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Editorial

Healthy Living Tips for Trainees

Graduate students and postdoctoral fellows face a challenging workload. The pressures of deadlines, committee meetings, presentations, data collection and analysis, troubleshooting, and writing can cause stress levels to sky rocket. This month, we offer ten healthy living tips, to help you lead a more balanced, fulfilling life.

1) Diet

We consistently hear about the merits of maintaining a healthy diet and there's good reason for it. Making healthy choices when it comes to your diet can provide you with the right balance of nutrients to help get you through stressful times. You'll have more energy, think clearer and be less likely to get sick. Feel free to indulge once in a while, but don't overdo it. Junk food, be it in the form of sugary treats or fat-laden dishes, may give you a temporary fix, but in the long run will leave you feeling run-down and sluggish.



By Peggy Greb, USDA [Public Domain] via Wikimedia Commons

May 2013

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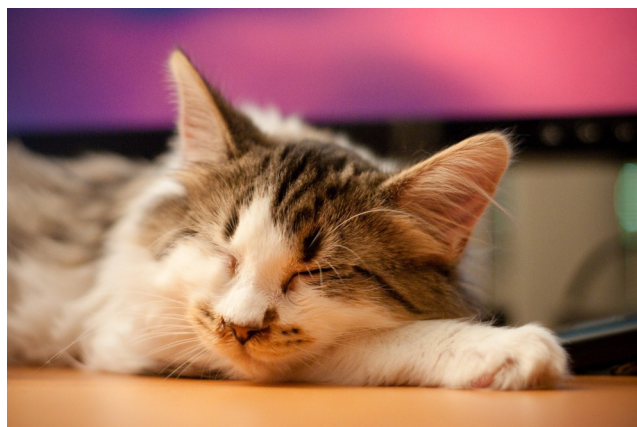
Click [here](#) to access past issues from our archive.

2) Exercise

Challenging your body physically may be the last thing you feel like doing when your workload is consistently high and you're already tired, but the benefits are well worth the effort. Exercise gets you moving after long hours at the bench or computer—it gets your blood pumping, your muscles working, and the endorphins flowing. The results are improved stamina and mental clarity, a boost in energy, and an overall sense of well-being. Aim to work up a sweat several times a week for at least 30 minutes. Overall, make choices for a more active lifestyle: join a gym, dance, play sports, bike or walk to work, or take the stairs when you have the option. The benefits will accumulate.

3) Rest

We've all stayed up late and put in extra hours before deadlines, maybe even pulled all-nighters. Sometimes it's necessary to get the job done, but don't make a habit of it. Make the time to get adequate, quality sleep. Turn off the television, computer, cell phone, and your mind, and make getting to bed early a priority. Aside from leaving you tired, sleep deprivation can negatively impact your judgment, productivity, response to stress, and overall health. By getting enough sleep, you'll be more productive in the long run and less likely to make other unhealthy choices.



"Passed out" by Kenny Louie from Vancouver, Canada [CC-BY-2.0] (<http://creativecommons.org/licenses/by/2.0>), via Wikimedia Commons

4) Relaxation

To many trainees, the idea of relaxation is associated with images of laziness, procrastination and guilt. However, if you're feeling overwhelmed, take the time to kick back and relax. This may mean different things to different people: yoga, meditation, a good book, hanging out with friends and family, or taking a leisurely walk. The idea is to quiet your mind and disengage from your work routine. Whatever relaxes you will have you returning to your work tasks refreshed and with renewed vigor.

5) Support Network

Many trainees go through extended periods of time when they are isolated, either in the lab engaging in bench work, or at their computer preparing fellowship applications, manuscripts or presentations. Creating and maintaining relationships with friends, family and peers can provide you with a support system and the encouragement you need to get you through the rough patches of your research training. Make time to nurture your relationships and don't be afraid to tell those around you what you need, whether it's a supportive ear, advice or even some space.

