

The Louis and Artur Lucian Award in Cardiovascular Diseases at McGill University

Jacques Genest, Terence E. Hébert, James Martin

Philanthropy is often the life blood of academic institutions. Perhaps one of the most important and lasting contributions an individual can make takes the form of a university endowment. Dr Ronald V. Christie, Chief of the Department of Medicine and, subsequently Dean of the Faculty of Medicine at McGill University (1964–1972), met Dame Olga Leibovici, a wonderful philanthropist. After long discussion, she bestowed in her will in 1965, the sum of US \$2 million to McGill University to establish the Louis and Artur Lucian Award for Research in Circulatory Diseases. Mme Leibovici wanted to honor and remember her brothers, Louis and Artur (Ing.), both engineers (ingénieurs, in French); their ashes are preserved in the columbarium of the Cimetière Père Lachaise in Paris, France. The award provisions were put in place after she died in 1974.

It fell to Dr Christie's successor, Dr Patrick Cronin, Dean (1972–1977) to bestow the first Lucian Award of \$50 000 Canadian to Drs Nicolae Simionescu, MD, and Maya Simionescu, PhD, of Bucharest and Yale University, for their outstanding work on cellular biology and atherosclerosis in 1978.

The terms of her will stated that: "...Seventy percent of the income fund will obligatorily be used to create an award named 'Louis and Artur Lucian (certified Engineers)' awarded annually by a jury nominated by the University for the best work published in the past year anywhere in the world RELATED TO DISEASES OF THE CARDIOVASCULAR SYSTEM" (Figure). Furthermore, "The Awardees will be scrupulously selected according to merit from any country, without regard to race, religion or nationality. The Jury has the right to share this award between two or more recipients or to defer giving the Award the next year or even two if judged appropriate."

We can now look back, >50 years later, on how this kind gift and carefully planned act of generosity has benefitted McGill University, cardiovascular research and researchers, students and faculty, particularly in Canada.¹

The Lucian Award currently gives \$60 000 CAN to the awardee, which is the largest award bestowed by a Canadian university for research in cardiovascular medicine. With careful management of the fund, the committee hopes to increase the award to \$100 000 within the next decade. Researchers across the world have received the award, including just one to date from Canada, Dr Salim Yusuf, MD, PhD, of McMaster University (Table 1).

Researchers from anywhere can be nominated by Deans or Department chairs at their institutions, often on the advice of colleagues from other institutions. The application package includes a letter of nomination, a summary of the research on which the nomination is based, the descriptions the candidate's most significant contributions, a National Institutes of Health-format biographical sketch, the complete curriculum vitae and, importantly, proposed activities during a week-long visit to McGill.²

Approximately 15 applications per year are reviewed, after an initial screening, by the Lucian Award Committee that includes many former awardees. The Lucian Committee is chaired by Dr James Martin, MD, the Chair of the Department of Medicine at McGill University. The review process is thorough and follows the terms of the will (Table 2).

Dane Leibovici's bequest ensures that the McGill community benefits by paying for awardees to spend time at McGill. During the time spent in Montreal, the Awardees are invited to a true professorial visit to deliver lectures and seminars, participate in discussions and laboratory meetings, and forge collaborations with researchers at McGill University and the Université de Montréal. They give keynote lectures at the Faculty of Medicine, at the annual Cardiovascular Research Day and Medical and Cardiology Grand Rounds in the major teaching hospitals. These visits provide students, clinicians, and researchers the opportunity to learn and collaborate with outstanding scientists. Trainees make connections to pursue opportunities for postdoctoral fellowships or faculty positions at world-renowned institutions. The endowment fund also serves to defray the costs of committee meetings, travel, and receptions.

The 2016 Lucian Award winner is Dr Brian Kobilka,³ recipient of the 2012 Nobel Prize in Chemistry, shared with Robert Lefkowitz—a former Lucian Award winner for his discoveries on the structure and function of G-protein-coupled receptors (GPCRs). He is currently a professor in the Department of Molecular and Cellular Physiology at the Stanford University School of Medicine. Dr Kobilka's Lucian Award nomination will be detailed further in this journal—in short, he spent 15 years of his scientific life generating the tools to obtain the crystal structures of mammalian GPCRs, detailing the function of the β_2 -adrenergic receptor at the molecular level. Many thought that the task was impossible including several funding agencies.

