

## JGH Foundation gala honouring Azrielis raises \$2 million for stem cell research

A gala hosted by the JGH Foundation to honour the Azrieli family and the Azrieli Foundation succeeded in raising over \$1 million, which will be matched by the Azrieli Foundation to establish the Azrieli-LDI Director's Research Fund, to be used to support stem cell research.

"This new Fund will greatly enrich the LDI's further development of stem cell research, an increasingly important area of health care and treatment," said Dr. Roderick McInnes, Director of the Lady Davis Institute. "Stem cell therapies offer the hope of replacing damaged cells and some are already in clinical use, particularly bone marrow transplantations, which are a form of stem cell therapy. This research holds promise for the treatment of degenerative diseases, such as muscular dystrophies and some neurological degenerations such as those affecting the retina. The Fund will allow the LDI to enhance the research of our current stem research group and to recruit young leaders in this field."

The LDI has a robust program in molecular and regenerative medicine that now includes five investigators who are exploring mechanisms underlying how adult stem cells regenerate muscle, and are key to the development and treatment of drug resistance in some cancers.

The Azrieli Foundation has been an important supporter of the Jewish General Hospital. Their \$20 million gift provided the Hospital with the resources to inaugurate the Azrieli Heart Centre in September 2017. The Centre is providing best of class heart care for the people of Quebec. The Azrieli Foundation also gifted the JGH with resources for a new intensive care facility and a fellow's program to train young physicians. Their combined \$26 million gift ranks as one of the most generous acts of philanthropy in the history of the JGH.

The LDI and the JGH Foundation are grateful for the support of its sponsors and contributors. We cannot thank enough Stephanie, Sharon, Rafi, Naomi and Danna Azrieli, as well as the evening's lead sponsor, Richard Pilosof (RP Investments Advisors). Special thanks also go to the many individuals, companies and groups whose generosity and commitment contributed to making the annual JGH Foundation Gala extraordinary.



**Seated in front (left to right), Stephanie Azrieli and Danna Azrieli. Standing in back, Sharon Azrieli, Naomi Azrieli, and Myer Bick, outgoing CEO of the JGH Foundation**

## Lady Davis Institute founding member of Montreal Cancer Consortium

In order to generate new advances in personalized and precision medicine for cancer patients in Montreal, the Segal Cancer Centre and LDI at the Jewish General Hospital have joined with the Centre de recherche du Centre hospitalier de l'Université de Montréal, Goodman Cancer Research Centre (GCRC), Centre de Recherche Hôpital Maisonneuve-Rosemont, Institute for Research in Immunology and Cancer, McGill University, the Université de Montréal, Génome Québec Innovation Centre, and the Research Institute of the McGill University Health Centre to form the Montreal Cancer Consortium (MCC).

The MCC will receive \$6.5 million over the next two years. The Terry Fox Research Institute (TFRI) is providing \$2 million and Oncopole, Genome Québec, GCRC, and Institut du Cancer de Montréal are among several other co-funders.

"Integrating our efforts will allow us to offer more patients access to the most innovative clinical trials," explained **Dr. Gerald Batist**, Director of the Segal Cancer Centre, "and it will give clinicians and scientists larger pools of biopsies and blood samples to enrich our data bases with additional genomic and proteomic information about how patients are responding to different therapies, which will help us generate new insights into cancer biology."

Researchers will develop immunotherapies, a new strategy that harnesses an individual's immune system to fight cancer that has shown impressive results for some patients. Focusing initially on projects in melanoma, led by Dr. Wilson Miller, and acute leukemia, led by Dr. Sarit Assouline, the MCC will leverage the knowledge gained to target other cancer types.

The MCC will gather data from more than 18,000 patients annually and more than 50 ongoing precision medicine and immunotherapy clinical trials. The hope is to identify new biomarkers and novel targets that will respond to immunotherapy treatments.

For the TFRI, the launch of this consortium marks a step forward in accelerating precision medicine for all Canadians. The MCC is the third pilot project TFRI has funded as part of its strategy to form a pan-Canadian network of linked cancer centres from coast to coast.

