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What would YOU like to see in the next ANCHOR? Email the editor: blackma@dal.ca with your suggestions!

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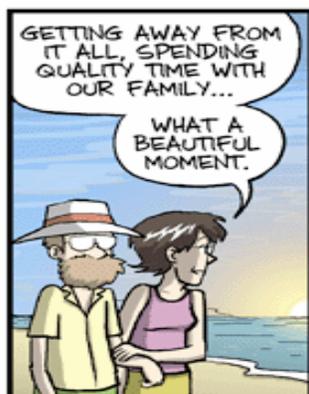
Heather Angka

DEPARTMENT REPS

University of Lethbridge Biological Sciences: Saikat Basu
University of Manitoba Human Anatomy and Cell Science: Jeff Leiter
University of Saskatchewan Anatomy and Cell Biology: Nicole Cox

WANTED!

Graduate student department reps.
Contact us for more details
CAANCBGS@gmail.com



www.phdcomics.com

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Who couldn't use a brand new Sony digital camera, complete with a Zeiss lens?

We're looking for more entries for the CAANCB ANCHOR Imaging Contest!

Imaging Contest Rules

- 1) All images submitted must be original, unpublished images. Images can be captured with a microscope, MRI, etc.
- 2) The means of capturing the image is up to the entrant.
- 3) Information regarding the equipment used and a description of the image must accompany the submission.
- 4) Contest is open to any member of CAANCB.
- 5) Email images as a TIFF document [please use an LWZ compression file] to CAANCBGS@gmail.com.
- 6) Entry date is by 5pm on the 25th of each month.
- 7) There will be one first place winner per quarter.
- 8) Other honourable mentions will be given to second, third, and fourth place images. A grand prize winner will be selected from the four first place winners at the end of the contest year.
- 9) Each winner will have their image on the cover of the newsletter.
- 10) Entries will be judged by our qualified judges who will be blind to the origin of the entry.
- 11) Judging will be based on technical difficulty of acquiring the image, aesthetic of the image, uniqueness of the image.
- 12) All decisions are final.
- 13) Winners will be notified by email and their names will be announced in the newsletter.



The CAANCB Award Winners Announced at the 2007 Meeting Were:

J.C.B. Grant Award

This award is the highest award of the Association. It is presented to an outstanding senior scientist in recognition of special merit and achievement in research and teaching in the field of anatomy, neurobiology or cell biology (sponsored by Lippincott, Williams & Wilkins Publishers).

The winner of the award for 2007 is: **Dr. Louis Hermo**, Professor, Dept. of Anatomy & Cell Biology, McGill University. Dr. Hermo is indeed outstanding in both research and teaching. Dr. Hermo has made significant contributions to the field of Reproductive Biology and has authored more than 125 research articles on the cell biology of the male reproductive system. Dr. Hermo's research has been funded by CIHR, Health Canada, NSERC, and the FCAR (and continues to be funded by CIHR). Dr. Hermo is also recognized for making significant contributions to teaching, having won the Leo Yaffe Award which is awarded by the Faculty of Science at McGill University for outstanding teaching. Congratulations to Dr. Hermo!

Murray L. Barr Award

This award is presented to an outstanding young investigator in recognition of special merit and achievement in the field of anatomy, neurobiology or cell biology (sponsored by Lippincott, Williams & Wilkins Publishers, and the Murray Barr Memorial Trust Fund.).

The winner of the award for 2007 is: **Dr. James D. Johnson**, Assistant Professor, Dept. of Cellular and Physiological Sciences, University of British Columbia. Dr. Johnson's research interest is in the field of molecular signaling as it relates to diabetes. He has over 25 publications to his credit and is a recipient of a CIHR New Investigator Award and a Michael Smith Foundation for Health

Research Career Award. Congratulations to Dr. Johnson!

Arthur W. Ham Graduate Student Award

This award is presented to an outstanding Ph.D. student in the field of anatomy, neurobiology or cell biology who has recently graduated, or is expecting to graduate, in the upcoming year. This award is sponsored jointly by Lippincott Williams & Wilkins Publishers and the CAANCB/ACANBC Chairs.