6) Recreation

Can you recall a time when you were fully engaged in an activity outside of work, when the hours seemed to fly by? If not, make some time for recreational activities—do things that fill you with joy and excitement. The specific activity is not as important as the feelings it evokes. It may be playing or watching sports, going to the movies, theatre, a coffee shop, or an art gallery, spending time outdoors, or taking a class. Whatever it is, engage yourself fully and above all, have fun!

7) Lighten Up

As the old adage goes, laughter is the best medicine. It's easy to fall into the habit of taking ourselves too seriously, especially when immersed in an academic environment, where competition and professionalism are benchmarks of success. An important ingredient to staying positive and motivated is to lighten up. We are often our own worst critic, but it's important to keep our work life in perspective. Cultivate your sense of humour- watch a funny movie, go to a stand-up comedy show, or spend time with positive people who make you laugh. Finding the humour in ourselves and in challenging situations can go a long way in battling stress,

Cont'd, see PAGE 03

8) Try New Things

Our productivity and motivation can often wane when we get stuck in a rut. Boost your creativity by engaging in new activities and situations outside of the lab. The extra stimulation of seeking out new interests, hobbies, and environments can often be enough to transform the monotonous and stagnant work tasks into more manageable ones. Challenging yourself in new ways outside the lab can lead to new insights at work and more efficient ways of tackling old problems. If you live outside the box, you will learn to think outside the box.

9) Boundaries

Make sure mutual expectations are expressed early and clearly with your supervisor. Set boundaries between work and the rest of your life, whether that means not working late into the night on a consistent basis, not bringing your work home with you, or not working on weekends and holidays. It's easy to get caught up in the perpetual cycle of work that comes our way, but if work is all you do, your productivity and well-being will suffer eventually. Creating boundaries sets limits on the amount of time work infringes on other aspects of your life, be it family, friends or hobbies. Seek out positive role models that live healthy, balanced lives and follow their lead.

10) Seek Help

If you're having trouble coping, experiencing feelings of anxiety or depression or are simply overwhelmed, by all means seek help. Depression and anxiety are very common amongst trainees and UHN and U of T have resources available to help. Below are some useful links:

https://www.uhn.ca/For_Staff/wellness_centre/

<http://healthandwellness.utoronto.ca/>

<http://www.healthycampus.utoronto.ca/>

Author: Iris Kulbatski, Ph.D., Science Writer, ORT



Mitacs Information Sessions at UHN

Learn all about Mitacs programs designed to help trainees succeed in their research and scientific careers

As a continuation of last month's editorial about internships in industry, the ORT has invited Dr. David Kideckel, Director of Business Development at Mitacs and UHN alumnus, to give a short presentation promoting Mitacs' programs to UHN trainees and scientists, followed by a longer Q&A session. Registration is not required, however these sessions will be limited to 25 participants.

Several Mitacs research and training programs exist to support the development of future innovators in all areas of applied research. One such program is Mitacs' *Accelerate*, Canada's premier research internship program, that enables trainees to gain industry experience while conducting research that will contribute to their thesis or post-doctoral research program.



Dr. David Kideckel, Director of Business Development at Mitacs

Date	Location	Time
June 20, 2013	PMH, 7th floor, Rm 7-605	10:30am-11:30am
June 25, 2013	TWRI, FP6-103	12:30pm-1:30pm (feel free to bring a lunch)
June 26, 2013	TMDT, Rm 4-204	10:00am-11:00am

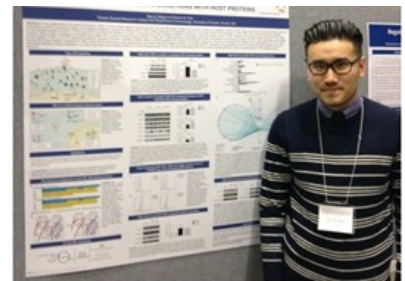
conference reports

ORT Conference Travel Awardees

This section of The ORT Times includes research highlights from recent ORT Conference Travel Awardees. In this issue, learn about the latest developments in cancer, immunology and gynecological research.

