RESEARCH FELLOWSHIP ON 3D PRINTING FOR CONGENITAL HEART SURGERY

Program Directors:

Dr. David Baron, Head of Division of Cardiac Surgery / Department of Surgery, Labatt Family Heart Centre, Hospital for Sick Children

Dr. Shi-Joon Yoo, Section Head, Cardiac Imaging, Department of Diagnostic Imaging and Clinical Director, 3D Printing Program, Hospital for Sick Children

Introduction:

The 3D Print Heart Program at the Hospital for Sick Children in Toronto is the most advanced program of its kind in the world. It has pioneered the practical utilization of the 3D printing technology for clinical patient care, surgical morphology teaching, surgical skill training, and research. It offers a one to two-year training program designed for cardiovascular fellows to receive additional training in unique application of 3D printing in congenital heart surgery. The duration of the fellowship starts May 1, 2020 and can be tailored to the needs of the trainee and supporting institute. A candidate should be a cardiovascular or cardiothoracic surgeon in training or a board certified surgeon who has had some exposure to congenital heart surgery and seeks to be a congenital heart surgeon in the future.

Goals of Fellowship:

- To acquire abilities to read and post-process cross-sectional images of various congenital heart diseases for 3D printing
- To acquire abilities to graphically design all or parts of the heart for surgical simulation
- To acquire skills to use and maintain 3D printing equipment
- To study surgical morphology of congenital heart diseases using cross-sectional images, 3D print models and pathologic specimens
- To develop surgical skills for various congenital heart surgical procedures using 3D print models
- To acquire abilities to set and run Hands-On Surgical Training (HOST) programs

By the end of training, the successful trainee will be able:

- To independently perform post-processing of the cross-sectional images and 3D printing
- To independently set and run HOST programs
To acquire in-depth knowledge of surgical pathology of various congenital heart diseases

To master skills for various congenital heart surgical procedures on 3D print models so as that the acquired surgical skills can readily be applied to surgical management of the patients.

**Fellowship Application:**

To be considered for a fellowship in May 1, 2020, an application must be completed by no later than November 30, 2019. The application should be accompanied by:

- Full curriculum vitae
- Personal statement outlining the goals for training and future plans
- Three letters of recommendation. At least one from the primary supervisor of cardiovascular surgery training

The interested candidate may contact Dr. Nabil Hussein (nabil.hussein@sickkids.ca) who has been taking the fellowship position since August, 2018 for his opinion as a trainee of the program.

All these documents and correspondence should be addressed to:

Dr. David Baron at david.baron@sickkids.ca and Dr. Shi-Joon Yoo at shi-joon.yoo@sickkids.ca with cc to Ms. Caroline Robertson at caroline.robertson@sickkids.ca