The winner of the award for 2007 is: **Sarah Rigley Macdonald**, a Ph.D. student in the Dept. Of Anatomy and Cell Biology, University of Saskatchewan. Ms. Rigley Macdonald's thesis is focused on the role of glutamine as a neuroprotectant following acute spinal cord injury. Sarah has a number of publications and presentations to her credit and is the recipient of a CIHR Scholarship and University Scholarship. Ms. Rigley Macdonald is also very active in teaching within the Dept. and as past-president of the Graduate Students Association of the CAANCB has played an integral role in promoting graduate affairs within the Association. Congratulations to Sarah Rigley Macdonald!

Research Publication Award

This award is presented to a graduate student who is either sole author or senior author of an article judged to be the most outstanding publication of original research in the field of anatomy, neurobiology or cell biology within the past year. This award is sponsored jointly by the CAANCB/ACANBC Chairs.

The winner of the award for 2007 is: **Matthew P. Mount**, Dept. of Cellular and Molecular Medicine, University of Ottawa. His publication was: Mount MP, Lira A, Grimes D, Smith PD, Faucher S, Slack R, Anisman H, Hayley S, Park DS. Involvement of interferon-gamma in microglial-mediated loss of dopaminergic neurons. **J. Neurosci. 27: 3328-3337. 2007.**

Congratulations to Matthew P. Mount!

Travel Awards

Two travel awards are available to help graduate students in anatomy, neurobiology and cell biology defray travel expenses to attend the CFBS meeting to present their poster. These awards are sponsored by the CAANCB/ACANBC Chairs.

The winners of the travel awards for 2007 were: **Aleksandra Glogowska**, Dept. Human Anatomy and Cell Science, University of Manitoba and **Jeff Leiter**, Dept. Human Anatomy and Cell Science, University of Manitoba. Congratulations to Aleksandra Glogowska and Jeff Leiter!

C.P. Leblond Research Presentation Awards

Two awards are given to graduate students presenting the best platform presentations at the annual meeting. This award is sponsored by the CAANCB/ACANBC Chairs.

The winners of the awards for 2007 were:

Aleksandra Glogowska, Dept. Human Anatomy and Cell Science, University of Manitoba for her presentation titled: *Proepidermal Growth Factor Cytoplasmic Domain Affects Growth Of Human Thyroid Carcinoma By A Process Involving Proteasomal Degradation.*

&

Jeff Leiter, Dept. Human Anatomy and Cell Science, University of Manitoba. For his presentation titled: *Changes In Structure, Stem Cell Activation and Gene Expression In Skeletal Muscle With Age.*

Congratulations again to Aleksandra Glogowska and Jeff Leiter!

**Congratulations to all
CAANCB Award Winners!**

Mentorship Program

*Coordinated by Emma Turner,
University of Saskatchewan*

One of the goals of the graduate society is to facilitate networking between professors and graduate students. This mentorship program will help professors in the search for hard-working graduate students to join their lab, as well as help graduate students in finding compatible supervisors and positions in which they will thrive.

These connections made across the country can allow a greater forum for discussion between students and professors, possibly resulting in future research collaborations.

It is the hope of this committee that mentors will provide their students with valuable advice concerning both their career and academic goals. Many individuals find balancing their personal and professional lives difficult, especially young academics who are beginning a family while early in their careers.

**INTERESTED IN THE PROGRAM? WE ARE
LOOKING FOR PROFESSORS AND
STUDENTS WHO WOULD LIKE TO BE
MATCHED AND PEOPLE TO HELP
COORDINATE THIS PROGRAM**

To download the application forms please visit our website at:

<http://caanbc.googlepages.com/mentorship>

and click on the appropriate link.

Once applications are completed please forward them to CAANCB-GS@gmail.com.

Questions? Need more info?