## LDI Researchers awarded CIHR Project Grants

Six researchers from the LDI received Project Grants in the latest round of funding from the Canadian Institutes of Health Research (CIHR).

**Dr. Michael Witcher** received funding for two projects: *Oncogenic activity of poly (ADP-ribose) polymerase* (five years, \$665,550); and *Epigenetic characterization and therapeutic targeting of cancers harboring dysfunctional CTCF* (five years, \$726,750).

Other recipients were:

- **Dr. Colin Crist** for *Selective Translation of mRNA Regulates Muscle Stem Cell Activity* (five years, \$657,900);
- **Dr. Konstantinos Pantopoulos** for *Iron and inflammatory regulation of hepcidin: implications for anemias and infectious diseases* (five years, \$956,250);
- **Dr. Hyman Schipper** for *Role of HO-1 in Aging and Parkinsonian Neural Tissues* (three years, \$481,950);
- **Dr. Ian Shrier** for *Determining a safe way to increase physical activity without getting injured* (three years, \$383,648).

**Dr. Phyllis Zelkowitz** is the co-principal investigator for *Transition to parenthood: realistic sleep-related expectations as a protective factor for mothers' and fathers' mental health* (five years, \$353,203).

The American Association for Cancer Research (AACR) announced the appointment of **Dr. Michael Pollak** as co-editor-in-chief of *Cancer Prevention Research*, which publishes original preclinical, clinical, and translational research on the biology of premalignancy, risk factors and risk assessment, early detection research, and chemopreventive interventions, including the basic science behind these areas.

## Howard Chertkow joins Baycrest in Toronto

**Dr. Howard Chertkow** has joined Toronto's Baycrest Health Sciences as Chair of Cognitive Neurology and Innovation and Senior Scientist at the Rotman Research Institute. During his distinguished career at the Lady Davis Institute at the Jewish General Hospital and McGill University, he established himself as a Canadian and international leader in research, diagnosis, and treatment of neurodegenerative disease.

Since 2014, he has served as Scientific Director of the Canadian Consortium on Neurodegeneration in Aging (CCNA), a national initiative to accelerate progress against age-related neurodegenerative diseases.

"Howard is one of Canada's most accomplished neuroscience clinician-researchers, as well as being an outstanding leader, as demonstrated by his position in the highly successful CCNA, which has created a national Alzheimer disease research network and played a major role in Canada's strategy for addressing the growing problem of neurodegeneration in an aging population," said Dr. Roderick McInnes, Director of the Lady Davis Institute. "Howard's move to Baycrest and the University of Toronto is a compliment not only to him, but to the Lady Davis Institute, the Jewish General Hospital, and McGill University. Of course, his departure is a great loss for all of us, but it is a testament to his achievements that he attracted the attention of as fine an institution as Baycrest. I know his research will continue to benefit all of Canada."



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## Meaning-making for patients with advanced cancer

The challenges of mortality and determining the meaning of one's life must eventually be faced by everyone. A cancer diagnosis forces this reckoning unexpectedly, and often prematurely. **Dr. Melissa Henry**, a psychologist with the Louise Granofsky Psychosocial Oncology Program at the Segal Cancer Centre, and **Dr. Robin Cohen**, a senior investigator at the LDI, are recruiting patients newly diagnosed with advanced cancer for a clinical trial of a meaning-making intervention to test its effect on their adjustment to, and coping with, end of life issues.

"We want to determine what helps patients adapt to the life changes brought about by an advanced cancer diagnosis," said Dr. Henry. "Health care generally focuses on the physical needs brought on by disease, but the emotional, social, and spiritual dimensions also require attention. As people deal with new limitations on their bodies, they become anxious over existential concerns and making sense of what it means to have lived, their legacy, regrets, relationships."

Meaning-making – that is, to discover the meaning of one's life in the face of a difficult prognosis – can afford the skills necessary to take advantage of the moments one has in the present while readjusting to the idea of a future that may be attenuated.

Dr. Henry is recruiting 471 patients to participate in a randomized controlled trial. To qualify, one must be over 18, diagnosed within the preceding two months with a stage 3 or 4 cancer, and still be able to care for most of one's personal needs, with occasional assistance if required. Participants will either be assigned to usual care (the control group), meet with an empathic listener, or receive the intervention from a trained psychotherapist or social worker (exact details of the intervention are withheld to prevent bias).

