BAD Research Taster Visit Report – Dr. Wisam Alwan

St. John's Institute of Dermatology, London
Date of visit: May 20th – June 4th 2013

Aims:

- To gain further insight into a career in Academic Dermatology
- To gain vital, practical laboratory competencies
- To develop plans to undertake a higher degree

Background: A rewarding Academic FY2 placement at the St. John's Institute in 2011 provided me with my first insight into a potential career in Academic Dermatology. During this attachment, I investigated the immune system in melanoma, a field that is at the forefront of translational dermatology research. Development of new novel immunomodulatory therapies for metastatic melanoma has given new hope for a disease for which there were few prognostically beneficial treatments previously. Consequently, I was inspired to arrange a further visit to St. John's to undertake a project investigating a novel immune pathway in melanoma under the supervision of Dr Katie Lacy, Professor Frank Nestle and Dr Sophia Karagiannis. I particularly focused on the lymphocyte immunoreceptor Programmed Death-1 (PD-1), a cell surface marker expressed on senescent lymphocytes. This is a particularly exciting area as published work has demonstrated that blockade of this pathway can improve survival in patients with metastatic melanoma.

Project outcomes: In preparation for my visit, I reviewed the recent literature in the field and produced a clinical review article on skin cancers that was accepted for publication for a peer-reviewed educational journal. During the attachment at St. John's, I learnt further techniques relevant to basic sciences research, attended laboratory meetings and participated in talks on topical research on-going in the department. For the project, I was responsible for processing blood samples to isolate the lymphocyte population, which I then stained with fluorescently conjugated antibodies to cell-surface markers of interest. I designed the panel of markers utilised in my experiment. Expression of the cell-surface markers was quantified using Flow Cytometry and analysis of the expression patterns undertaken with specialised cytometry software. I presented my findings alongside a summary of the recent literature in the field in a presentation to my supervisors at the end of the attachment.

Reflection: My visit to St. John's was very valuable and enjoyable, and has been beneficial in crystallising my aim to pursue a career in Academic Dermatology. The project helped me discover new avenues to investigate as part of a higher degree, and spending time discussing career options with senior academic clinicians and scientists has been invaluable in helping me plan a career in the specialty. I am grateful to my supervisors and all the staff in the department for helping me complete my project and to the British Association of Dermatologists for their generous financial support.