

Summary of President's Report (Details in Appendices 1 - 5) – Dr. M. Jamal Deen

Appendix 1

- **Chair of 4 Committees** – Council, Executive Ctee, Program Ctee, New Fellows Selection.
- **Member of RSC** – Executive, Board of Directors, Committee for the Nomination of Officers.
- **PPC** - Established Past Presidents' Council (PPC).
- **Foreign Fellows** - Finalized Academy's guidelines for evaluating Foreign Fellows nominations.
- **Member - Board of Directors of the A.G. Huntsman Award** for Excellence in the Marine Sciences.
- Invited - Reception at Japanese Canadian Cultural Center to celebrate the Birthday of His Majesty the Emperor of Japan, Friday 24 November 2017.
- **Representative of RSC as Academy President** - Royal Society of Canada visit to McMaster University "Nomination and Strategic Planning Session" followed by a "Reception for our Fellows and College Members", Tuesday October 3, 2017
- **Panelist - International Academicians Forum** on "Industry 4.0 and Made in China 2025", Yiwu, Zhejiang Province, China, Tuesday 19 September 2017.
- **Co-organizer - International Academicians Forum** on "Industry 4.0 and Made in China 2025", Yiwu, Zhejiang Province, China, Tuesday 19 September 2017.
- **Press release** - FACETS Endorsed as Official Journal of the Royal Society of Canada's Academy of Science. Appointment highlights new innovative partnership between Canada's National Science Academy and Canada's foremost science publisher. 20 June 2017
- **Special VIP Guest - 120th Anniversary Celebrations of Zhejiang University (ZJU)**, Hangzhou, China, Sunday 21 May 2017.
- **Lunch Meeting** - Mr. Koji Omi, Chigusa Higashida, Consul (Economic Affairs), Consul-General of Japan in Toronto. Friday 24 March 2017.
- **Distinguished Lectures (DLs)** at Conferences, Forums, Workshops – 14 DLs in Brazil, China, Singapore, Thailand, UK.
- **Special Lectures (SLs)** – 14 SLs various Organizations/Universities in China.

Appendix 2

- **Representation** – – PAGSE Meetings in Ottawa; 8 events in past year. Details in Appendix 2.

Appendix 3

- **Committees of Academy III**– Listing of various committees in Academy of Science.

Appendix 4

- **Facets** – Official Journal of the Royal Society of Canada's Academy of Science,

Appendix 5

- **New Fellows Orientation Manual** – Prepared preliminary draft of Orientation manual with Prof. Pekko Sinervo and Prof. Patricia Brubaker, University of Toronto.

Respectfully submitted

M. Jamal Deen PhD DEng-hc Dr-hc Dr-hc Dr-hc
 FRSC FCAE MEASA FNASI FINAE FIEEE FAPS FECS FAAAS FEIC
 President - Academy of Science, Royal Society of Canada (2015-17)
 Distinguished University Professor; Senior Canada Research Chair in Information Technology (11 Nov 2017)

Appendix 1 - pages 2 to 6

Report from the President of Academy of Science Secretary (Jamal Deen) - 2016-2017

As President of the Academy of Science I was actively involved in the following bodies:

1. Chair, Academy of Science Council
2. Chair. Academy of Science Executive Committee
3. Chair. Academy of Science Program Committee
4. Chair. Academy of Science Committee for the Selection of New Fellows
5. Member, RSC Executive
6. Member, RSC Board of Directors
7. Member, RSC Committee for the Nomination of Officers

In addition to the usual responsibilities associated with participating in the above committees and Councils, I was actively involved in the following Academy activities

- “Past Presidents’ Council (PPC)” functioning. First official meeting held at last AGM of RSC. The officers are
Chair: Lawrence A Mysak, lawrence.mysak@mcgill.ca
Secretary: Marie D’Iorio, mdiorio@uottawa.ca
“Visual Archivist”: Keith Hipel, kwhipel@uwaterloo.ca
Next meeting on Saturday 25 November 2017, 3-5 pm, Cambridge Room, AGM in Winnipeg.
- Finalized guidelines for evaluating Foreign Fellows.
 1. Membership/Fellow status in relevant national academy in home country or country of residence, where bodies similar to RSC exists. Election to Fellow status in international and national professional societies serving discipline, e.g. IEEE, APS, ECS, AIChE, AIMBE, etc., if such society exists. Have received national/international honours, awards and prizes.
 2. Scholarly record and interests should demonstrate contributions/relevance to Canadian science and/or technology and should demonstrate exceptional and continuing achievements in original research.
- Working with Past President and Division Directors to populate all committees.
- Interacting with **Partnership Group for Science and Engineering (PAGSE; www.pagse.org)**. Since most meetings are in Ottawa, invited incoming Secretary, Gary Slater of University of Ottawa, to represent our Academy at PAGSE events – he accepted. PAGSE had 7 presentations in 2016-2017 cycle.
- Reported on RSC Council meetings during the year.