To participate in the trial or refer a patient, please contact Maggie Costa at 514-340-8222 ext. 26756 or [margarida.costa@mail.mcgill.ca](mailto:margarida.costa@mail.mcgill.ca).

"We expect that people meeting the empathic listener will benefit as well," she said. "It can be difficult to find an objective, empathic listener in one's life because those closest to the patient become, emotionally involved and don't always quite know how to react."

## Challenges of geriatric psychiatry: mind-body interventions

It is projected that, by 2030, more than 50% of people contending with mental health issues will be over the age of sixty. This signals a growing need for better understanding of, and new approaches to, treating and preventing disorders such as late-life depression, anxiety, and dementia.

“As people experience loss, grief, role changes, and physical illnesses, they are vulnerable to mental health problems,” says **Dr. Soham Rej** of the Institute for Community and Family Psychiatry. “Generally, if someone can cope with something as traumatic as the death of a spouse within a couple of months without loss of function, they probably don't have a disorder. But, if someone gets to the point where they never go out, are constantly sad, and/or have suicidal thoughts, we are really speaking about a health problem.”

Dr. Rej is experimenting with meditation and other mind-body interventions. His Geriatric Mood Disorders Mind-Body Intervention ([GeriPARTy](#)) research team has embarked on clinical trials and programs of mindfulness-based cognitive therapy (MBCT), transcendental meditation, and tai chi; interventions that are offered in a group setting. “We teach methods of meditation and how to apply that wisdom in daily life,” he explained. “Patients learn to be less reactive and more accepting of themselves and others. We've seen an average 30% to 50% reduction in depression/anxiety symptoms in a typical 8-to-12-week program, which is comparable to the effects of antidepressant medications or one-on-one psychotherapy.”

Older adults often prefer non-pharmacological interventions: many already take multiple medications, which can have adverse interactions. Furthermore, it can be challenging to get access to psychotherapists.

Dr. Rej adds, “When patients take an active role in their health care, it can lead to better outcomes. The more we can accomplish by treating and ultimately preventing mental health disorders in older adults through scalable, cost-effective, group non-pharmacological interventions, like meditation and exercise, the better.”

Patients are currently being recruited for participation in meditation, mindfulness, Tai Chi, and exercise programs for mental health at the JGH/CIUSSS-CO and other parts of Montréal.

## Samy Suissa pens editorial questioning new treatment regimen for COPD

**Dr. Samy Suissa** co-authored an editorial with Dr. Jeffrey Drazen, the editor-in-chief of the [New England Journal of Medicine](#), questioning the validity of a clinical trial that favoured so-called triple therapy to treat chronic obstructive pulmonary disease (COPD).

While current guidelines issued by the Global Initiative for Chronic Obstructive Lung Disease (GOLD) have consistently recommended long-acting inhaled bronchodilators — long-acting muscarinic antagonists (LAMAs) or long-acting inhaled beta-agonists (LABAs) — as initial maintenance therapy, the IMPACT (Informing the Pathway of COPD Treatment) study proposed including inhaled glucocorticoids in a single inhaler with LAMAs and LABAs. GOLD guidelines recommend that inhaled glucocorticoid be limited to patients with severe loss of lung function and those suffering frequent disease exacerbations. Inhaled glucocorticoid treatment is controversial because of their modest effectiveness and concerns about safety, particularly the risk of pneumonia.

“The IMPACT study ended up confusing the debate because it was poorly designed by including patients already being treated with inhaled glucocorticoids, and some with a history of asthma, which could have artificially inflated the observed effectiveness of the triple-therapy inhaler over dual bronchodilator treatment,” Dr. Suissa said.

Dr. Suissa calls the results into question, concluding that clinicians should adhere to existing GOLD recommendations until further evidence is gathered. He makes the point that it is quite rare for a journal to publish an editorial directly critical of a study that it published, adding, “Dr. Drazen and I agreed that it was important to be particularly candid and intellectually rigorous when we assess scientific work with so much potential impact on patient care.”