The opinions expressed in News & Views are not necessarily those of the editors or of the American Heart Association.

From the Department of Medicine and Pharmacology, McGill University, Montreal, Quebec, Canada.

Correspondence to Jacques Genest, MD, Faculty of Medicine, McGill University, McGill University Health Center/Royal Victoria Hospital, 687 Ave des Pins W, Montreal, Quebec, Canada H3A 1A1. E-mail jacques.genest@mcgill.ca (*Circ Res.* 2016;119:975-977. DOI: 10.1161/CIRCRESAHA.116.309972.)

© 2016 American Heart Association, Inc.

Circulation Research is available at <http://circres.ahajournals.org>

DOI: 10.1161/CIRCRESAHA.116.309972

1) Soixante-dix pour cent (70%) de ces revenus serviront obligatoirement a la création d'un prix annuel denomme "PRIX DIPL. ING. LOUIS LUCIAN ET ARTUR LUCIAN" qu'un jury special nomme par la legataire universelle decernera annuellement pour le meilleur ouvrage ou les meilleurs travaux parus dans l'annee dans n'importe quel pays du monde et SE RAPPORTANT AUX MALADIES DES VOIES CIRCULATOIRES. Le beneficiaire du prix sera choisi scrupuleusement d'apres le merite, de quelque pays qu'il soit et sans distinction de race, religion ou nationalite. Le jury aura le droit de partager ce prix annuel entre deux ou plusieurs beneficiaires ou bien d'ajourner pour l'annee suivante ou meme pour deux annees l'attribution du prix, s'il le jugera a propos.

Figure. Terms of the will bestowing the Lucian Award. Excerpt from the will of the late Olga Leibovici to McGill University for the Creation of the Lucian Award, Courtesy McGill University Faculty of Medicine. Montreal, Quebec, Canada, January 21, 1965: "... Seventy percent of the income fund will obligatorily be used to create an award named "Louis and Artur Lucian (certified Engineers)" awarded annually by a jury nominated by the University for the best work published in the past year anywhere in the world RELATED TO DISEASES OF THE CARDIOVASCULAR SYSTEM. The Awardees will be scrupulously selected, according to merit from any country, without regard to race, religion or nationality. The Jury has the right to share this award between two or more recipients or to defer giving the Award the next year or even two if judged appropriate."

Rewarding Excellence

The mandate of the Lucian award bequest is to "honor outstanding research in the field of circulatory diseases by a scientific investigator or group of investigators whose contribution to knowledge in this field is deemed worthy of special recognition." The ability of the Lucian committee to identify excellence has been highlighted by the designation of 2 former Lucian awardees as Nobel laureates.

Robert F. Furchgott discovered that the dilation of arteries in response to acetylcholine, bradykinin, and other stimuli is dependent on a substance produced by endothelial cells that relaxed arterial smooth muscle. Later, at a 1986 symposium on mechanisms of vasodilation, he identified this endothelium-derived relaxing factor as the free radical nitric oxide, a gas that would go on to be shown as an important and novel biological signaling molecule, but at the time was not even known to be produced by mammalian cells.⁴

Furchgott exemplified the Lucian award mission of only recognizing scientists that remain as active and innovative contributors to cardiovascular research—not those who have made important contributions to their fields but who are no longer active. Tellingly, Furchgott identified nitric oxide as a potent vasodilator at the age of 70 years! When the Lucian Award was bestowed in 1996, he was still doing pioneering research on vascular tone in animals at the age of 80 years. And 2 years later, he shared the Nobel Prize for Physiology and Medicine with Ferid Murad and Louis J. Ignarro, "for their discoveries concerning nitric oxide as a signaling molecule in the cardiovascular system."⁵ This extraordinary discovery has revolutionized our understanding of cardiovascular disease and the control of vascular reactivity. It offered new therapeutic approaches for many conditions such as memory impairment, pulmonary hypertension, and, of course erectile dysfunction.

