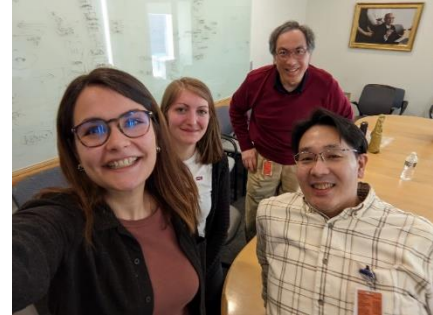


Research Stay Report, Boston, 1st Cohort

At the start of 2022, we had the great opportunity to travel to Boston together as a group of five doctoral fellows of the 1st cohort. During this three-month research stay, we could expand our scientific horizons and learn valuable lessons both for our PhD projects and future careers.

Mariagiovanna Barresi (P1 – cancer) joined the E. L. Steele laboratories at the Massachusetts General Hospital and Harvard Medical School. In particular she worked with the team of Associate Professor Dai Fukumura. The expertise of the laboratory in tumor biology allowed her to improve her knowledge in breast cancer mouse models (Jain et al., *CSHL Press*, 2012). Furthermore, she could expand her experience in cancer research investigating the important role of the tumor microenvironment on drug treatment in pancreatic adenocarcinoma (PDAC).



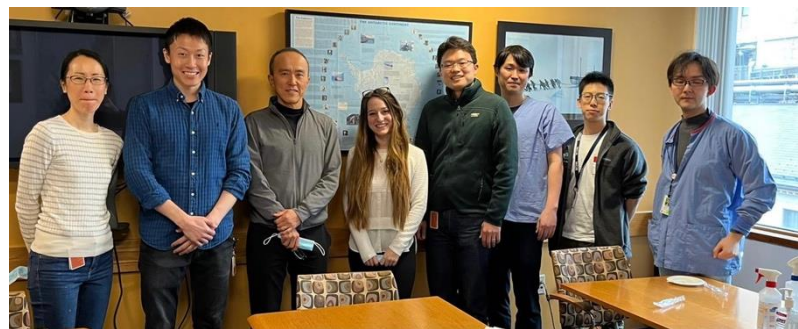
Team meeting in Fukumura's lab (left to right: M. Barresi, J. Schulz, D. Fukumura, K. Uzawa)



The Blanton Lab (left to right: G. Martin, R. Blanton, A. Böttcher, S. Pande)

Alexandra Böttcher (P7 – axon branching) joined Associate Professor Robert Blanton's team at the Molecular Cariology Research Institute of the Tufts Medical Center. Here, she could improve her experience with biochemical screening methods such as pull-down studies using a cGKI-leucine zipper mutant protein (Calamaras et al., *JCI Insight*, 2021). Additionally, she introduced an axon labeling technique of Tübingen PI PD Dr. Hannes Schmidt utilizing the lipophilic tracer Dil to study axon branching patterns of sensory neurons in mouse models available in the Blanton lab.

Melanie Cruz Santos (P2 – cardiac injury) joined the laboratory of Professor Fumito Ichinose at the Anesthesia Center for Critical Care Research of Massachusetts General Hospital and Harvard Medical School. During her stay, she successfully expanded the scientific exchange between Tübingen and Boston, as she was



Team meeting of Ichinose's lab (left to right: M. Ezaka, E. Kanemaru, F. Ichinose, M. Cruz Santos, Y. Miyazaki, E. Marutani, S. Goto, T. Ikeda)

trained in a murine cardiac arrest and cardiopulmonary resuscitation model (CA/CPR) (Minamishima et al., *Circulation.*, 2011) and established an acute open-chest in situ model of ischemia and reperfusion injury utilized in her work in Tübingen.

Thomas Pham (P6 – neuroprotection) joined Associate Professor Jesse D. Roberts in his laboratory at the Cardiovascular Research Center at Massachusetts General Hospital and Harvard Medical School. He was trained in wide-field imaging and statistical modeling to localize proteins within sub-cellular compartments, using molecular imaging techniques.



Bruins game at the TD Garden stadium with the Atochin lab (left to right: M. Barresi, I. Atochin, S. Kashiwagi, S. Yokonizo, D. Atochin, M. Cruz Santos, M. Roeßing, T. Pham, A. Böttcher)

Malte Roeßing (P4 – atherosclerosis) joined the group of Assistant Professor Dmitriy Atochin at the Cardiovascular Research Center at Massachusetts General Hospital and Harvard Medical School. The middle cerebral artery occlusion (MCAO) model (Atochin et al., *Neurosci. Lett.*, 2016) he received training in, can now be established in Tübingen. Malte also worked on multiple other projects, including the study of different therapeutic options available to modulate the NO/cGMP pathway in stroke mouse models.

Next to the amazing scientific experience, we also enjoyed connecting to the international science community in Boston, especially during the Reinhard-Frank-Mini-Symposium. Another cultural highlight for us was cheering for the Celtics and the Bruins on their home turf at the TD Garden Stadium.



Reinhard-Frank-Mini-Symposium.

We would like to thank all our PIs in Boston and Tübingen for their support in making this research stay a reality for all of us. A special thank you also goes to the DFG and the Reinhard Frank Stiftung for their financial aid.



We left lasting impressions wherever we went. Be it in the Boston Common after a snow storm...



... or at Harveys Beach in Connecticut. (left to right: A. Böttcher, M. Barresi, M. Roeßing)



In front of our house in Boston (left to right: T. Pham, A. Böttcher, M. Cruz Santos, M. Barresi, M. Roeßing)