Ben Xuhao Wang, a Ph.D. candidate in Dr. Eleanor Fish's lab at TGRI, recently attended the 26th Annual Spring Meeting of the Canadian Society for Immunology, in Whistler, BC, and presented an abstract entitled "Influenza A virus non-structural protein 1: regulating the Interferon response".

Click [here](#) to read Ben's conference report.



Dr. Qi Wang is a postdoctoral fellow in Dr. Geoffrey Liu's lab at OCI; he attended the American Association for Cancer Research Annual Meeting in Washington, DC, and had the opportunity to present a poster titled, "Resistance to bleomycin in seven human cancer cell lines is characterized by enhanced DNA repair ability and loss of G2/M arrest and apoptosis."

Click [here](#) to read Qi's conference report.

Dr. Odilia Osakwe, who is working with Andre Siegel and Dr. Gary Levy of the Industrial BioDevelopment Laboratory (TGRI), attended the 245th American Chemical Society National Meeting & Exposition, in New Orleans, LA, and delivered an oral presentation titled: "A novel oxygen radical absorbance capacity-based measurement of the antioxidant potency of analytes in a biological matrix."

Click [here](#) to read Odilia's conference report.



Dr. Eszter Papp, a post-doctoral fellow in Dr. Lena Serghides' lab at TGRI, recently attended the Society for Gynecologic Investigation's Annual Meeting, in Orlando, FL, and presented an abstract titled "Effects of combination antiretroviral therapy on progesterone levels and birth outcomes in a mouse model."

Click [here](#) to read Eszter's conference report.

Dr. Jinbo Zhao, a post-doctoral fellow supervised by Dr. Mingyao Liu (TGRI), attended the International Society for Heart and Lung Transplantation 33rd Annual Meeting and Scientific Sessions, in Montreal, QC, and presented a poster titled: "Potential role of XB130 in the regulation of airway epithelium repair and regeneration after transplantation."

Click [here](#) to read Jinbo's conference report.



latest & greatest



Lysosomal disruption preferentially targets acute myeloid leukemia cells and progenitors. Sukhai M.A., Prahba S. et al. 2013. *Journal of Clinical Investigation* (123): 315-328.

Acute myeloid leukemia (AML) is characterized by the proliferation of immature, non-functional blood cells in the bone marrow and blood, thereby reducing the number of healthy blood cells circulating in a person's body. Leukemic cells can be eliminated using conventional chemotherapeutics, however in many cases, the cancer returns after treatment. Consequently, scientists are investigating new, more effective drugs to treat AML (1,2).

In Sukhai M.A., Prahba S., et al. (2013), a group of scientists led by Dr. Mahadeo Sukhai and Dr. Swayam Prabha from Dr. Aaron Schimmer's lab (OCI), discovered

that mefloquine, an antimicrobial used to clear malarial infections, selectively kills AML cells. Mefloquine's anti-leukemic activity was first demonstrated in a screen of on- and off-patent drugs that assessed their ability to kill different kinds of leukemia cells. Under Dr. Sukhai's guidance, scientists performed a series of assays on cell cultures and in mice, showing that mefloquine prevented the growth and proliferation of leukemic cells, but not that of normal cells. Next, to determine the molecular mechanism underlying mefloquine's toxicity, the team of scientists used two very different high-throughput screens—a yeast genomic screen known as haploinsufficiency profiling (the “HIP” assay), and a combinatorial chemical screen to identify drugs that acted synergistically with mefloquine to kill leukemic cells. Both screens yielded similar results and allowed Dr. Sukhai to formulate the hypothesis that mefloquine killed AML cells by disrupting lysosomes, cellular compartments responsible for breaking down and recycling proteins and organelles. Dr. Prabha validated this hypothesis by showing that mefloquine treatment caused AML cells to leak lysosomal enzymes—proteases, lipases and hydrolase—into the cytoplasm, causing cells to digest themselves and die. It is not clear why leukemic cells are more susceptible to mefloquine than normal cells; however, Dr. Sukhai observed that leukemic cells have enlarged lysosomes and overproduce many proteins involved in lysosome biogenesis. These results suggest that lysosomal disruption may be a novel therapeutic strategy for treating AML that warrants further investigation.

