

EVALUATION OF THE CEPID REDOXOMA MEETING AND PROGRESS REPORT

Advisory Board Visit

Universidade de Sao Paulo, Brazil

13-14 February, 2017

Executive Summary

The Redoxoma center is a unique and one of a kind research enterprise in Brazil that is now nationally and internationally well known for its contributions in redox mechanisms and redox processes in biomedical sciences. The Center is led by Ohara Augusto, PhD and Francisco Laurindo, MD who have international reputation in basic and clinically-relevant redox research. The advisory committee consisting of Balaraman Kalyanaraman, PhD and Rafael Radi, MD, PhD attended the Second CEPID Redoxoma meeting (February 13 and 14, 2017). Gary Fiskum, PhD was unable to attend the meeting due to an unexpected commitment. During her Introduction, Dr. Augusto gave a brief synopsis of the progress made since the last Advisory Board meeting in February 2015. The major components of ta CEPID initiative namely, Research, Innovation, and Dissemination, were adequately covered through the development of four interrelated Specific Aims. A major accomplishment was the recruitment and training of several highly skilled and knowledgeable graduate students, postdocs, and junior faculty who are all now working together as a group. There is now a solid administrative and research infrastructure. Dr. Augusto emphasized the strengths and distinctive aspects of the mechanism based approach in several ongoing redox biology investigations. During the past two years, many high impact publications in major international journals were published by Redoxoma members alone

and in collaboration with international researchers. The senior investigators of the Center serve as editors and editorial board members of major international journals in redox biology and medicine. As a result, the global visibility of the Center is enormously increased. There were presentations covering Aims 1-4 from graduate students, postdocs and junior faculty highlighting the progress made during the past two years. The PIs of the individual project initially set the tone addressing the goals of their Project. The quality and content of these presentations were generally high and extremely informative. Both the presentations and the discussion following the presentations clarified the exploratory phase of the network and the potential interactions between the investigators in the network.

In summary, the Redoxoma CEPID has established a critical mass of superb and highly trained graduate students, postdocs, and junior and senior investigators, generating an outstanding USP-based “Redox research community”. The scientific progress made during the past two to three years is excellent. This group is strongly poised to reach the next level of scientific impact driven by synergistic interactions.

Meeting between Reviewers and Center Investigators

On the second day after lunch, Reviewers met with all the PIs and Dr. Augusto for two hours. During this time, the discussion was frank and open. Everyone participated in the discussion. One of the key aspects of the discussion was centered on how best to enhance the synergy between the projects and the interaction between the researchers in different projects. Everyone agreed that by simplifying the overall interactive network and focusing and better connecting the biochemical pathways among the projects (mitochondrial physiology, redox signaling, and cardiovascular pathology, the synergy can be dramatically improved. Another aspect of the discussion was centered

on incorporating a drug discovery arm, at a cellular and preclinical level, in each project. This meeting ended on a very optimistic note with regard to the future of this program.

Center Strengths

- Continued outstanding leadership by the Director, Co-Director, the Principal Investigators.
- Outstanding progress as evidenced by high impact publications.
- Strongly articulated mission with the existence of world-class scientific expertise in redox chemistry and biology.
- Grooming of excellent graduate students and postdocs.
- Excellent dissemination of the scientific activities in health and diseases to general public through internet newsletter, educational materials, and advertisements.

Center Challenges

- As indicated earlier, the overall vision of the center should be expanded, better defined and clarified.
- Wherever feasible, the scientific and thematic link between projects should be enhanced.
- Better connection between the medical and environmental aspects is required.
- Incorporate and develop drug discovery opportunities using the specific models that are being used in different projects.
- Wherever possible, the technological capabilities should be optimized with a more extended time of use through the week, which requires the hiring/participation of more technicians
- Continue the promotion of the highest standards of scientific data analysis, interpretation, and presentation, adapting to the

emerging and changing requirements of international funding bodies, scientific journals and societies

- Optimizing the animal facilities of USP continues being a challenge as indicated in the previous report.

Recommendations

- The teaching load of some PIs should be reduced commensurate with the enhanced time dedicated to research.
- Focus additional effort on translational research, where feasible and appropriate.
- Optimize use of technological and animal facilities
- Use the external advisory committee members, if needed, during the preparation of the renewal application.