



# AUT INSTITUTE OF BIOMEDICAL TECHNOLOGIES

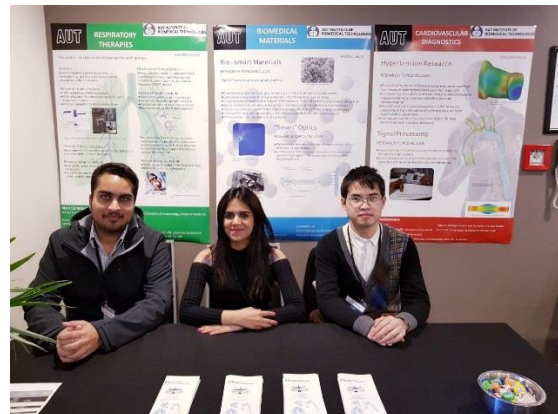
SEPTEMBER 2017

## NEW ZEALAND MEDICAL SCIENCE CONGRESS

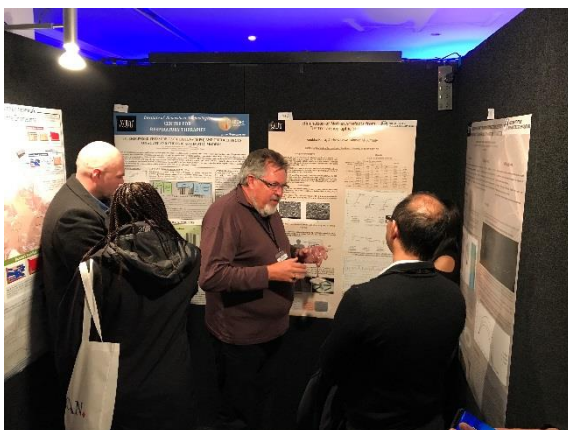
Nine members of IBTec attended the New Zealand Medical Science Congress in Queenstown from 4<sup>th</sup> to 6<sup>th</sup> September 2017. Five PhD students presented their work orally and three presented in the poster session. PhD student Sandra Grau Bartual won the IBTec Prize for her presentation. IBTec also sponsored the Symposium on Respiratory Diagnostics and Therapies, with visiting speakers Prof Kim Prisk (University of California), Prof Alastair Stewart (University of Melbourne, and Suzanne Bell and Geoff Bold (Fisher and Paykel Healthcare). The conference was a success in contributing to learning, networking, and team building. Thanks to Prof Ahmed Al-Jumaily, a member of the MedSci organising committee for enabling IBTec's participation.



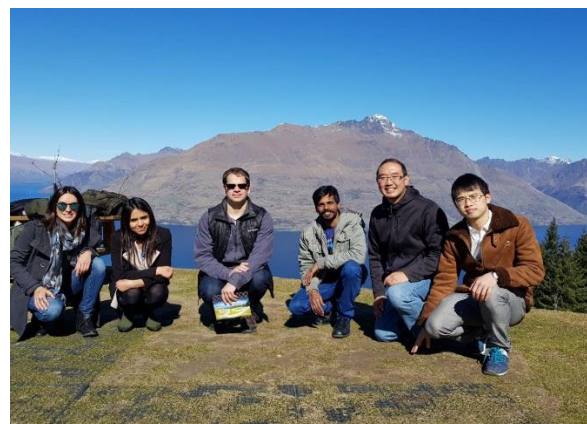
**Professor Ahmed Al-Jumaily presents Sandra Grau Bartual with her certificate and prize for best paper Biomedical Technology**



**Manning the IBTec stand at the conference**



**Professor Kim Prisk talking to Assoc Prof Andrew Lowe**



**Enjoying Queenstown**



# AUT INSTITUTE OF BIOMEDICAL TECHNOLOGIES

SEPTEMBER 2017

---

## PROFESSOR G. KIM PRISK VISITS IBTEc



Professor G. Kim Prisk who is a Professor in the Departments of Medicine and Radiology at the University of California, San Diego gave a seminar on Monday 25 September to staff and students of IBTEc. The title of his seminar was:

### **“Taking Your Lungs To The Moon – And Maybe Mars:**

Planetary exploration by humans will inevitably pose significant physiological challenges, and the challenges to the lung associated with such journeys will be large.

