PVRI **Schistosomiasis Report 2018**

Rahul Kumar & Brian Graham

Several prominent international meetings, involving the pulmonary circulation, took place in North America in 2018.

Members: 10

Looking back at the past year

Members of the Schistosomiasis Task Force had various activities and publications relevant to the mission of the Task Force, including *(but not limited to)*:

New Collaborations

A new collaboration was formed with Ghazwan Butrous (University of Kent, UK), Alistair Mathie (University of Kent, UK), Brian Graham (University of Colorado, USA) and Ángel Luis Cogolludo Torralba (Universidad Complutense, Spain) to study the effect of dual infection with HIV and schistosomiasis, which is a common problem in Africa. The plan is to use a humanised HIV mouse sensitised and then challenged with S. mansoni eggs followed by haemodynamic and immune assessments. As part of this new collaboration, Dr Rahul Kumar and other collaborators were invited to University of Kent, UK by Dr Ghazwan to discuss the current progress and future work desired to accomplish the project successfully.

A new collaboration has been established by Dr Claudia Mickael and Dr Brian Graham with Prof Dr Danilo Roman-Campos Laboratório de CardioBiologia Departamento de Biofísica Escola Paulista de Medicina Universidade Federal de São Paulo/Brazil to enable participation on the research project: *The role of late sodium current in the inherited and acquired cardiac arrhythmias: from the biophysics properties to new therapeutic targets.*

Work presented at conferences/symposia

1 Oral presentation: *Th2 inflammation activates TGF-ß to cause Schistosoma mansoni induced pulmonary hypertension*. Claudia Mickael, Rahul Kumar, Biruk Kassa, Linda Sanders, Daniel Hernandez- Saavedra, Dan Koyanagi, Rubin Tuder, Brian B. Graham. 15th International Symposium on Schistosomiasis, August 1-3, 2018 (SIRIUS) Copacabana, Brazil.

2 Oral presentation: *Th2 inflammation activates TGF-beta causing Schistosoma mansoni induced pulmonary hypertension*. Claudia Mickael, Rahul Kumar, Biruk Kassa, Linda Sanders, Daniel Hernandez-Saavedra , Dan Koyanagi , Rubin Tuder, Brian B. Graham. nternational Symposium on Schistosomiasis, NIH, DC, Washington, 2018.

3 Poster presentation: *CD4+ T Cells Are Necessary and Sufficient for Th2 Inflammation in Schistosoma-PH*. Rahul Kumar, Claudia Mickael, Biruk Kassa, Linda Sanders, Dan Koyanagi, Scott Freeman, Daniel Hernandez-Saavedra, Daniel Cano, Angel Cogolludo, Amy S. McKee, Andrew Fontenot, Ghazwan Butrous, Rubin M Tuder, Brian B Graham. ATS international conference, San Diego, May 18–23, 2014, San Diego, Calofornia, USA.

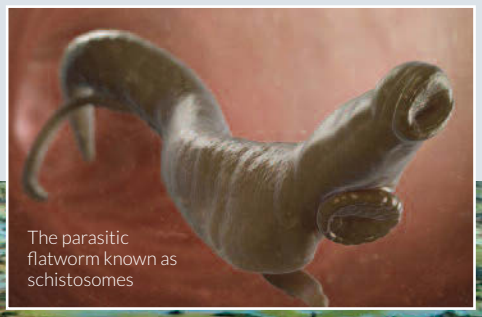
4 Poster presentation: *Paclitaxel Blocks Th2-Mediated TGF-ß Activation in Schistosoma mansoni-Induced Pulmonary Hypertension*. Biruk Kassa, Rahul Kumar, Claudia Mickael, Linda Sanders, Dan Koyanagi, Rubin Tuder, Brian B. Graham. ATS international conference, San Diego, May 18–23, 2014, San Diego, Calofornia, USA.4.

Publications

1 Samokhin AO, Stephens T, Wertheim BM, Wang RS, Vargas SO, Yung LM, Cao M, Brown M, Arons E, Dieffenbach PB, Fewell JG, Matar M, Bowman FP, Haley KJ, Alba GA, Marino SM, Kumar R, Rosas IO, Waxman AB, Oldham WM, Khanna D, Graham BB, Seo S, Gladyshev VN, Yu PB, Fredenburgh LE, Loscalzo J, Leopold JA, Maron MA. NEDD9 targets COL3A1 to promote endothelial fibrosis and pulmonary arterial hypertension. Science Translational Medicine 2018;10. pii: eaap7294.) [PMID: 29899023]

2 Graham BB, Kumar R, Mickael C, Kassa B, Koyanagi D, Sanders L, Zhang L, Perez M, Hernandez-Saavedra D, Valencia C, Dixon K, Harral J, Loomis Z, Irwin D, Nemkov T, D'Alessandro A, Stenmark KR, Tuder RM. Vascular Adaptation of the Right Ventricle in Experimental Pulmonary Hypertension. Am J Respir Cell Mol Biol. 2018 (in Press) [PMID: 29851508]

3 Quality of life and quality-adjusted life years of chronic schistosomiasis mansoni patients in Brazil in 2015. Nascimento GL, Domingues ALC, Ximenes RAA, Itria A, Cruz LN, Oliveira MRF. Trans R Soc Trop Med Hyg. 2018;112(5):238-244. [PMID: 29945168]



The parasitic flatworm known as schistosomes