Each month ACN asks a team member to provide a profile of themself that takes us behind the scene on what are the influences that encouraged their career choices.

May 2013

Q&A with Orazio Vittorio

Orazio Vittorio was born in Sicily in 1980 and received his Master Degree in Biology with honours from the University of Pisa in 2006, this being followed in 2011 with his Ph.D. examining Innovative Health Technologies from the Department of Oncology at the University of Pisa. He developed and tested novel nanovectors, based on carbon nanotubes functionalized with siRNA and chemotherapics for cancer treatment. In particular he studied the ideal combination of nanoparticles and drugs in order to increase their activity without additional side effects. Orazio’s track record reflects research excellence as an early career scientist with 28 peer-reviewed publications. He has authored four book chapters and is co-inventor on four patents. Orazio joined ACN in 2013 after successfully applying for a UNSW Vice Chancellor’s Postdoc Research Fellowship. His investigations are focused on the development of innovative strategies for the treatment of neuroblastoma with nanomodified natural antioxidants.

What was your inspiration in becoming a biologist?
Since I was a child I have been interested in understanding the mechanisms regulating our body. I was attracted by old human anatomy books and fantasy movies. I became a biologist thanks to my thirst for knowledge. I would like to learn more about the perfect mechanisms which regulate our life and I would like to discover new ones. Now I would like to continue my studies and do something to improve the quality of life of patients with cancer.

What inspires you about ACN
I spent four years of my PhD in a lab with a multidisciplinary background. I worked together with biologists, chemists, engineers and physicians. I strongly believe that multidisciplinary has a key role to face biomedical questions with a wide point of view. My current project uses a multidisciplinary research approach of converging medicine, life science, chemistry and engineering exploiting the skills of different research centres. ACN is the ideal place to carry out my research.

Tell us about your current research interests:
Recently I focused my attention in studying the effects of antioxidants, such as Catechin and Quercetin, on cancer cells. I modified these drugs with no toxic biopolimers in order to improve their stability and activity obtaining important results in pancreatic
tumor cells resistant against common chemotherapics. I recently adopted a bio-compatible synthetic strategy for the catechin conjugation with dextran (CT-DeX) enhancing its possible application in clinical practice. I demonstrated that CT-DeX was very efficient in inducing the apoptosis of pancreatic ductal adenocarcinoma cells in vitro and it was less cytotoxic in non-malignant cells.

To date, the activity of catechin on tumourigenesis is unclear, and its potential as a treatment for neuroblastoma has been limited. I hypothesise that the dextran conjugated catechin will be effective in the treatment of neuroblastoma and other cancers and I am studying its mechanisms.

**At which upcoming conferences have or are you presenting in 2013.**

ACN will be hosting its 4th International Nanomedicine conference in July and my work entitled “Catechin-dextran: the potential treatments against pancreatic tumor” was accepted for an oral presentation.

**How do you spend your spare time?**

I love spending my spare time with my beautiful wife and playing with my gorgeous son. We love walking on the beach and swimming. Sydney is ideal for these leisure activities!!

**Which profession would you choose if you were not a scientist?**

Probably I would have become a surgeon. I spent some years as volunteer of the Red Cross and I feel better when I can be of help for other people.