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Feature article

What is the value of a Post-doctoral Fellow in today's society?

By Dr. Evan Lind

As I began thinking about how to follow up on the editorial that appeared in the December 2011 issue of the ORT Times ("What is the value of a PhD in today's society?"), it occurred to me that the same issues that apply to PhD students also apply to postdoctoral fellows (PDFs). What training does a postdoctoral fellowship offer? Clearly one objective is to expand your knowledge base and find what area of research is most exciting to you. Equally important is to gain more experience in grant and paper writing, giving talks, and mentoring students. Many PDFs I know start out very excited to be getting out of their PhD and doing research full-time free of classes and committee meetings. But all too soon the daily grind of failed experiments can get you down and it would appear that not much has changed from the PhD. But if it were just these frustrations that are a part of daily life in scientific research, many people would still stay in academia as their love of science is often enduring.

Let's consider the issues of time, pay and future job prospects, as described in the last issue of *The ORT Times*. The time to completion for the average PDF is going up. Spending an average of 7 years completing a PhD while our friends in other fields have been building stable careers, we may feel that we have already done our time and should now be close to the end of training. But now the average postdoc is 4 years, with no guarantee of a permanent position afterward¹. I should mention here the increased pressure this timeline has on women in science who

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choose to have a family, but that topic deserves much more attention than I can give in this article.

In terms of salary, I calculated the average hourly starting pay for a PDF, and it works out to \$15.90 an hour using the current National Institutes of Health (NIH) recommended stipend and the reported average work week of 48.4 hours for a PDF^{2,3}. That wage puts us in the neighborhood of auto mechanics and customer service representatives⁴. While both of these are good jobs, this ranking doesn't reflect the amount of education that is required to be a PDF. This underscores what was mentioned in the December article: that the pain comes not from our absolute remuneration, but rather when we compare ourselves to other professionals with similar levels of education. We should, however, remember that there are other PhDs, for instance in the humanities, who are not paid as well as those in the biological sciences.

What about finding that 'real job'? In a recent study by the University of California⁵, many PDFs that had originally intended to pursue academic research later changed their goals — for men, a decrease of 69% to 58% and for women, 56% to 43%. For someone who has been immersed in it for years, leaving academic research can often be thought of as failing, especially after so many years of focused training. However, a career that can often be very frustrating day to day, combined with the prospect of a future of stressful grant deadlines (especially in the current economic climate) can discourage many PDFs that had originally intended to pursue a faculty position. At the same time, PhDs in the biological sciences are a very diverse group with broad interests, and in many cases, people leave academic research for an exciting opportunity to do something new. If you are a PDF looking for a new adventure, I recommend looking at the UHN ORT website (www.uhntrainees.ca) under 'Career Success' as well as the NPA website (www.nationalpostdoc.org) regarding alternative careers; they have links to information that may be useful for you.



Photo courtesy of: Stock.xchng

These are serious issues, but my personal advice is the following: keep your expectations in line with reality; focus on whatever it is you want to do in the end; remember that leaving science is *not* failing; and, when you wake up in the middle of the night in a panic about your present situation, remember that a PDF, by definition, is temporary. And as my wise former mentor Dr. Howard Petrie once told me, "all bleeding stops eventually".

References:

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Continue the Discussion!

If you would like to comment on this article, please visit 'My ORT' at www.uhntrainees.ca

success

recent awardees



The ORT encourages trainees and scientists to send us pictures of the lab, departmental events, or eye-catching scientific images. Your submission may appear in the ORT Times' next issue.

(Photo: Courtesy of C. Bros, Penn Lab, OCI/PMH)



Richard Miller Award

PhD Student: Salima Janmohamed

Research title: "Hematopoietic Stem Cell Self-Renewal"

Supervisor: Dr. Norman Iscove, OCI

The Richard Miller award is given in honour of Dr. Richard Miller, the first Chair of the Department of Immunology at the University of Toronto. Each year, the prize is awarded to the student who has shown leadership within the department, as well as the university at large. Students who have earned their PhD over the course of the previous year are eligible, as are students who expected to earn it in the ensuing year.

For the 2011 award competition, the award goes to Salima Janmohamed!

Some of Salima's departmental and university activities include: her two-year term as co-president of the Immunology Graduate Students' Association, her membership of the Training Communications Committee and Training & Education Committee for the Canadian Stem Cell Network (2009—2011) and her position as a Research Fellow in the NSERC Summer Program in Japan (June—Aug2008).

Well done Salima!

latest & greatest



Loss of Tankyrase-mediated destruction of 3BP2 is the underlying pathogenic mechanism of cherubism.

Levaot N¹, Voytyuk O¹, Dimitriou I, Sircoulomb F, Chandrakumar A, Deckert M, Krzyzanowski PM, Scotter A, Gu S, Janmohamed S, Cong F, Simoncic PD, Ueki Y, La Rose J, Rottapel R. *Cell*, 2011;147:1324-39.

¹These authors contributed equally to this work.

Ontario Cancer Institute (OCI)

In Dr. Robert Rottapel's lab, former UHN trainees Drs. Noam Levaot and Oleksandr Voytyuk and their colleagues have elegantly investigated the mechanism behind cherubism, an inherited childhood disorder where the combination of dysfunctional bone remodeling and inflammation lead to deformation of the jaw.

