

Cinzia Cantacessi

Dr Cinzia Cantacessi is a postdoctoral researcher at the Queensland Tropical Health Alliance Research Laboratory, James Cook University (Cairns). It has been a big year for Cinzia, being awarded The University of Melbourne Chancellor's Prize for Excellence in a PhD Thesis and an NHMRC Peter Doherty - Australian Biomedical Fellowship for her research on "Hookworm proteins as novel anti-inflammatory therapeutics". Cinzia speaks to Lisa Jones about her career, her research and her recent successes.

Cinzia describes herself as a parasitologist with particular interest in bioinformatics applied to the development of new drugs discovery of new drug targets against parasites. She graduated from Bari University (Università degli Studi di Bari), on the east coast of Italy with a Bachelor Degree in Veterinary Science. Following her undergraduate degree Cinzia started her path as a parasitologist claiming, "I had an inspirational mentor who 'infected' me!" So, at Bari, one of the best Veterinary Science faculties in Italy and among one of the three recognized Veterinary faculties in recognized in Europe and one of the best Veterinary Science faculties in Italy, Cinzia studied basic parasitology, lifecycles and molecular biology of parasites. Cinzia says, "I was passionate about research early in my science career. My supervisor, Professor Domenico Otranto (Faculty of Veterinary Medicine at Bari University), did lots of fieldwork with drug companies



on prevention of tick-borne diseases and vector-borne diseases in dogs and I researched fleas ticks and sandflies. It was inspiring and fun." Professor Otranto encouraged her to do a PhD overseas to

gain more experience and learn another language to further her career.

Cinzia applied for a scholarship at The University of Melbourne with Professor

Cinzia Contacessi continued

Robin Gasser, who collaborated with Professor Otranto. Cinzia found her PhD a great experience. Her PhD started out as a diagnostics project but, because bioinformatics was experiencing a boom in veterinary and parasitology research, she embraced this new technology, with Robin's blessing, and stunning success followed.

Cinzia looked at molecular pathways of nematodes, focusing particularly on differences between different life cycle stages and adult males and females. She was a novice at bioinformatics, which proved to be an advantage, because it led her to develop a pipeline workflow for researchers not familiar with bioinformatics. "Researchers can use this software workflow for other parasites, it is applicable to other organisms," explained Cinzia. "And, from a drug development perspective, sequencing and bioinformatics has a future using these technologies because it helps to find new targets for drugs and understanding molecular biology" said Cinzia.

Cinzia published 10 papers before submitting her PhD and contributed to 20-30 other papers as a co-author; she finished her PhD in 3 years with over 50 publications and also presented at International conferences. In recognition of this, in October 2012, Cinzia was awarded The University of Melbourne Chancellor's Prize for Excellence in a PhD Thesis, a prestigious, annual award recognising the University's high-achieving graduate

researchers. Cinzia was thrilled to have won the award and gives credit to her supervisors and colleagues.

Cinzia says of her achievement, "I was extremely honored to be nominated for the award, let alone to have won such a prestigious prize. My first thoughts on hearing I had won were of my PhD supervisor and the people I worked with at Melbourne. It was such a great opportunity to have worked with such wonderful people."

Cinzia's ultimate aim is to go into field and her move to James Cook University, Cairns is one step closer to that goal. Cinzia met Professor Alex Loukas (James Cook University) and felt he had a great innovative approach to his research developing vaccine candidates and translation into field work. And, she believed her bioinformatics skills could help.

At JCU, Cinzia is analysing anti-inflammatory molecules from hookworms to see how they interact with their host and investigating what gene expression changes occur in a mouse model upon injection of these molecules.

"I want to know what is the how hookworm molecules doing that is causing suppression of allergic and autoimmune diseases like asthma, Crohn's, IBD and coeliac disease," Cinzia explained.

Cinzia was recently awarded an NHMRC ECR Peter Doherty - Australian Biomedical

Fellowship "Hookworm proteins as novel anti-inflammatory therapeutics" for 4 years to look at interactions between hookworm molecules with the ultimate aim to translate to therapies for allergic diseases. She is collaborating with Associate Professor Andreas Hoffman (Griffith University, Eskitis Institute) and Professor Domenico Otranto (Bari University, Italy).

Cinzia would like to be an academic with a leadership role, and lecture to veterinary science students. She is looking for opportunities to work on partnership projects with drug companies to make the most out of the new technologies used for screening to find candidate drug targets.

We wish Cinzia well for the future and look forward to hearing more about her parasitology work.

Source

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