Invitations Received and Commitments as President of the Academy of Science.

As President of the Academy of Science and a Research Scholar, I received many invitations to deliver special lectures at International Conferences, Forums and Universities. In the past year, I accepted to participate in the following activities or requested another Fellow to participate as representative of our Academy.

- **2015-2017:** Serving as Member of the Board of Directors of the **A.G. Huntsman Award for Excellence in the Marine Sciences**. Award associated with the Royal Society of Canada <https://rsc-src.ca/en/fellows/medals-awards/rsc-medals-awards#Huntsman>.

Tuesday 28 November 2017: The 2017 award winner is Prof. Jeffrey Hutchings FRSC, Dalhousie University, with ceremony on 28 November 2017. Requested Prof. John Cullen FRSC, Department of Oceanography, Dalhousie University (Chair of 2015 RSC Annual Symposium “Canadian Marine Biodiversity” in Victoria) to attend the ceremony and present the medal.

The AGM of the A.G. Huntsman Foundation will also be held on Tuesday 28 November 2017 from 9:30 am. Requested Prof. John Cullen FRSC, Department of Oceanography, Dalhousie University to attend.
- **Friday 24 November 2017:** Invitation to reception at Japanese Canadian Cultural Center to celebrate the Birthday of His Majesty the Emperor of Japan. This conflicts with our AGM in Winnipeg, so requested **Fellow in Toronto** to represent our Academy.
- **Tuesday 3 October 2017 - Representative of RSC as Academy President** - Royal Society of Canada visit to McMaster University with agenda “Nomination Planning Session”, “Strategic Planning Session” and “Reception for our Fellows and College Members”. Gave speech on behalf of RSC.
- **Tuesday 19 September 2017: Panelist** at **International Academicians Forum** on “**Industry 4.0 and Made in China 2025**”, Yiwu, Zhejiang Province, China.
- **Tuesday 19 September 2017: Co-organizer** of **International Academicians Forum** on “**Industry 4.0 and Made in China 2025**”, Yiwu, Zhejiang Province, China. Two academicians from Canada (Cyril Leung FRSC and myself), another from Australia and three Chinese academicians were keynote speakers.
- **Sunday 21 May 2017: Special VIP Guest**, 120th Anniversary Celebrations of Zhejiang University (ZJU), Hangzhou, China. Wrote special congratulation letter to President Wu Zhaohui of ZJU on behalf of Academy of Science.
- **Friday 24 March 2017:** Scheduled lunch meeting with Mr. Koji Omi, Chigusa Higashida, Consul (Economic Affairs), Consul-General of Japan in Toronto. Mr. Omi is considered one of the most influential figures in science and technology in Japan and was keenly interested in speaking with me. He served several government posts in Japan's Ministry of International Trade and Industry, as well as prominent positions in the cabinet as Minister of Finance, Minister of Science and Technology, Minister of Economic Planning. In 2004 he founded the Science and Technology in Society (STS) forum that takes place in Kyoto every October and is the current chairman Attendance at STS is only by invitation. STS forum aims to build a global network of scientists, business people, policy makers and

journalists to explore opportunities arising from science and technology to remove barriers and solve problems facing humankind.

- **Sunday 21 May 2017: Special VIP Guest**, 120th Anniversary Celebrations of Zhejiang University (ZJU), Hangzhou, China. Wrote special congratulation letter to President Wu Zhaohui of ZJU on behalf of Academy of Science.
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Invitations as President of Academy of Science: Distinguished & Special Lectures