1. Ferrara F. and Schiffer C.A. 2013. *Lancet* 381: 484-95

2. American Cancer Society: <http://www.cancer.org/cancer/leukemia-acute/myeloidaml/detailedguide/index>

ORT spoke with Dr. Sukhai, to ask a number of questions about his latest publication.

1. What shared UHN facilities contributed to this work?

This work heavily utilized the PMH/OCI vivarium and flow cytometry facilities. Some experiments were also carried out at OCI's Advanced Optical Microscopy Facility (AOMF).

2. What are the major advantages of training in Dr. Schimmer's lab?

Training in Dr. Schimmer's lab provided a unique growth and development opportunity, and the chance to learn from an incredible mentor and accomplished scientist. Two major advantages for me included the opportunities for collaboration, both within the lab and within our external collaborative network; and the chance to work on a strongly translational project with some significant emphasis on drug effects on samples coming from leukemia patients.

3. What remains to be done before mefloquine can be tested on AML patients in a clinical trial?

Before mefloquine can be tested in a clinical trial in human leukemia patients, research to decrease the toxicity of the drug, and/or increase its potency in killing leukemia cells needs to be undertaken. We also would like to explore additional drugs that work in a similar manner, but are more effective and less toxic.

Author of this summary: Dr. Carrie-Lynn Keiski, Interim Coordinator, ORT

alumnus career profile



Dr. Maude Tessier

**Assistant Director
Business Development and Strategic Initiatives
Technology and Innovation Development Office (TIDO)
Boston Children's Hospital (BCH)**

Describe your education and training at UHN.

I received my B.Sc. Hon. degree in Biochemistry from McGill University and earned my Ph.D. from the Department of Medical Biophysics at the University of Toronto. My graduate research was focused on identifying and characterizing a novel kinase involved in cancer and was performed under the mentorship of Dr. James R. Woodgett, while he was still a Scientist at OCI.

What is an Assistant Director, Business Development and Strategic Initiatives?

The mission of the Technology and Innovation Development Office (TIDO) is to translate the research excellence and clinical care at BCH into lifesaving biomedical products, devices and procedures for the public benefit. As Assistant Director, Business Development and Strategic Initiatives, my role is to initiate, develop and realize partnerships between Boston Children's Hospital (BCH) and industry partners that create value at all stages of research, development, and pre-clinical and clinical investigation. Working closely with BCH investigators and corporate partners, I connect groups with similar R&D objectives and complementary resources and help to structure partnerships for mutual benefit. I also lead TIDO's Marketing Team and oversee TIDO's external and internal communications, outreach events, and strategic marketing initiatives as well as the office's primary and secondary market research performed to evaluate invention disclosures and to package technology opportunities for licensing.

What is a typical day like for you?

In an office like TIDO and in a position like mine, no two days are alike. On any given day, I could be learning about a new research area within BCH, discussing a development partnership with a pharma company, reviewing contracts and project proposals, going to a networking event, attending a business conference or preparing a presentation for an external audience.

What is the best part of your job?

It's an honor to be working at BCH and representing an institution with world class research and groundbreaking innovations that benefit patients and the public at large. I get the chance to interact with smart, talented and passionate individuals every day here at BCH as well as in pharma and biotech companies in Boston and beyond. The variety in day-to-day duties also means that it is an extremely interesting and fulfilling career path.

.....Click here to read the remainder of Maude's interview and learn what advice she has for trainees interested in pursuing a similar career path.

