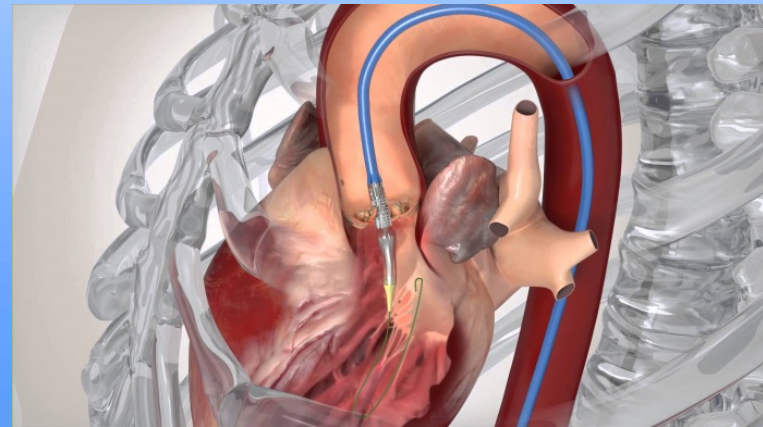
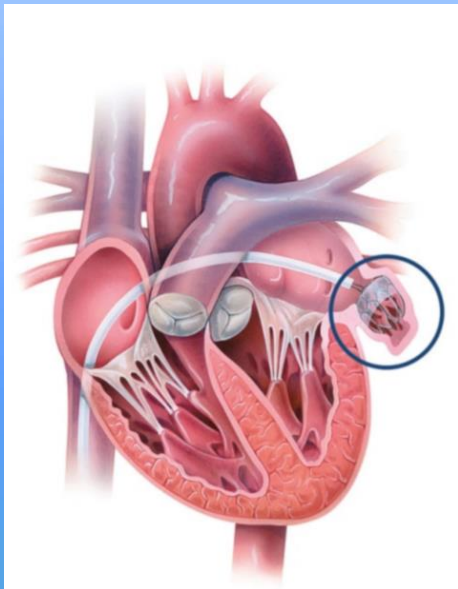


# Impact of Innovative 3D-printed Simulator and Models in Simulation Training for Transcatheter Cardiac Intervention



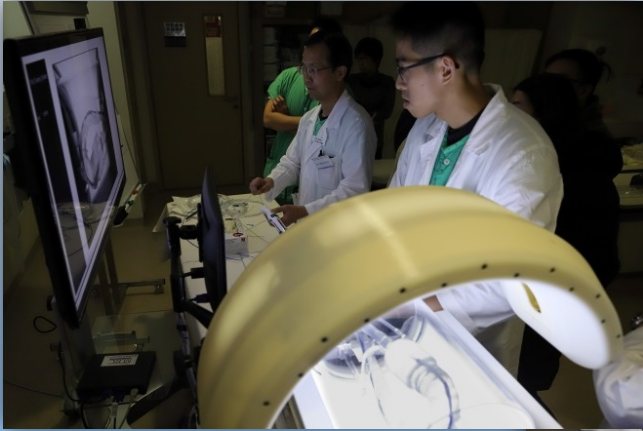
**Dr. Eric SO**  
*QEH CON(A&OTS) & AD(MDSSC)*