- **Thursday 19 October 2017: RAE Distinguished Visiting Fellowship Award Lecture** - *Smart Sensors and IoT - Research, Trends and Opportunities*, Department of Computer Science, College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, UK.
- **Saturday 23 September 2017: Opening Keynote Speech** on "*Smart Sensors and IoT – Research, Trends and Opportunities*" at **IEEE 5th International Conference on Enterprise Systems (ES2017)** – with theme "**Made in China 2025 and Industry 4.0**". Cyril Leung FRSC also gave a keynote presentation on "*Internet of Moving Things as Enabler of Industry 4.0*".
- **Tuesday 19 September 2017: Panelist** at **International Academicians Forum** on "**Industry 4.0 and Made in China 2025**", Yiwu, Zhejiang Province, China.
- **Tuesday 19 September 2017: Opening Keynote Speaker**, "*Smart Sensors and IoT – Research, Trends and Opportunities*." Forum attended by >300 industry, government and academic leaders. Also gave TV interview on smart sensors, IoT and Industry 4.0.
- **Tuesday 19 September 2017: Co-organizer** of **International Academicians Forum** on "**Industry 4.0 and Made in China 2025**", Yiwu, Zhejiang Province, China. Two academicians from Canada (Cyril Leung FRSC and myself), another from Australia and three Chinese academicians were keynote speakers.
- **Wednesday 13 September 2017: PIFI Distinguished Scientist Award Lecture**, "*Smart Sensor Systems for Ubiquitous Healthcare*", Chinese Academy of Sciences – Institute of Microelectronics, Beijing, China.
- **Tuesday 12 September 2017: PIFI Distinguished Scientist Award Lecture**, "*Smart Sensor Systems for Ubiquitous Healthcare*", Chinese Academy of Sciences – Institute of Electronics, Beijing, China.
- **Monday 4 September 2017: IEEE Electron Device Society Distinguished Lecture**, "*Smart Sensors – Research, Trends and Opportunities*", Departamento de Engenharia de Teleinformática, Universidade Federal do Ceará (UFC), Fortaleza, Brazil.

- **Wednesday 16 August 2017: Keynote Lecture**, “Nano-Optoelectronic Systems for Health Applications,” **NTU-MediaTek IC Design Workshop**, Nanyang Technological University, Singapore.
- **Thursday 19 July 2017: Opening Keynote Speaker**, “Unprecedented Vision: From Quantum Dots to Silicon Imagers,” **Annual Workshop – 111 Project Base of Wide Band-gap Semiconductor and Micro-Nano-Electronics**, Xidian University, Xian, China.
- **Tuesday 18 July 2017: Keynote Lecture**, “Smart Sensors for Ubiquitous Healthcare: Trends and State-of-the-Art,” **International Summer School on Information and Communication Technology** (16-25 July 2017), Xidian University, Xian, China.
- **Tuesday 11 – Thursday 13 July 2017: Five Invited Tutorials**, “Cyber-Physical-Social Systems - From Components to Ubiquitous Intelligence,” School of Software Technology, Dalian University of Technology, Dalian, China.
- **Thursday 16 March 2017 : Opening Keynote Speaker**, “Nano-Optoelectronic Systems for Health Applications,” **BIT’s 3rd Annual World Congress of Smart Materials – 2017, Theme: Step Towards a Ubiquitous Smart Future**, Bangkok, Thailand.
- **Saturday 18 February 2017: Opening Keynote Speaker**, “Smart Sensors for Health Applications – Research, Trends and Opportunities,” **Second Generation of Information Technology, Technology Innovation Shenzhen-Hong Kong Cooperation, Shenzhen-Hong Kong Cooperation High-Level Forum**, Shenzhen Research Institute, Key Laboratory of Shenzhen System Chip Design, Peking University, Shenzhen, China.

Special Lectures

- **Friday 19 May 2017: Distinguished Lecture**, *Engineering and Science – A Personal Journey from South to North*, College of Information Science and Electronic Engineering, Zhejiang University (ZJU), Hangzhou, China. The lecture is part of celebrations of the 120th anniversary of ZJU.
- **Tuesday 16 May 2017: Distinguished Lecture**, *Engineering and Science – A Personal Journey from South to North*, School of Engineering Sciences, Huazhong University of Science and Technology, Wuhan, China.
- **Saturday 15 April 2017: Distinguished Lecture**, *Biosensors - Playing at the Crossroads of Engineering and the Sciences*, Sichuan University, Chengdu, China.
- **Friday 14 April 2017: UESTC President Distinguished Lecture** *2017 Smart Sensors for the Grand Challenge in Healthcare*, University of Electronic Science and Technology of China (UESTC), Chengdu, China.
- **Tuesday 11 April 2017: Distinguished Lecture**, *Smart Sensors for the Grand Challenge in Healthcare*, Jiangxi University of Science and Technology, Ganzhou, China.
- **Monday 13 March 2017: Distinguished Lecture**, *Smart Sensor Systems for Ubiquitous Healthcare*, Qixia District Government Talent Service Center, Nanjing, China.
- **Friday 10 March 2017: Distinguished Lecture**, *Smart Sensors for Ubiquitous Healthcare*, Nanjing Medical University, Nanjing, China.
- **Friday 10 March 2017: Distinguished Lecture**, *Smart Sensors for Environmental Applications*, College of Engineering, Nanjing Agricultural University, Nanjing, China.

