

JAMES RENNIE BEQUEST

REPORT ON EXPEDITION/PROJECT/CONFERENCE

Expedition/Project/Conference Title: IAESTE Placement in MIT, Manipal, India.....

Travel Dates: 25/05/2008 - 20/07/2008.....

Location: MIT - Manipal Institute of Technology, Manipal, India.....

Group Member(s): Marta Sarzynska.....

Aims: Preliminary physical and chemical study of human fat tissue for the purpose of using it as a biosensor.....

OUTCOME (not less than 300 words):-

Over the summer 2008, I worked for 6 weeks on a placement at the Department of Physics of the Manipal Institute of Technology in Manipal, India. The placement was organised by IAESTE, the International Organisation for the Exchange of Students for Technical Experience. At the MIT, I was working with Dr KS Aithal at the Department of Physics. I was performing a preliminary physical and chemical analysis of human fat tissue, which will be of use in Dr Aithal's studies attempting to use the fat tissue as a biosensor.

My role started with observing how the sample was obtained during a liposuction procedure. I then separated the raw sample into blood and fat tissue by filter funnelling and washing with saline. I prepared two fat tissue solutions to be studied: one in a 2:1 chloroform:methanol mixture and a second one in 9:1 saline:Triton X mixture. I measured the density, viscosity, surface tension, refractive index and electrical conductivity of these two solutions and compared the results with respect to each other and the previous studies conducted by Dr Aithal. Due to the limited equipment available, I was unable to progress with my project and implement a prototype biosensor. However, my work will be used as part of the the research of my supervisor.

The project was only one third of my internship in India. Another two weeks of my time were set aside for me to visit the various life science-related departments of the Manipal Institute of Technology as well as the Katsurba Hospital, Katsurba Medical College and other institutions in and around Manipal, in order to get acquainted with the conditions there and the kind of research they perform.

Finally, I was granted two weeks to discover the culture and heritage of India, during which I took a week-long trip to Mumbai and many 3-4 day trips including Goa, Hampi, Mysore and Coorg. I visited a variety of cultural centres, museums, temples and other places of cultural heritage. I am very grateful to my superiors for giving me such an unique chance to experience India.

Living in India for 6 weeks was an amazing and enriching experience. I got to know an entirely different culture from its roots – by living and working there. I learned to cooperate in a multinational team at work and with fellow IAESTE interns. This project also gave me a better understanding of a research laboratory and University environment, and how different it may be in different cultures. I would like to thank the James Rennie Bequest for making this experience possible for me – it was an enjoyable and enriching way of spending my summer.