

RESPIRATORY TECHNOLOGY TEAM ANNUAL REPORT 2013

Respitech@Woolcock

The Woolcock Institute is a multidisciplinary team dedicated to understanding and treating respiratory and sleep disorders. With over 200 research and clinical professionals we are a world leader in the area of research, clinical diagnosis and treatment. The Respiratory Technology group is a department within the Institute that bridges basic research with clinical operations



2013 | REPORT | RESPIRATORY TECHNOLOGY WOOLCOCK INSTITUTE OF MEDICAL RESEARCH

Annual Report of Operations and Activities

OVERVIEW

2013 has been a productive year for the Respiratory Technology (RespiTech) group at the Woolcock Institute of Medical Research. The group officially moved into the institute in January 2013 and the new PC2 laboratory facilities were completed and officially opened on the 14th of February. The facility includes a physicochemical analysis room (TGA, DSC and DVS), particle sizing room (Malvern 3000 & Spraytec), HPLC analytics room, particle engineering and characterisation suite (spray dryers, micronisers Pamasol HFA fillers, etc) and in vitro characterisation labs (with multiple NGI, MSLI, ACI workstations). Additionally, a new microscopy suite was constructed for live cell imaging and houses the USyd/NHMRC equipment grant funded CRAM (confocal Raman atomic force) microscope. These facilities will be continually expanded during 2014.



We have established a number RespiTech led initiatives in the areas of research and education. Firstly, the group built the www.respitech.org web portal and www.facebook.com/RespiTech pages for corporate and social visibility, respectively. Additionally, the group created a twitter feed and LinkedIn group and news archive. Along with breaking news the group publishes a monthly news letter 'SPIRITUS' outlining significant achievements and social activities to the wider community.

GROUP MEMBERS

The Respiratory Technology team had 22 members in 2013 with 17 current members as of December.

- A/Prof Paul Young
- A/Prof Daniela Traini
- Dr Mehra Haghi
- Dr Hui Xin Ong
- Dr Eric Zhu
- Wing Hin Lee
- Judy Loo
- Alla Tulbah
- Jesslynn Ooi
- John Chan
- Yang Chen
- Sharon Davis
- Michele Pozzoli
- Wilco Van Den Oetelaar
- Mariateresa Stigliani
- Gianluca Lauretani
- Rebecca Xu
- Alesandro Saadat*
- Giulia Ballerini*
- Ketan Sharma*
- Amitabh Prakesh*
- Ningyi Xu*

*RespiTech Members through 2013 *denotes past members*



AWARDS

Members of the group have received a number of awards during 2013. These are outlined below:

- Hui Xin Ong was awarded a European Respiratory Society Long Term Research Fellowship
- Jesslynn Ooi was awarded an Endeavour Award
- John Chan was awarded a Royal Society of NSW Scholarship
- Judy Loo, John Chan and Jesslynn Ooi were finalists in the Aerosol Society DDL Pat Burnell Awards
- Gianluca Lauretani was awarded an Atlante-Rotary Club in Ferrara Award worth €2,500.
- John Chan was awarded the best oral presentation at the AFPS conference in Korea in November.

RESPITECH LED INITIATIVES

ECR2STAR: Of particular note, the group launched ECR2STAR, 'Early career researcher to research star' educational and social platform. ecr2star.org is an initiative to help today's early career researchers become tomorrow's scientific leaders. The website provides information about ECR2STAR, it's workshops, conferences and a blog, with useful information, hints and tips. The portal is targeted to all ECRs, independent of discipline and the first bio-medical focussed conference was held in London in partnership with the Woolcock, University of Sydney and University College London in December. www.ecr2star.org has been running for 3 months and has already attract more >5000 visits and >8000 page views

woolcock.org.au: We have also been instrumental in the development and alignment of the Woolcock Institutes main web portal (www.woolcock.org.au) which was officially launched for the NSW Governors reception in October

The OzNose Project: The RespiTech team and collaborators launched the OzNose Project. www.oznose.org or the 'open-source nose project' is a consortia of basic and applied researchers' focussed on understanding and treating upper respiratory tract disorders as well as using the nasal cavity as a portal for the delivery of systemic and targeted drugs. The team includes molecular biologists, engineers, physicists, IT specialists and clinical physicians.

Pulmatix: Members of the RespiTech team and Respiratory Cell Biology Group at the Woolcock officially launched Pulmatix Pty Ltd in March 2013. Pulmatix, a company housed within the institute, was established to provide the industry sector with a means of developing and testing technologies used for respiratory drug delivery. Daniela Traini and Paul M Young were appointed as Directors.

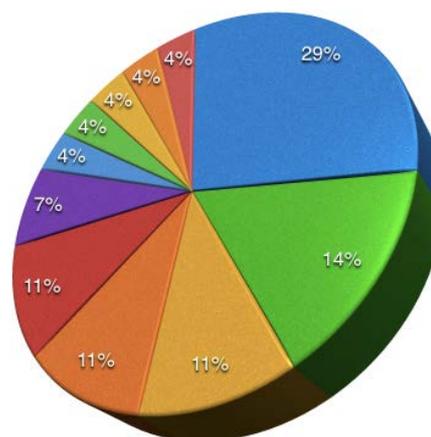
TRAVEL & EXCHANGE

Prof Joy Conway took a sabbatical with the group in early 2013 and Prof Dirkje Postma spent a period with the Institute at the beginning of the year. The group subsequently published a joint article on mediated fluticasone uptake kinetics across epithelia with Dirkje and established a scintigraphy research program with Joy.

Members of the group travelled to 'Drug Delivery to the Lungs' in Edinburgh, 'Respiratory Drug Delivery' in Germany, 'American Association of Pharmaceutical Scientists' in San Antonio and 'International Society of Aerosol Medicine' in Chapel Hill. We also have attended meetings and/or presented in Ferrara, Darmstadt, San Francisco, Brisbane, London, Saarbrücken South Korea, and Parma.

RESEARCH OUTPUT

The Team have published 28 peer reviewed publications in 2013 listed on the respitech.org webpage. The publications are across a range of fields within the area of respiratory technology as outlined below with an average impact factor of >3.



GRANT FUNDING

The group held a number of current competitive grants during 2013 including 5 Australian Research Council (ARC) Linkages, 2 ARC Discovery grants and 2 ARC Future Fellowships. These are outlined on the respitech.org web page. During 2013 the group secured a number of new commutative grants:

- ARC Linkage project developing technologies for cystic fibrosis 2013-2016 (\$540,000 incl. industry partner contribution)
- NHMRC/Usyd Equipment grant for a confocal raman atomic force microscope (\$200,000)
- European Respiratory Society Long-Term Research Fellowship for Hui Xin Ong (\$40,000)
- Thoracic Society of Australia and New Zealand (Novartis/ TSANZ Lung Health Research Grant-In-Aid Award) (\$70,000)
- International Program Development Grant for the establishment of an Early Career workshop (\$12,000)