PLEASE CONTACT US AT

CAANCB-GS@gmail.com

Faculty Member Perspective

Looking Back, Looking Forward

*By Jean A Paterson, M.Sc. Ph.D.
Senior Scholar, Department of Human Anatomy and
Cell Science, University of Manitoba*

This month of July finds me trying to retire from my career as an academic anatomist. It is not possible to do this overnight, I am discovering. I have to learn all over again to go outdoors and go for a walk, before I sit down at the computer. This transitional time is a time of reflection too. What would I tell others who are at early stages of a university career in research and teaching?

Perhaps the most important advice that I could offer is to keep your faith in yourself. If you are sure that you enjoy that constant search for new pieces of evidence in a big scientific puzzle, don't give up too easily, despite the discouraging comments that come with a rejected manuscript or grant application. Winnow out the grains of good criticism and discard the chaff. There will be a lot of chaff. If you can't tell the difference, then seek advice from a senior scientist.

Also important is to keep honing your ability to focus on one task, or on one puzzle at a time. The temptation to "run madly off in all directions" is always there. If the distractions come to you because you cannot apply yourself to the task at hand, then question whether or not you are in the right career. (There is no shame in changing careers.) If the distractions are being imposed on you by colleagues, and you are unable to reply by saying "not this year, please ask me again next year", that is another common situation. Each person has to balance being a good citizen to his colleagues with protecting his time for his own responsibilities to his work.

At a time-management workshop that I attended when I was an assistant professor, we were advised to use a message machine on our telephones with an abrupt message

on it (one that only Donald Trump would dare to use). A decidedly non-collegial message, it provoked one professor to say "we can't shut out all our colleagues like that, because 'Academe is a hierarchy masquerading as a democracy!'"

The advent of email has made this "access dilemma" easier to solve. Medical and grad students, (and some colleagues) appreciate being welcomed to your email world, and receiving your responses. Students of all types add the leavening of humanity to the dough of daily work, and should be treasured for this reason.

My thesis supervisor for 6 years and two theses was Dr C. P. Leblond. He valued honesty, and that included lab results that were recorded in as exact a form as could be done. He patiently tried to teach me to adapt my habits to productive outcomes. For example, being a night owl in study habits, I was able to accept work that took late hours (for example, monitoring the well-being of rats that had received experimental treatment earlier in the day), as long as I was allowed to arrive at 10 am the next morning! We agreed on that timetable, since discipline in work habits was more important than my pretending to be awake at 8 am. These lessons in honesty and discipline have stayed with me. In honour of his mentorship, I write about them for you.

CAANCB ANCHOR IMAGING CONTEST! (Have you entered yet?)



See Page 2 for full details!

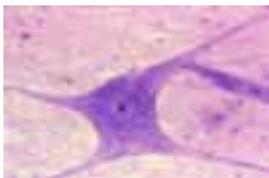
The Science Skinny

by Heather Angka, Dalhousie University

Cell

For some time now I have wanted to write an article dedicated to all those Cell Biologists out there patiently waiting for me to delve into the world of the cell. But where to begin and what to say? Goodness knows there should be plenty to write on the subject. I mean, where would we be without cells? For one, without cells, the *in vitro* folks would be out of a job! Just imagine all those people now trying to take over the research projects we have all been methodically trudging through for so long. For another, we would not be alive. Anyone who is anyone can tell you that the essential constituent of life is, in fact, the cell. Any living thing is either a cell or is made up of cells. Even the death of cells is a crucial factor in maintaining life on earth. So I decided that I would go ahead and write an article dedicated to this basic unit of life.

I thought I would focus on the 2% of instances of amyotrophic lateral sclerosis (ALS) – the disease that affects neurons and skeletal muscle - that are due to mutations in Cu/Zn superoxide dismutase (SOD1). I could then elaborate on the fact that since both sporadic (90% of cases) and familial (10%; inherited in a dominant manner) ALS affects the same neurons with similar pathology and that it is the hope that therapies effective in mutant SOD1 models will translate to sporadic ALS. But then I thought ‘am I narrowing the scope of this story, this dedication to the cell and its biologists, by focusing only on this small aspect of a much larger picture?’

