo R**, Podgorsak A, Wilson M, Zaid S, et al., editors. Initial simulated FFR investigation using flow measurements in patient- specific 3D printed coronary phantoms. SPIE Medical Imaging; 2017; Orlando.
- ▶ Sommer K, **Izzo RL**, Shepard L, Podgorzak AR, Rudin S, Siddiqui AH, et al., editors. Design optimization for accurate flow simulations in 3D printed vascular phantoms derived from computed tomography angiography. SPIE Medical Imaging; 2017; Orlando.
- ▶ Schaffner TJ, **Izzo RL**, Ionita CN, Schwaitzberg SD, editors. Three-Dimensional Modeling Of Complex Visceral Malrotation Following Posttraumatic Diaphragmatic Hernia. SAGES; 2017 March 22, 2017; Houston.