

Science PhD graduate keen to gain an academic post

Hilary Michelle McArthur

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EDUCATION

2002 - 2005 University of Manchester **PhD in Medicine**

The regulation of leukocyte migration away from the subendothelial compartment.

Supervisor: Professor Jordan

Project synopsis:

- Adapted, validated and implemented a “novel” assay to investigate leukocyte migration and survival.
- Systematically investigated the role of soluble mediators and adhesive interactions in the survival of neutrophils following transendothelial migration.
- Identified phenotypic alterations in T-cell subpopulations following migration through an endothelial-fibroblast bilayer.

Give detailed information on thesis project and supervisor

2001 - 2002 University of Salford **MSc in Immunology** (distinction)

Dissertation project - 'Neutrophil spontaneous apoptosis is mediated through the acid sphingomyelinase dependent generation of ceramide.'

Modules studied include: tolerance and autoimmunity; transplantation biology and cell adhesion; haemopoietic cell differentiation and malignancies.

1998 - 2001 University of Salford **BSc (Hons) in Biochemistry** (first class)

Dissertation project - 'Autoimmunity: A genetic perspective.'

Modules studied include: cell biology; genetics; immunology; microbiology; oncology; and physiology.

Broad-based degree in biochemistry with the second year spent studying at Oregon State University, USA.

1996 - 1998 Kings College, Manchester **A-levels**

Biology (A); Chemistry (A); Mathematics (A); History (A).

Include laboratory techniques for academic posts within scientific disciplines

RESEARCH EXPERIENCE AND TECHNICAL SKILLS

Development of static adhesion and migration assay.

Adaptation of a novel co-culture system: culture stromal cells on the apical and basal surface of Transwell inserts.

Image-based analysis of leukocyte behaviour in static and flow adhesion and migration assays.

Microscopy: phase contrast and fluorescence.

Cell culture (primary and immortalised cell lines).

Isolation of leukocytes subsets and endothelial cells.

Immunofluorescence and immunocytochemistry.

Flow cytometry.

Subcellular fractionation.

Western blotting.

Extensive experience of Microsoft Word, Excel, PowerPoint and Prism.

Working knowledge of WinMDI and Image Pro.

RESEARCH-RELATED EXPERIENCE

Research Council Graduate School, Summer 2004

- Highly organised and methodical member of a productive team.
- Managed time and team members, allocating tasks and ensuring their completion.
- Developed problem solving, communication, negotiating and team skills.

Postgraduate Demonstrator / Student Mentor, MMU 2003 - present

- Responsible for communicating and demonstrating technical practical work to final year BSc undergraduates, as well as showing visiting work experience students laboratory protocols.

Laboratory Assistant, Scientific Laboratories, Salford, August 1996

- Worked independently on an assigned project. Developed technical writing skills for industry purposes, along with presentation and communication skills.

PUBLICATIONS

Publications are vital to an academic career

H.M. McArthur, details of co-authors in correct bibliographic format (2004).

Transmigration through prolongs neutrophil survival through a beta-2-integrin-dependent adhesion signal. (*Submitted manuscript*)

Details of co-authors in correct bibliographic format, **H.M. McArthur**, additional details of co-authors in correct bibliographic format (2004). Identification of a phenotypically and functionally distinct population of neutrophils in a model of reverse endothelial migration. *Journal of* (*In press*).

Details of co-authors in correct bibliographic format, **H.M. McArthur**, additional details of co-authors in correct bibliographic format (2004). Title of article. *Blood* (*In press*).

ABSTRACTS, POSTERS AND PRESENTATIONS

McArthur, H.M., details of colleagues (July 2005). Transmigration through prolongs neutrophil survival through a beta-2-integrin-dependent adhesion signal. *British Society of Immunology*.

Details of colleagues, **H.M. McArthur**, additional details of colleagues (Dec 2004).rapidly recruited by TNF-stimulated endothelial cells can: is this a novel route for neutrophil clearance from inflamed tissue? *International Society for Thrombosis and Haemostasis*.

Details of colleagues, **H.M. McArthur**, additional details of colleagues (Oct 2004). Ceramide rich lipid rafts and acid sphingomyelinase activity are required for spontaneous neutrophil apoptosis. *International Conference, Manchester, 2004*.

ACHIEVEMENTS

- Received awards for best overall academic achievement and best dissertation project at the end of my MSc (2002).
- Received award for best overall academic achievement at the end of my BSc (2001).

INTERESTS

- I enjoy sports, especially football, and have been a member of a women's intramural football team (2002 - 2004).
- I am a keen swimmer and a certified PADI Open Water Diver (1996). I have been a member of several local dive clubs, allowing me to develop my diving skills and take part in club dive trips.
- I find playing and listening to music a relaxing pastime. Learning to play the electronic organ required high levels of self-motivation and commitment, reflected in being awarded Grade Five in 1996 and Grade Three in music theory in 1995.

REFEREES

Available on request