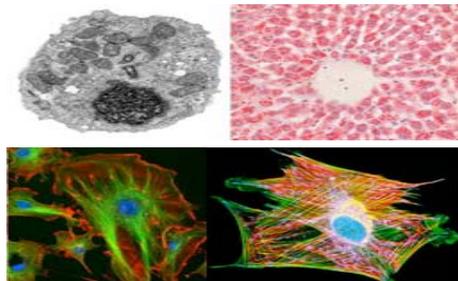


Upon further reflection, I realized that there was an array of fascinations that would be

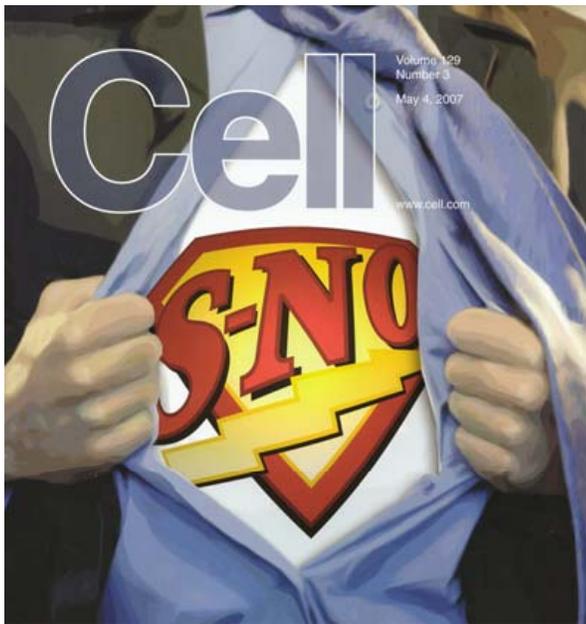
neglected if I forged on addressing just one of the many problems facing the motor

neurons of the central nervous system. In the human intestinal system alone there exists a hugely impressive myriad of cell types. The pepsin enzyme secreting Chief Cells of the stomach, Kupffer Cells – the liver’s macrophages, the intestinal crypt-dwelling Paneth Cells, and those wonderful fried-egg-shaped HCl-producing Parietal Cells, without which our food would be partially undigested and our vitamin B₁₂ unabsorbed. And what about Goblet Cells? Those clear and lovely, easy to identify, friendly little goblet shaped cells – do we just take those for granted these days, forgetting that our intestines would be afire without those puppies secreting their mucus?

And what about the cells making up other organ systems? Take, for example, the ever-illusive type II pneumocyte of the lung or those stubbornly non-reproducing cardiac muscle cells, two cells we simply could not live without - not to mention the cells of the immune system or the non-nucleated red blood cells. We must be aware though that we constantly focus on the glamorous, such as the elite members of the central nervous cell population, and must not forget to address all of those cells that are living out there alone as unicellular beings; who doesn’t love the adorable little ciliated protozoan, the Paramecium? (Okay, we all saw that one coming.) After all, where would



Intro to Cell Biology courses be without this and the astounding amoeba with all its survival tricks? And who can forget the plant cell with which first contact was made: the cork cell that reminded its observer of the rooms (or cells) monks inhabited. And please, don’t even get me started on cell cycles and circadian clocks.