Any trip to a distant extraterrestrial body will almost certainly be preceded by a series of extended sojourns on the Lunar surface. This talk will examine the challenges to the lung of such journeys.

### **Bio**

Kim Prisk earned his PhD from the University of Otago in 1983 and has been at the University of California, San Diego ever since. He worked extensively on studies of the human lung in weightlessness in spaceflight on both the Space Shuttle and on the International Space Station. These studies were extended to studies on aerosol transport and deposition and the influence of gravity on these processes using parabolic flight. More recently he has worked on the development and use of functional imaging techniques using MRI to quantitatively measure both ventilation and perfusion in the human lung. Despite the low signal to noise environment for MRI in the lung, the techniques offer imaging without the constraints of radiation dose or the use of injected contrast agents, making them well-suited for studies that require repeated imaging. He is an associate editor for the Journal of Applied Physiology with an emphasis on pulmonary gas exchange and environmental physiology.



# AUT INSTITUTE OF BIOMEDICAL TECHNOLOGIES

SEPTEMBER 2017

---

## ARUNKUMAR JAYAKUMAR REPRESENTED IBTEc AT THE NZ PRODUCT ACCELERATOR WORKSHOP



Arunkumar Jayakumar represented IBTEc and gave a presentation, “PEM fuel cell gas diffusion layers through Selective Laser Sintering” at the workshop organised by the NZ product accelerator at the University of Auckland on 13 September 2017.

## UNAI ZALABARRIA VISITING PHD SCHOLAR WITH IBTEC



Unai received the Bachelor's Degree in Industrial Electronics and Automation Engineering (2014) and the Master in Control Engineering, Automation and Robotics (2016) by the Faculty of Engineering of the University of the Basque Country (UPV/EHU). He was awarded as the best student of his master promotion.

He started in research as a member in the Intelligent Control Research Group (GICI) of the UPV/EHU during the master.

In 2016, Unai started a PhD as hired PhD-researcher in the UPV/EHU, in the area of Biomedical Engineering.

Currently (between September 2017 and June 2018), he is participating in the Erasmus Mundus Pacific Atlantic Network for Technical Higher Education and Research (PANTHER) programme, which is designed to foster knowledge exchange and collaboration between New Zealand, Australia and Europe. IBTEc at Auckland University of Technology (AUT) is currently hosting him.

His research involves advanced signal processing on physiological signals like Electrocardiogram, Galvanic Skin Response, Breathing and Plethysmography, parameter extraction and stress and emotions estimation by using intelligent computing techniques such as fuzzy logic and machine learning techniques. His work is aimed at helping people with cerebral palsy, spinal cord injury or special needs.



# AUT INSTITUTE OF BIOMEDICAL TECHNOLOGIES

SEPTEMBER 2017

---

## TWO INTERNS FROM FRANCE IN IBTEC

### Pierre Gambert



Pierre is a 20 year old French student currently studying Mechanical Engineering at EPF Engineering School near Paris, France. He will be doing an internship for four months with IBTec. His project is to create different artificial blood vessels using suitable and biocompatible materials for human body application, in order to test the properties and compare with real ones.

Pierre used to play rugby for 10 years and still plays the piano in his spare time.

### Sibylle Claudon



Sibylle is a French student at EPF, an Engineering School near Paris, France. Sybille is at IBTec to validate her internship and to improve her English. Her project at IBTec is to improve the structure of a CPAP machine.

Sybille likes travelling and meeting new people. She thinks New Zealand is a beautiful country and is enjoying discovering new landscapes.