Speed Presentation --- F-P5.33, HA Convention 2018

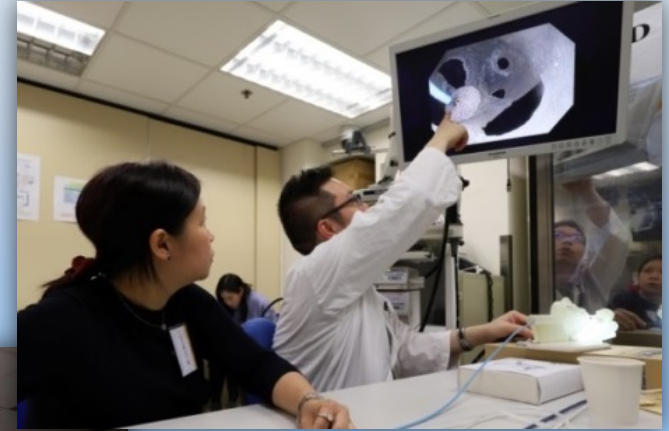
08 May, 2018

# Key Training Components

Hands-on TAVI



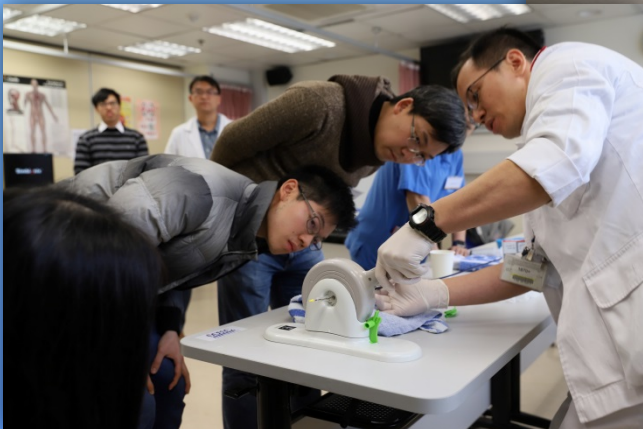
Hands-on LAAO



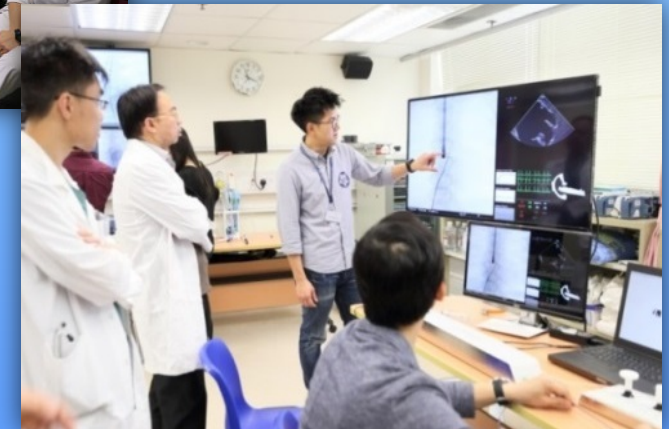
Lecture



Loading of Valves

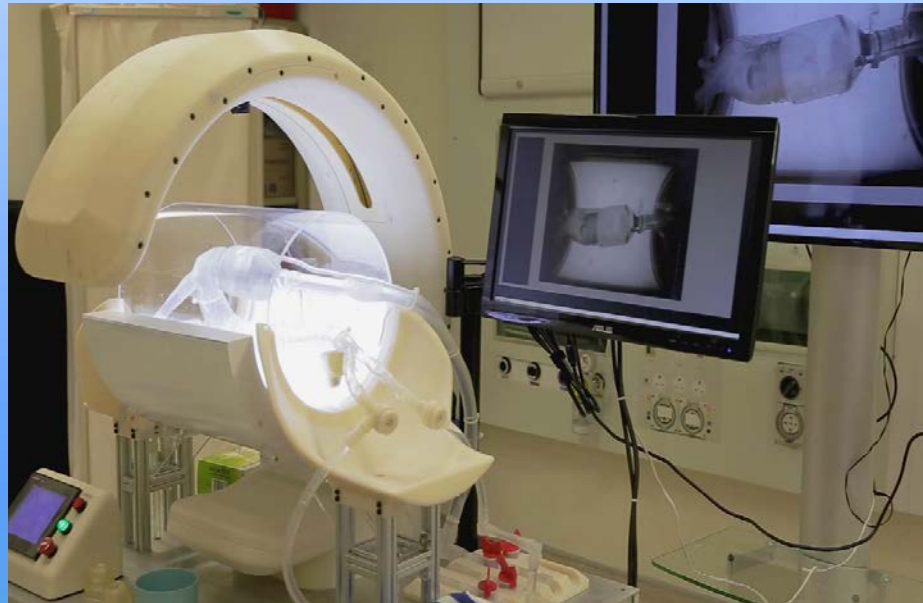


Simulator VR



## Transcatheter Aortic Valve Implantation (TAVI)

## Left Atrial Appendage Occlusion (LAAO)



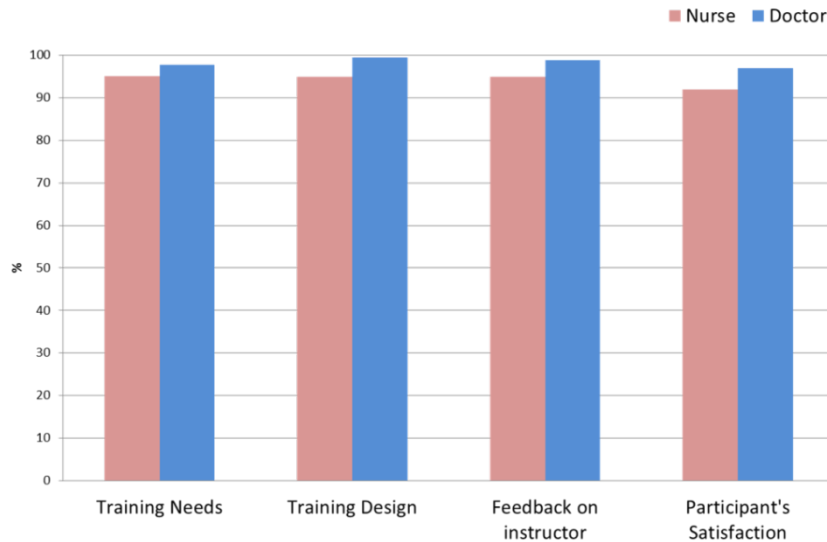
# Results of Training

Additional strengths combining 3D printing & innovation:

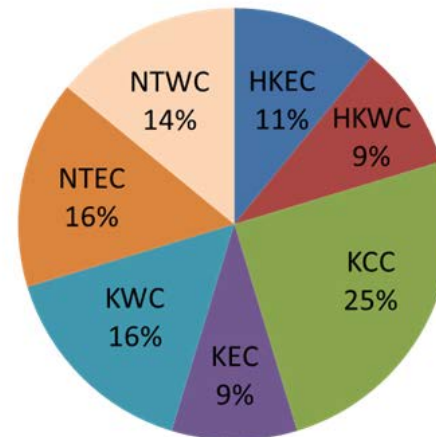
- Team training
- 1:1 anatomy
- Real implants and equipment
- Pulsatile warm blood flow
- Simulated X-ray C-arm
- Superior haptic feedback
- Instant procedural performance feedback to participants
- Training efficiency – repetitive training and reuse of expensive devices
- Realism training without involving real patients

# Results of Evaluation

**% of Participants Rated  $\geq 4$  out of 5 (Strongly Agreed) on Different Aspects of Course Evaluation (2017/18 Classes)**



**Participants Distribution by Clusters**



**64 Clinical Staff**

- 36 doctors  
- 28 nurses

**Year of Working Experience**

< 6 Years = 19%  
6 to 10 Years = 31%  
> 10 Years = 50%

- HA multidisciplinary team worked with HKPU to:
  - incorporate 3D technology into simulation training
  - promote psychomotor skill acquisition
  - train up local workforce
  - build a stronger teamwork