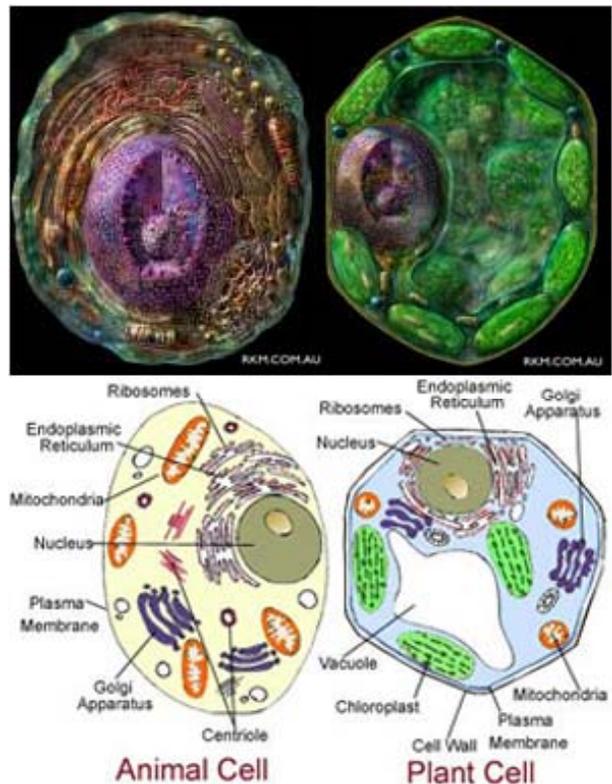


And yet, despite all this brilliance and necessity, it seems cells are always getting a bad rap. For example, I ask you this: is cancer “just cells behaving badly”, as Dr. Alan Hall would have you believe, or are we just not hearing the full story? What about air pollution? I’m not convinced. Let us wait to hear the rest of the story before pointing our non-zinc fingers. [In case you are wondering, I purposefully neglected to mention all of those self-sacrificing cells living in Petri dishes. They, it would seem, are even more dedicated than their *in vivo* counterparts to the good of the whole (the living organism) – what do they do in there all day? It really makes you think about how far our implementation of ethics in research still has to go.]

I recently had the pleasure of watching Friedman and Brunet’s film “Death by Design” (the cell-biology-textbook film equivalent of Hollywood’s “Pulp Fiction”) and highly recommend it to anyone interested in a creative and visually stimulating ride



through the land of cells; it turns out we humans are more like cells than one might possibly imagine. Just like us, cells communicate in a variety of ways, they depend on one another, they kill each other (sometimes the killing process is simply aided by other cells such as the non-neuronal neighboring cells that enhance damage to the dying motor neuron via an inflammatory response that accelerates disease progression in ALS caused by mutation of SOD1...pew), cells reproduce, and coordinate important functions (transcribing and translating DNA, synthesizing proteins, engulfing waste - if only we could all be so coordinated!). All of this is done to sustain life on our planet. I guess it makes sense that we should be so similar, in function, to the cell since we are, after all, made of billions of these things!



Oh! I almost forgot, has anyone else seen the May 4, 2007 edition of *Cell* showing the new design of Superman’s outfit, which now reads “S-No” (the new hero in the fight against heart and lung disease)!? It just shows how big cells are these days (though

still impossible to see well without the aid of a microscope); Superman posed for them! I guess this helps to explain the intense scrutiny; it comes with any form of fame.

Some days I wake up and simply thank the stars I work in a developmental lab and have the opportunity to investigate cells that are still in transition – graduating into what they will soon become. Development really is the perfect opportunity to observe the highly choreographed dance that occurs between the birth and death of cells. It's very similar to a ballet performance where life really *is* the stage (it always seems to come back to Shakespeare). I am not investigating anything as exciting as the initial stages of embryology – when two separate haploid cells become one diploid and then many, many diploids (the morula, or mulberry, 16 cell stage is secretly my favorite – I know, how unoriginal!). However, I do examine cell survival during programmed cell death (PCD) in the developing nervous system and can attest to the fact that there's nothing nicer than sitting down with a fresh cup of coffee to count some successfully labeled dorsal root ganglion proprioceptive neurons

first thing on a Monday morning.

All kidding aside, ALS is a very serious disease with devastating outcomes. Fortunately, millions of researchers are looking into the matter - some investigating mitochondrial dysfunction, others addressing the idea of insufficient trophic support, and still others examining premature PCD. All efforts are being made to help the compromised cells to stay alive and well.

As for the article...well, I'm rather indecisive and so I'm still thinking about it. I do know that someday, I would love to write an article paying homage to the cell.

Links:

Live cells in action: <http://www.cellsalive.com/>

Death by design: http://www.frif.com/cat97/a-e/death_by.html

review article on ALS:

http://nicodev.com/heather/caancb/boillee_2006.pdf

images by Russell Kightley Media: Scientific Illustration:

<http://www.rkm.com.au/CELL/>

also check out:

www.RnDSystems.com/go/2006somiteposter

histology websites:

<http://www.siumed.edu/~dking2/index.htm>

<http://www.bu.edu/histology/m/index.htm>