Robert J. Lefkowitz received the Lucian award in 2000 for his work on GPCRs. This class of proteins is critical in medicine. Half of all medications (alpha and β -adrenergic-blocking drugs, histamine, GABA, 5-hydroxytryptophan receptor antagonists to name a few) act on GPCRs and is the

largest class of drug targets. In 2012, Lefkowitz shared the Nobel Prize in Chemistry with Brian Kobilka, for their "studies of G protein-coupled receptors (GPCRs)."⁶ Lefkowitz postulated the existence of receptors on the cell surface that would mediate a physiological response to specific molecules, for example, to adrenaline. Lefkowitz and Kobilka isolated and sequenced several GPCRs, and it was Kobilka's painstaking work to examine the crystal structure of the β -adrenergic receptor that was a key to unraveling the molecular basis of their actions. They determined that GPCRs were part of a superfamily of proteins involved in signaling using highly specific molecular interactions between ligand and GPCR. Such interaction produces conformational changes, leading to downstream intracellular events.

Lefkowitz continues his work on GPCRs to design ligands that act in a highly specific manner to obtain a therapeutic benefit, while limiting unwanted side effects.

McGill was privileged to receive Dr Jeffrey Molkentin, 2015 Lucian awardee.⁷ Molkentin from Cincinnati visited McGill in May 2016. During his visit, he delivered a Lucian award lecture, gave Grand Rounds at McGill University Hospital Center, at the Jewish General Hospital and the Montreal Heart Institute, responded to presentations from student researchers at the McGill Cardiovascular Research Day, visited several laboratories, and spent time with cardiology residents and fellows, as well as senior researchers and clinicians. Importantly, a tradition of shared meals alone with students and cardiology fellows continues to the delight of our trainees.

Philanthropy Begets Altruism

The legacy of Olga Leibovici lives on. By her example, the work of the Lucian award Committee works is a volunteer basis. The difficult process of evaluation, grading, and discussion to select the Lucian Award winner is performed by a Committee made of internationally recognized cardiovascular scientists, many former Lucian Awardees and the rest with a long-standing affiliation with McGill University.

Table 1. Previous Recipients of the Lucian Award

1978	Nicolae and Maya Simionescu	Bucharest and Yale University
1979	James Bassingthwaight	University of Washington
1980	Solbert Permutt	Johns Hopkins University
1981	Gilbert Thompson	Hammersmith Hospital
1982	Christian Crone	University of Copenhagen
1983	Norman Staub	University of California
1984	James and Una Ryan	University of Miami
1985	Earl Wood	Mayo Clinic
1986	Dirk Brutsaert	University of Antwerp
1987	Daniel Steinberg	University of California
1988	Aubrey Taylor	University of South Alabama
1989	Francis Chinard	New Jersey Medical School
	Ian Phillips	University of Florida
1990	Barbara Meyrick	Vanderbilt University
1991	José Jalife	State University of New York, Syracuse
1992	Judah Folkman	The Children's Hospital, Boston
1993	Arthur Brown	Baylor College of Medicine
1994	John B. Barlow	University of Witwatersrand, South Africa
1995	Andrew and Avril Somlyo	University of Virginia, Charlottesville
1996	Robert Furchgott	State University of New York
	Salvador Moncada	University College, London
1997	Russell Ross	University of Washington
1998	Eduardo Marban	Johns Hopkins University
1999	Victor J. Dzau	Harvard Medical School
2000	Robert J. Lefkowitz	Duke University Medical School
2001	Mark C. Fishman	Harvard Medical School
2002	Salim Yusuf	McMaster University
2003	Eric N. Olson	University of Texas Southwestern Medical Center
2004	Roberto Bolli	University of Louisville
2005	Michael A. Gimbrone, Jr	Harvard Medical School
2006	Peter Carmeliet	University of Leuven
2007		Not Awarded
2008	Piero Anversa	Harvard Medical School
2009	Peter Libby	Harvard Medical School
2010	Marlene Rabinovitch	Stanford University School of Medicine
2011	Shaun R. Coughlin	University of California, San Francisco
2012	Garret A. FitzGerald	Perelman School of Medicine, University of Pennsylvania
2013	David Ginsburg	University of Michigan
2014	Jeffrey Robbins	University of Cincinnati College of Medicine
2015	Jeffery Molkentin	University of Cincinnati College of Medicine
2016	Brian K. Kobilka	Stanford University School of Medicine