Special Feature: Ontario Brain Institute

An introduction to the Ontario Brain Institute and its programs

The Ontario Brain Institute is a not-for-profit research institute which aims to maximize the impact of research breakthroughs in neuroscience. In the process, it helps distinguish Ontario as a world leader in brain research, commercialization and care.

The OBI began in 2010 as a proof-of-principle government funded program to address the growing prevalence of brain disorders. Since then, it has built on Ontario's existing strengths in brain research and leveraged the previous investments in infrastructure and training and education to lead a province-wide, collaborative approach to neuroscience research and commercialization. By connecting the strengths of clinicians, researchers, industry and patient groups, the OBI is "doing science differently" by implementing a new system of research and innovation to promote discovery and improve the health of the millions of Ontarians afflicted with a brain disorder.



The goal of the OBI Innovation System is to create partnerships which promote faster and more efficient translation of research and knowledge. This system is built on four pillars:

1. High impact translational programs.

The first of these, the Integrated Discovery Programs, puts patients at the centre of a multidisciplinary research program focused on a specific group of brain disorders. The OBI currently has three operational programs in epilepsy (EpLink), cerebral palsy (CP-NET), and neurodevelopmental disorders (POND network), which includes autism spectrum disorders, attention deficit hyperactivity disorder, obsessive compulsive disorder and intellectual disability. With a five-year funding commitment provided by the Ontario Government effective April 1, the OBI is set to launch two new programs in the areas of depression and neurodegenerative disorders (including Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, vascular cognitive impairment, frontotemporal lobar dementia).

2. A centralized patient information system called Brain-CODE.

This is a powerful informatics platform that stores and analyses standardized data from the Integrated Discovery Programs. Brain-CODE adheres to the highest standards of privacy, and is already enabling multidimensional comparisons across disorders and techniques (i.e. genomic, proteomic, clinical and imaging). These comparisons, in turn, allow scientists to investigate phenotypic relationships, generate new hypothesis and identify novel targets for detecting and treating brain disorders.

3. Mechanisms to engage and support industry.

These will shorten the time it takes for new technologies or therapeutics to get to the market and help create a vibrant neuroscience cluster across the province. This engagement is made possible through OBI's Industry Advisory Council which provides strategic advice and support to the OBI Board and senior management, as well as the Ontario Brain Innovation Council which includes a growing number of experts across industries dedicated to supporting the growth and development of the neuroscience cluster in Ontario. It also includes a partnership with the Federal Development Agency for Southern Ontario which is supporting the development of neurotechnology, brain training software and brain sensing products.

Cont'd, see PAGE 08

4. Training and entrepreneurship programs.

These will ensure that Ontario has a sufficient number of highly qualified professionals to sustain the growth of a neuroscience cluster. The OBI currently has two operational programs under the banner of the Experiential Education Initiative.

The OBI Entrepreneur program mentors, funds and supports promising young scientists to help commercialize and develop their neurotechnology. Last year, the OBI funded 7 entrepreneurs and this year, through a partnership with the Ontario Centres of Excellence, up to 10 entrepreneurs will be supported.

The OBI has also developed the Graduate Opportunities Internship in partnership with the University of Toronto Graduate Enterprise Initiative, Engineering Career Centre and the Federal Development Agency for Southern Ontario. This program helps place highly-trained neuroscientists in an industrial setting to broaden their skills beyond those learned at the bench. The OBI aims to place 10 interns each year in small to medium-size enterprises, large multinationals or commercialization organizations across the province whose mandates include clinical trials, product and business development, research administration and regulatory affairs. So far the OBI has successfully placed 6 interns with industry partners including Huron Technologies, Health Technologies Exchange, FUS Instruments, Bloom Burton & Co., Inceptum Research & Therapeutics and Eli Lilly.

Here are two examples of internships offered by OBI:

Internship at Huron Technologies International Inc.