### SAVE THE DATE

The 3<sup>rd</sup> International Conference on Stem Cells, Development and Cancer will be held at McGill's New Residence Hall, October 18-19. Dr. Colin Crist is among the organizers.

[Click here for further details and to register.](#)



## Selected Bibliography of Papers from the Lady Davis Institute (July—August 2018):

### Cancer

#### [SHLD2/FAM35A co-operates with REV7 to coordinate DNA double-strand break repair pathway choice.](#)

Findlay S, Heath J, Luo VM, Malina A, Morin T, Coulombe Y, Djerir B, Li Z, Samiei A, Simo-Cheyrou E, Karam M, Bagci H, Rahat D, Grapton D, Lavoie EG, Dove C, Khaled H, Kuasne H, Mann KK, Klein KO, Greenwood CM, Tabach Y, Park M, Côté JF, Masson JY, Maréchal A, **Orthwein A**. EMBO J. 2018 Aug 28. pii: e100158. doi: 10.15252/embj.2018100158.

#### [Oncogenic kinases and perturbations in protein synthesis machinery and energetics in neoplasia.](#)

Uchenunu O, Pollak M, Topisirovic I, **Hulea L**. J Mol Endocrinol. 2018 Aug 2. pii: JME-18-0058. doi: 10.1530/JME-18-0058.

#### [Loss of PRMT5 Promotes PDGFR \$\alpha\$ Degradation during Oligodendrocyte Differentiation and Myelination.](#)

Calabretta S, Vogel G, Yu Z, Choquet K, Darbelli L, Nicholson TB, Kleinman CL, **Richard S**. Dev Cell. 2018 Aug 20;46(4):426-440.e5. doi: 10.1016/j.devcel.2018.06.025.

#### [PARP3 inhibitors ME0328 and olaparib potentiate vinorelbine sensitization in breast cancer cell lines.](#)

Sharif-Askari B, Amrein L, Aloyz R, **Panasci L**. Breast Cancer Res Treat. 2018 Jul 23. doi: 10.1007/s10549-018-4888-6.

#### [Immuno-MALDI-TOF-MS in the Clinic.](#)

Zahedi RP, Parker CE, **Borchers CH**. Clin Chem. 2018 Sep;64(9):1271-1272. doi: 10.1373/clinchem.2018.292136.

#### [Peroxisomes and Cancer: The Role of a Metabolic Specialist in a Disease of Aberrant Metabolism.](#)

Dahabieh MS, Di Pietro E, Jangal M, Goncalves C, Witcher M, Braverman NE, **Del Rincón SV**. Biochim Biophys Acta. 2018 Jul 13. pii: S0304-419X(18)30053-2. doi: 10.1016/j.bbcan.2018.07.004.

#### [Validation of a proteomic biomarker panel to diagnose minor-stroke and transient ischaemic attack: phase 2 of SpecTRA, a large scale translational study.](#)

Penn AM, Bibok MB, Saly VK, Coutts SB, Lesperance ML, Balshaw RF, Votova K, Croteau NS, Trivedi A, Jackson AM, Hegedus J, Klourfeld E, Yu AYY, Zerna C, Modi J, Barber PA, Hoag G, **Borchers CH**; SpecTRA study group. Biomarkers. 2018 Aug 23:1-11. doi: 10.1080/1354750X.2018.1499130.

#### [65 YEARS OF THE DOUBLE HELIX: Endocrine tumour syndromes in children and adolescents.](#)

Goudie C, Hannah-Shmouni F, Kavak M, Stratakis CA, **Foulkes WD**. Endocr Relat Cancer. 2018 Aug;25(8):T221-T244. doi: 10.1530/ERC-18-0160. Review.

### Epidemiology

#### [Assessment of the genetic and clinical determinants of fracture risk: genome wide association and mendelian randomisation study.](#)

Trajanoska K, Morris JA, Oei L, Zheng HF, Evans DM, Kiel DP, Ohlsson C, **Richards JB**, Rivadeneira F; GEFOs/GENOMOS consortium and the 23andMe research team. BMJ. 2018 Aug 29;362:k3225. doi: 10.1136/bmj.k3225.