Table 2. Lucian Award Selection Committee

James Martin, MD, Chair, McGill University, Canada
Roberto Bolli, MD, University of Louisville, USA
Jacques Genest Jr., MD, McGill University, Canada
Terry Hébert, PhD, McGill University, Canada
José Jalife, MD, University of Michigan, USA
Richard J. Novick, MD, University of Western Ontario, Canada
Marlene Rabinovitch, MD, Stanford University, USA
Avril V. Somlyo, PhD, University of Virginia, USA
Duncan J. Stewart, MD, University of Ottawa, Canada
Rhian M. Touyz, MBBCh, PhD, University of Glasgow, United Kingdom

The Canadian Cardiovascular community, McGill University and Colleagues across Montreal owe a debt of gratitude to Dame Leibovici. Her generosity is mirrored by the Margolese National Brain and Heart Disorders Prizes, created by an estate gift to the University of British Columbia by Leonard Herbert Margolese. It was first awarded in 2011 to reward excellence in cardiovascular and brain research (<http://med.ubc.ca/research/prizes/margolese-national-brain-heart-disorders-prizes/>).

The submission process is available on the Lucian Award website (www.mcgill.ca/lucianaward). The next deadline to nominate candidates for the Lucian Award is March 20, 2017.

Disclosures

None.

References

- Genest J. Society News: Fifty years of philanthropy: The Louis and Artur Lucian Award in Cardiovascular Medicine at McGill University. *Can J Cardiol* 2015;31:949–54
- <https://www.mcgill.ca/lucianaward/>. Accessed July 4, 2016
- Ince S. 2016 Lucian Award: Brian Kobilka. *Circ Res*. 2016;119:978–980. doi: 10.1161/CIRCRESAHA.116.309973.
- Furchgott RF, Zawadzki JV. The obligatory role of endothelial cells in the relaxation of arterial smooth muscle by acetylcholine. *Nature*. 1980;288:373–376.
- The Nobel Prize in Physiology or Medicine 1998 – Press Release. http://www.nobelprize.org/nobel_prizes/medicine/laureates/1998/press.html. Accessed July 4, 2016.
- The Nobel Prize in Chemistry 2012 – Press Release. www.nobelprize.org/nobel_prizes/chemistry/laureates/2012/press.html. Accessed July 4, 2016.
- Ince S. 2015 Lucian Award: Jeffery Molkentin. *Circ Res*. 2015;117:498–501. doi: 10.1161/CIRCRESAHA.115.307326.

Circulation Research

JOURNAL OF THE AMERICAN HEART ASSOCIATION



The Louis and Artur Lucian Award in Cardiovascular Diseases at McGill University Jacques Genest, Terence E. Hébert and James Martin

Circ Res. 2016;119:975-977

doi: 10.1161/CIRCRESAHA.116.309972

Circulation Research is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231

Copyright © 2016 American Heart Association, Inc. All rights reserved.

Print ISSN: 0009-7330. Online ISSN: 1524-4571

The online version of this article, along with updated information and services, is located on the
World Wide Web at:

<http://circres.ahajournals.org/content/119/9/975>

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in *Circulation Research* can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the [Permissions and Rights Question and Answer](#) document.

Reprints: Information about reprints can be found online at:
<http://www.lww.com/reprints>

Subscriptions: Information about subscribing to *Circulation Research* is online at:
<http://circres.ahajournals.org/subscriptions/>