Huron Technologies International Inc. develops highly sophisticated multi-channel and multi-modality imaging equipment with large data sets. The target applications involve medical specimens for research and diagnosis. In order for the complete solution to be fully adopted by the pathologists and lab technicians, it needs to fit and optimize their workflow in an efficient and reliable manner.

This internship will include interviews, job shadowing, witnessing operations, and courses on pathology diagnostics with clinical and IT staff thus exposing participants to the iterative design cycle used to develop equipment and software solutions.

Internship at Inceptum Research and Therapeutics Inc.

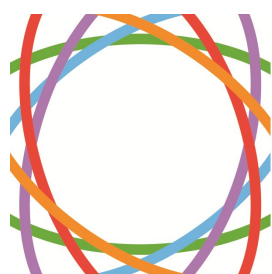
Inceptum Research and Therapeutics Inc. is a research-based biotech company originating in Toronto, Ontario, Canada that is dedicated to the treatment of human diseases. Their scientists use a chemical genetics platform to identify novel uses for existing drugs.

This internship will include working in translational research to develop innovative therapeutics, assisting in intellectual property development, regulatory processes and day to day operations of the company.

For more information about OBI and its programs, visit <http://www.braininstitute.ca/>

Authors: Dr. Jordan Antflick, Outreach Lead, OBI

Dr. Alison Fenney, Senior Lead Cluster Development, OBI



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UPCOMING EVENTS & FUNDING CALENDAR:

05/28

MITACS STEP

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Fine-tune your ability to communicate in academia and industry! We encourage you to take this opportunity to experience first-hand, the power of effective communication whether it be communicating your research through presentation or working within teams. Click [here](#) for more information.

05/28-31

UHN Library

Course—Pubmed Basics: Tips and Tricks

This introductory workshop demonstrates effective searching techniques and provides ample opportunities for discussion and questions. Click [here](#) for more information, as well as, exact dates, times and locations at UHN.

06/20,25,26

MITACS

Information Sessions

The ORT has invited Dr. David Kideckel, Director of Business Development at Mitacs, to give a short presentation promoting Mitacs' programs to UHN trainees and scientists, followed by a longer Q&A session. For locations, dates and times, see page 2 of this issue.

Visit www.uhntrainees.ca for more events and funding information.

QUESTIONS?

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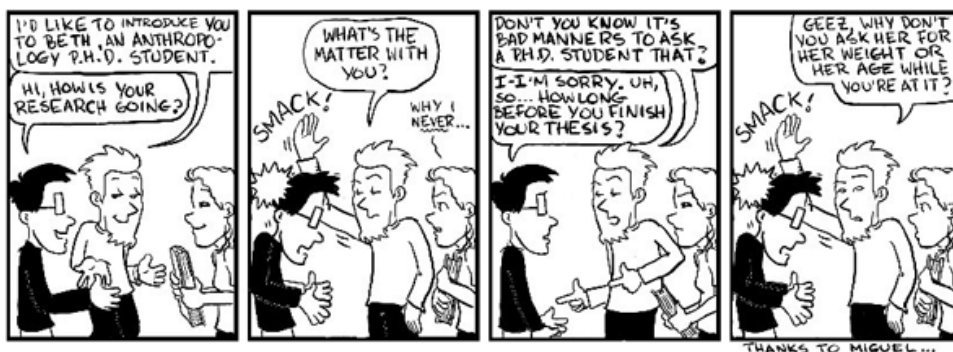
t. 416-946-2996



FOOD FOR THOUGHT

Paramount Fine Foods is a small, casual eatery, located near the Eaton Centre, that prepares healthy and fresh Middle Eastern dishes. It serves halal meats, prepared in its own butcher shop and grilled over charcoal. One of the most distinctive features of Paramount is its pita bread, that travels directly from a wood-burning oven to your table; it is best consumed with the hummus or moutabbal. Enjoy!

(photos courtesy of Alexandar Hansen)



JORGES CHAM © THE STANFORD DAILY

"Piled Higher and Deeper" by Jorge Cham www.phdcomics.com