

Report on short visit to Germany funded

By

EUROCLEFTNET (ESF)

22nd to 25th Feb 2015

1. Purpose of the visit:

The main purpose of the visit was the exploration of potential research links with three leading research institutes in Germany; Universitätsklinikum Aachen University; Klinikum Bremerhaven; Goethe Universität Frankfurt Am Main. It as the objective of this study to highlight the importance of the multi-European Consortium to maximise funding opportunities. An important aim of this study was to have a brain storming sessions with lead researchers, policy makers and non-governmental organisation to debate the impact of the translational aspects of our collaborative research. The principal host of the visit with Prof. Dr. Ghassemi of Aachen University & Klinikum Bremerhaven

2. The work carried during the visit:

A. *Universitätsklinikum Aachen University: Day 1*

This visit was under Prof. Ghassemi's leadership. I met the team who lead the research in craniofacial anomalies which included two groups; the clinicians and the basic scientists. The clinical team is lead by Prof. Fretes and Fr. Ghassemi at the department of Orthodontics & Prof. Dr. Ghassemi (Oral & maxillofacial Surgeon). The basic scientist researchers that I met were Prof. Mottaghy (Institute of Physiologie) & Prof. Dr. A Presher (Institute of anatomy). I give a presentation highlighting our focused research theme, the proposed methodology and the expected impact of this research. This presentation was attended by the key clinical researchers, senior academic professors and postgraduate research students. I also had the opportunity to explore the existing research facilities and meet other supporting members of staff. I had a final concluding session with key stake holders to agree on the rules of collaborative scientific engagement in the near future. Prof. Ghassemi facilitated the visit and introduced me to his research collaborators and took me to his new unit in Bremerhaven.

B. Klinikum Bremerhaven: Day 2

Prof. Dr. A Ghassemi and the Director of the unit Prof. Dr. Eckardt facilitated this visit. There is on-going research with the University of Aachen. I gave a presentation on the mission statement of EUROCLEFTNET, the ongoing research activities. The possibilities of submitting a joint grant application was discussed and the unsuccessful previous grant application Euface 2020 was debated. We identified areas of potential collaboration and agreed that Prof. Dr. Ghassemi will lead future research submission on behalf of the unit. This will be achieved in collaboration with the lead researchers in Physiology & Anatomy at Aachen University. I had the opportunity to meet other members of staff, and the trainees in the unit. I was shown the existing facilities and the state-of-the-art operating theatre. The director of the unit Prof. Eckardt confirmed his commitment to future research collaboration.

C. Goethe Univeristate: Day 3

This unit is partially a Non-governmental Organisation that was externally funded to promote excellence in research. Prof. Dr. J Barker is the director of the unit. Their research studies are focused into two themes; 4D dynamic body capture for the diagnosis and quantification of the dysfunction of body movements; and tissue bioengineering. I have given two presentations; one on 4D facial imaging which is pioneered in the west of Scotland to study cleft related dysfunction and another presentation on tissue bioengineering for craniofacial reconstruction. The lectures were attended by all the researchers in the lab. In response, Prof. Dr. Baker gave a presentation highlighting their research interest and achievements. This was followed by a brain storming session to identify areas of potential research collaboration. I was shown their multi-camera 4D body imaging system that captures and tracks movements. This was the best I had ever seen in 4D stereophotogrammetry imaging. I also had the opportunity to visit their tissue engineering unit. I concluded the visit with a final session to establish the mechanism of communication and rules of collaboration

3. The main results:

1. Agreed in establishing Aachen University as a centre for 4D facial image capture for cleft, non-cleft, and surgically managed cleft cases.
2. Fr. Ghassemi will lead the orthodontic research collaboration in studying residual dysmorphology in cleft lip & palate.

3. The professor of Anatomy (Presher)& Professor of physiology (Mottaghy) of Aachen university would take part in future studies on the diagnosing and the quantification of abnormal facial movements associated with craniofacial anomalies
4. Prof. Ghassemi will lead the surgical partnership for data collection in North Germany
5. A link will be established between the computing scientist in Glasgow and the research leaders in 4D imaging at Goethe Universidad. The collaboration in this theme is readily available.
6. The potential collaboration in tissue bioengineering will be explored in the further

5. Conclusion:

This comprehensive visit was very successful and achieved its objectives. I explored untapped resources which would strengthen future submission of European research grants under the auspicious of EUROcleftNet. I acknowledged in all my presentations the support from the European Science Foundation to facilitate this visit.