

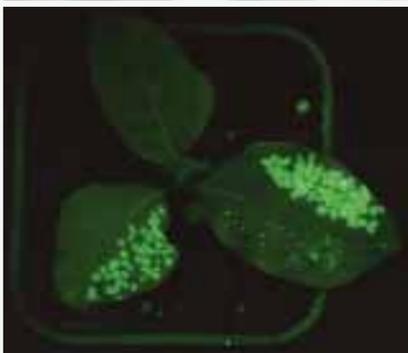


**Dr Rachel Toth**

Joint Head of Molecular Cloning Group,  
MRC Protein Phosphorylation and Ubiquitylation  
Unit, College of Life Sciences



**Don't be scared to jump out of a particular career path if it's not what you want to do – it can be seen as a bit of a failure if you do something different – but it shouldn't be!**



My first degree was from Durham in Molecular Biology and Biochemistry. I knew that I wanted a career in science but wasn't sure exactly what I wanted to do. Like so much of my career it was a bit of an accident! My supervisor knew some places that were offering PhDs and so I applied to Warwick University and studied there. A PhD is an extremely difficult thing to do at times, but I made friends for life. After my PhD I volunteered in Zambia for three months, then came back and married. My husband was working at the James Hutton Institute in Dundee and I got a position there working on late blight in potatoes, which was quite a change from my previous interests in Molecular Virology and Human disease. Subsequently, I held postdoc positions at the JHI working on developing recombinant antibodies and also with a Biotechnology company based in the USA to generate targeted therapies in plants using plant viral vectors. Following that, I moved to Dundee University where I'm now Joint-Head

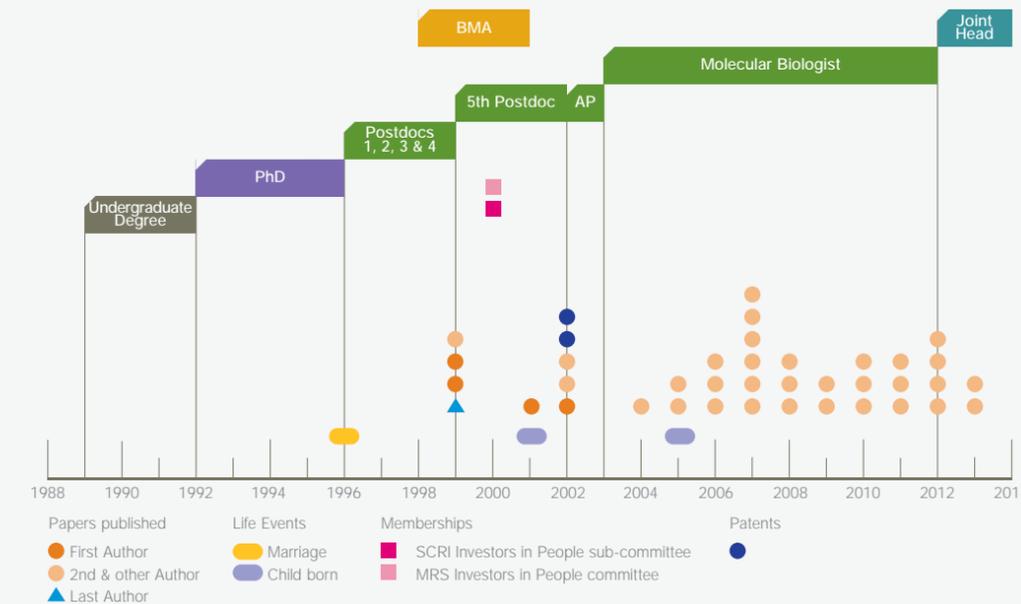
of the Molecular Biology group that supports the Medical Research Council unit – we provide all the clones that feed into the research groups of the unit. I always enjoyed the precise molecular aspects of my postdoc research, and my current position is very suitable for me as I enjoy working in the lab and it demands high levels of efficiency and organisation.

When you do a PhD the expectation is that you will follow a path towards running your own research group, but I gradually realised that that wasn't what I wanted to do. By following opportunities that were available at the time, I have found myself in a position that is challenging, allows me to work in the lab, and with management responsibilities.

**A Day in my Life**

In order to meet the demand for DNA clone products, whilst maintaining a high standard of

service, we have to be very efficient in the lab whilst maintaining accuracy. This means my day is pretty full-on, focussed, and involves me juggling lab work and computer work such as DNA sequence analysis; cloning strategy design; writing methods and reports; responding to queries from users or DSTT collaborators; ordering reagents and maintaining the group's online database. I have meetings with PIs, postdocs and students to discuss new cloning projects and also meet with other cloning group members to trouble-shoot technical difficulties with current projects. I undertake some training of students and postdocs when required and also spend some time responding to external requests for clones that come in from the new public MRC-PPU reagents website. If I have time, I might nip over the road for a game of squash as stress relief!



**Undergraduate**  
University of Durham  
*BSc (Hons) Biological Sciences: 2.1*

**PhD**  
University of Warwick  
PhD Molecular Virology  
Professor Malcolm McCrae

*A Molecular and Immunological study of the envelope glycoprotein E2 of Bovine viral diarrhoea virus (BVDV)*

**Postdoctoral Positions**  
1 SCRI (Scottish Crop Research Institute), Dundee  
Department of Fungal and Bacterial Plant Pathology (FBPP)  
Professor Paul Birch  
*The development of a molecular fingerprinting system for Phytophthora infestans, and the identification of potato genes important in resistance to P. infestans.*

2 Plant pathologist at SCRI, FBPP  
Professor Paul Birch  
*Determination of the genetic structure of the late blight outbreaks in Scotland. An assessment of the hazard of sexual reproduction by P. infestans to the seed and ware potato industries of Scotland.*

3 SCRI, Department of Virology  
Professor Lesley Torrance  
*Development and evaluation of recombinant antibodies for the diagnosis of plant viruses.*

4 SCRI, Department of Virology  
Professor Lesley Torrance  
*Development of recombinant antibodies for the detection, monitoring and elimination of pollutants in water.*

5 Mylnefield Research Services Ltd.  
Postdoctoral Virologist  
Professor Karl Oparka  
*Study of aspects of foreign gene expression using plant viral vectors, in collaboration with Large Scale Biology Corporation, USA.*

**Assistant Principal Scientist**  
Mylnefield Research Services, Ltd  
Lab Manager: Professor Karl Oparka

**Molecular Biologist**  
Molecular Cloning Group, MRC PPU, University of Dundee  
Professors Philip Cohen/Dario Alessi

**Joint Head of Molecular Cloning Group**  
Molecular Cloning Group, MRC PPU, University of Dundee  
Professor Dario Alessi

**Editorial Boards**  
Book reviewer for British Medical Association

**Patents**  
5760992.7  
*Production of peptides in plants as viral coat protein fusions.*

60/407,795  
*Development of a tiled peptide library on the surface of a plant virus and expression of specific epitopes of human papillomavirus and human immunodeficiency virus on the surface of a plant virus.*