Published in December's issue of *Cell*, the study showed that mutations in the 3BP2 protein, which are observed in cherubism, prevented efficient interaction between 3BP2 and an enzyme named Tankyrase. Tankyrase, a member of the PolyADP-ribosyl polymerase (PARP) family, normally suppresses steady state levels

of 3BP2 through post-translational modifications (ribosylation and subsequent ubiquitylation). However, cherubism-associated mutations in 3BP2 prevent correct regulation by Tankyrase, leading to stabilized 3BP2. This increased 3BP2 stability allows it to drive several signalling pathways involved in bone homeostasis and cancer. Through this work, this study highlights possible new therapeutic targets for treating children suffering from cherubism.

Click to read: <http://www.ncbi.nlm.nih.gov/pubmed/22153076>

To complement this work, a companion paper was published in the same issue of *Cell*, where Dr. Sebastian Guettler and colleagues from the laboratories of Drs. Tony Pawson, Robert Rottapel and Frank Sicheri provided the crystal structure of 3BP2 in complex with Tankyrase. This paper describes rule-based consensus for predicting new Tankyrase substrates, including proteins involved in cancer signalling pathways, inflammation, DNA repair and polarity.

Click to read: <http://www.ncbi.nlm.nih.gov/pubmed/22153077>

recent events



Season's Greetings from UHN Trainees



UHN LAB HOLIDAY EVENTS

Pictured from Top Left clockwise: Dr. Shannon Dunn and her husband, Andresz, TGRI/CBS; Dr. Eleanor Fish Lab, TGRI/CBS; Dr. Brad Wouters Lab, "Giving Back", OCI; Dr. Joan Wither Lab, TWRI; Dr. Linda Penn Lab, OCI; Dr. Aaron Schimmer Lab "Curling Event", OCI; Department of Medical Biophysics (MBP) "Holiday Wine & Cheese Event".

(Photos: Courtesy of Dan Cojocari, OCI; Dr. Eleanor Fish, TGRI; Kevin Galley, UHN; Dr. Mahadeo Sukhai, OCI; Irakli Dzneladze, OCI)



UPCOMING EVENTS CALENDAR:

01/26 New UHN Trainee Orientation.

The launch of ORT's orientation for new graduate students and postdoctoral fellows. To sign up, visit the events calendar located in the Research Intranet.
<http://intranet/>

02/01 Canadian Institutes of Health Research (CIHR) Master's & Postdoctoral Fellowship Award Deadline.

Due February 1st.

www.researchnet-recherchenet.ca

02/01 Melanoma Research Grant.

Career development award for salary support. Due February 1st. www.hjltrust.org

02/15 Science to Business Award.

The CIHR Science to Business program encourages students with a PhD in a health-related field to pursue an MBA.

www.researchnet-recherchenet.ca

02/22 Banting & Best Diabetes Postdoctoral Fellowship.

One year fellowships offered to PDFs to be used for full-time research training in diabetes.

Due February 22nd. www.bbdc.org

Visit www.uhntrainees.ca for more information.

QUESTIONS?

Please contact:

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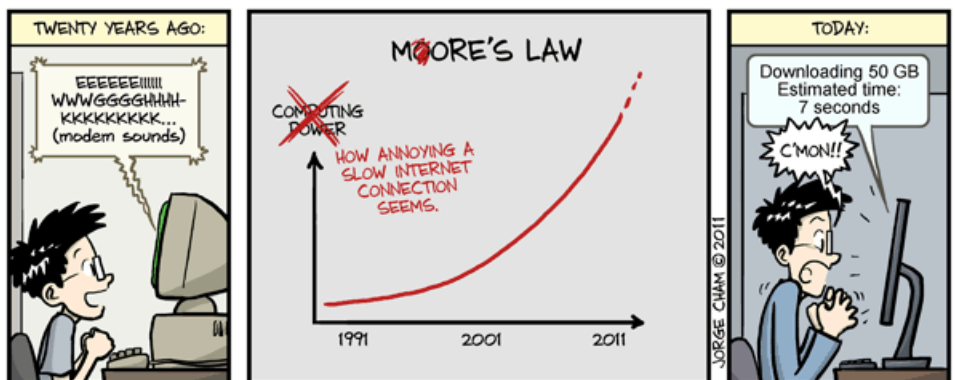
t. 416-946-2996

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UHN Research in a Snapshot!

What makes UHN Research a success in research discoveries & developmental technologies is the rich research environment which fosters strong training. Below is a snapshot of UHN Research.

2011 UHN RESEARCH: FAST FACTS	TRI	OCI	TGH	TWH	
	Researchers	82	262	180	122
	Fellows	19	190	111	70
	Graduate Students	179	191	111	70
	Technical & Support Staff	97	684	410	206
	Publications	225	872	765	515
	Research Space (sq ft)	65,000	373,000	267,000	105,000
	Total External Funding (fiscal year 2010-11)	\$11M	\$101.5M	\$59.7M	\$43.6M
	Statistics taken from the following sources:				
	1. 2011 TRI Research Report +10				
2. 2011 UHN Research Report					



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