

# TC White Travel Grant Report



Osteology Research Academy

Lucerne, Switzerland

12-16 September 2016

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It was my pleasure to be able to participate in Osteology Foundation's Research Academy in Lucerne, Switzerland 12-16<sup>th</sup> September 2016.

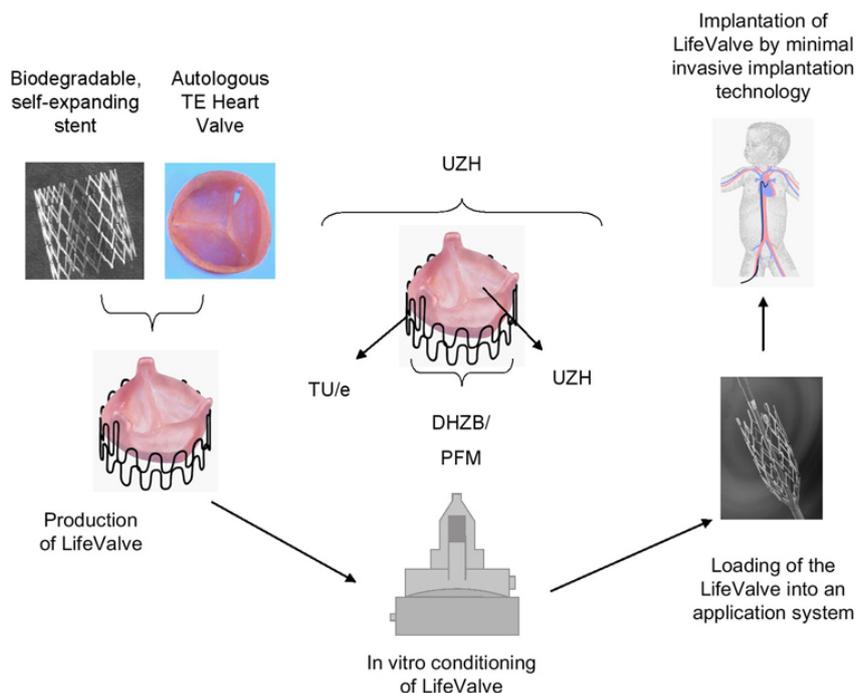


The Osteology Foundation is an organisation that promotes research, education and collaboration between universities and industry in the field of oral and maxillofacial tissue regeneration. Each year they run an intensive one-week academy on good scientific practice and research methodology. (See *Appendix A* for course program.)



The course was attended by 29 participants representing 16 countries and 5 continents. Participants were from a range of backgrounds including: scientists both pre- and post-doctoral in the field of bone / tissue regeneration; and clinicians predominantly in the fields of oral surgery, prosthodontics and periodontics. The mix and diversity of participant's backgrounds allowed for excellent discussion and generation of ideas.

The week commenced with a keynote lecture by Professor Simon Hoerstrup, head of the Institute for Regenerative Medicine at University of Zurich. His research is predominantly in the field of cardiology. Professor Hoerstrup provided a fascinating overview of the application of regeneration medicine in cardiac surgery. He discussed how ideas generated bench side could evolve through the stages of in-vitro, to pre-clinical, to clinical testing and eventually evolve into clinical realities for the benefit of patients. In particular, he discussed the development of stented biodegradable tissue engineered heart valves and how these have evolved through the aforementioned stages into a viable clinical treatment option in the management of congenital heart valve defect patients.



<http://www.irem.uzh.ch/en/research/Group-S.P.-Hoerstrup/LifeValve/Project/Project-flowchart.html>

The formal course objectives covered:

- Fundamentals of research in dental medicine
- The process from posing of a scientific question to generating the answer
- Selection of the suitable in-vitro, pre-clinical or clinical research approach
- Selection of the appropriate analytical tools for data acquisition
- Planning of a pre-clinical or clinical study within a research group using international networks
- Analysis and critical interpretation of acquired data
- Effective communication of findings and knowledge

These were achieved through a range of learning methods:

- Prior to commencing the course, preparatory e-modules and pre-course reading had to be undertaken.
- Classroom sessions with formal didactic style lectures (see *Appendix A* for complete list of topics). These were highly interactive with an open format being employed so delegates could stop speakers at any point and discuss points further.



*Example of e-learning module*

- The afternoons generally involved breaking into workshops for various activities including:
  1. Statistics practical
  2. Strategies to obtain research funding & grant writing
  3. Skills for oral presentations
  4. Selection of appropriate analytical methods for experiments
  5. Pre-clinical protocol development
  6. Clinical research protocol development
  7. Research communication



These again were highly interactive. Being able to directly pose ideas with experts in their respective fields was a great opportunity.

The highlight of the week was a careers seminar evening with Professor Niklaus Lang. Prof Lang has had a distinguished research career in dentistry and is the most published author within the dental literature. He was able to speak personally and offer multiple tips and advice

for setting out on a career in dental research, including how to successfully integrate research with clinical practice.

Having the opportunity to partake in this course will have an immediate impact as I seek to complete my PhD within the field of regenerative dentistry. Specifically, being exposed to some new methods and analytical techniques has been invaluable.



From a time point of view, the course itself was very intense. However, there was time built in to allow for a visit to the historic old town area of Lucerne. There was also an open lake top tour of Lake Lucerne organised for all the delegates to go on.

### **Acknowledgements**

I would sincerely like to thank the Royal College of Physicians and Surgeons Glasgow, for facilitating my participation in the Osteology Research Academy through the TC White Travel Grant.

Lewis Winning  
October 2016.