[Glucagon-Like Peptide-1 Receptor Agonists and the Risk of Incident Diabetic Retinopathy](#). Douros A, Filion KB, Yin H, Yu OH, Etmann M, Udell JA, **Azoulay L**. Diabetes Care. 2018 Aug 27. pii: dc172280. doi: 10.2337/dc17-2280.

[Domperidone for insufficient lactation in England 2002-2015: A drug utilization study with interrupted time series analysis](#). Mehrabadi A, Reynier P, Platt RW, **Filion KB**. Pharmacoepidemiol Drug Saf. 2018 Aug 14. doi: 10.1002/pds.4621.

[Looking further when symptoms are disproportionate to physical findings](#). **Shrier I**, Morrison DR, Hawkes R. Med Sci Sports Exerc. 2018 Aug 7. doi: 10.1249/MSS.0000000000001744.

[Promoting the health of migrants; what is the role of the travel medicine community?](#) **Greenaway C**. J Travel Med. 2018 Jul 30. doi: 10.1093/jtm/tay060.

[Sulfonylureas as second line drugs in type 2 diabetes and the risk of cardiovascular and hypoglycaemic events: population based cohort study](#). Douros A, Dell'Aniello S, Yu OHY, Filion KB, Azoulay L, **Suissa S**. BMJ. 2018 Jul 18;362:k2693. doi: 10.1136/bmj.k2693.

[Synthesizing Risk from Summary Evidence Across Multiple Risk Factors](#). **Shrier I**, Colditz GA, **Steele RJ**. Epidemiology. 2018 Jul;29(4):533-535. doi: 10.1097/EDE.0000000000000820.

## Molecular & Regenerative Medicine

[Short Link N promotes disc repair in a rabbit model of disc degeneration](#). **Mwale F**, Masuda K, Grant MP, Epure LM, Kato K, Miyazaki S, Cheng K, Yamada J, Bae WC, Muehleman C, Roughley PJ, **Antoniou J**. Arthritis Res Ther. 2018 Aug 29;20(1):201. doi: 10.1186/s13075-018-1625-9.

[Selective resistance profiles emerging in patient-derived clinical isolates with cabotegravir, bictegravir, dolutegravir, and elvitegravir](#). Oliveira M, Ibanescu RI, Anstett K, Mésplède T, Routy JP, Robbins MA, **Brenner BG**; Montreal Primary HIV (PHI) Cohort Study Group. Retrovirology. 2018 Aug 17;15(1):56. doi: 10.1186/s12977-018-0440-3.

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[Cis-regulatory determinants of MyoD function](#). **Soleimani VD**, Nguyen D, Ramachandran P, Palidwor GA, Porter CJ, Yin H, Perkins TJ, Rudnicki MA. Nucleic Acids Res. 2018 Aug 21;46(14):7221-7235. doi: 10.1093/nar/gky388.

[The sinister face of heme oxygenase-1 in brain aging and disease](#). **Schipper HM**, Song W, Tavittian A, Cressatti M. Prog Neurobiol. 2018 Jul 28. pii: S0301-0082(18)30055-8. doi: 10.1016/j.pneurobio.2018.06.008.

[Malnutrition and Mortality in Frail and Non-Frail Older Adults Undergoing Aortic Valve Replacement](#). Goldfarb M, Lauck S, Webb JG, Asgar AW, Perrault LP, Piazza N, Martucci G, Lachapelle K, Noiseux N, Kim DH, Popma JJ, Lefèvre T, Labinaz M, Lamy A, Peterson MD, Arora RC, Morais JA, Morin JF, Rudski L, **Afilalo J**; FRAILTY-AVR Investigators. *Circulation*. 2018 Jul 5. pii: CIRCULATIONAHA.118.033887. doi: 10.1161/CIRCULATIONAHA.118.033887.

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## Psychosocial Aspects of Disease

[The healthy migrant effect and predictors of perinatal depression](#). King L, Feeley N, Gold I, Hayton B, **Zelkowitz P**. *Women Birth*. 2018 Aug 22. pii: S1871-5192(18)30094-5. doi: 10.1016/j.wombi.2018.07.017.

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