- **Thursday 9 March 2017: Distinguished Lecture**, *Smart Sensors for Ubiquitous Healthcare*, Jiangsu Life Science & Technology Innovation Park, Nanjing, China.
- **Monday 20 February 2017: Distinguished Lecture**, *Smart Sensors – Research, Trends and Opportunities*, Department of Electrical and Electronic Engineering, Southern University of Science and Technology, Shenzhen, China.
- **Tuesday 11 January 2017: IEEE Electron Device Society Distinguished Lecture**, *Smart Sensors for Health Applications*, Departamento de Electrónica y Tecnología de Computadores, Universidad de Granada, Granada, Spain.
- **Friday 30 December 2016: Invited Lecture**, *Smart Sensors and Smart Home: State-of-the-Art and Future Perspectives*, Computer Science Department, University of Science and Technology Beijing (USTB), Beijing, China.
- **27 December 2016: Invited Lecture**, *Smart Sensors, Smart Homes and Smart Cities*, eHualu-BUPT Research and Technology Tuesday Development Institute, Yiwu, China.
- **Tuesday 27 December 2016: Invited Lecture**, *Smart Sensors, Smart Homes and Smart Cities*, School of Computer Science and Engineering, Beihang University, Beijing, China.

Fellow Selection Committee

ASE – 11 members, 59 files, 8 elected

EOAS - 8 members, 29 files, 4 selected

MPS – 8 members, 69 files, 10 elected

LS – 9 members, 144 files, 19 elected

Appendix 2 - Partnership Group for Science and Engineering (PAGSE); page 7

“This flagship series brings together Parliamentarians with experts in science and engineering, showcasing outstanding Canadian research accomplishments. Its purpose is to provide unbiased insight into topical scientific issues, within a non-partisan forum. This prestigious forum represents a unique opportunity for scientists to communicate important findings to a distinguished and influential audience.

The series is organized by PAGSE, an umbrella group of 25 + science and engineering organizations operating under the auspices of the Royal Society, and is supported by NSERC.” In 2016-17 PAGSE organized the presentations listed below.

1. [30-year Journey: Winning the battle against Hepatitis C](#)
 Michael Houghton, University of Alberta (Canada Excellence Research Chair)
 Thursday November 23, 2017
2. [Uncharted Waters: A scientific glimpse into the future of the Arctic Ocean](#)
 Jay T. Cullen, University of Victoria (Provost's Engaged Scholar)
 Thursday October 26, 2017
3. [Deep Learning and Artificial Intelligence: Is Canada ready for the challenge?](#)
 Yoshua Bengio, Université de Montréal (Member of Royal Society of Canada, CRC)
 Thursday September 28, 2017
4. [Next-generation technologies for tomorrow's crops: Getting to the roots of global food security](#)
 Leon Kochian, University of Saskatchewan (Canada Excellence Research Chair)
 Thursday May 4, 2017
5. [Building a climate-smart world: How development research helps the global population adapt to climate change](#)
 Robert Hofstede, International Development Research Centre (Assoc Director of Climate Change)
 Thursday April 6, 2017
6. [Can I Help You? The Future of Socially Assistive Robots in Healthcare](#)
 Goldie Nejat, University of Toronto (Canada Research Chair in Robots for Society)
 Thursday March 9, 2017
7. [Unnatural tremors: the science of fracking and earthquakes](#)
 Gail Atkinson, Western University (Fellow of Royal Society of Canada)
 Thursday February 9, 2017
8. [Canadian nanorobots: an option for fighting cancer?](#)
 Sylvain Martel, Polytechnique Montréal (Canada Research Chair in Medical Nanorobotics)
 Thursday December 1, 2016

Submission to the House of Commons Standing Committee on Finance

Pre-Budget Consultation in Advance of the 2018 Budget

August 4 2017

Pdf Version available at

[http://pagse.org/images/2017-08-04%20Partnership%20Group%20for%20Science%20and%20Engineering\(PAGSE\)%20submission%20to%20HOC%20Finance%20Cttee%202018%20Pre%20Budget%20Consultation.pdf](http://pagse.org/images/2017-08-04%20Partnership%20Group%20for%20Science%20and%20Engineering(PAGSE)%20submission%20to%20HOC%20Finance%20Cttee%202018%20Pre%20Budget%20Consultation.pdf)

Appendix 3 - Committees of Academy III; pages 8 to 12

ACADEMY OF SCIENCE /ACADÉMIE DES SCIENCES	
COUNCIL/ CONSEIL	2017-2018
Academy President /Président de l'académie	Vijaya Raghavan
Academy President Past /Président sortant	Jamal Deen
Academy President Elect /Président sortant	
Chair – Past Presidents’ Council	Lawrence Mysak
Academy Secretary /Secrétaire de l'académie	Gary Slater
Director, ASE Division /Directeur, SAG	Claudio Canizares
Director, EOAS Division / Directeur, STOA	Barbara Sherwood-Lollar
Director, LS Division / Directrice, SV	Michel Tremblay
Director, MPS Division / Directeur, MSP	Bruce Gaulin
Secretary, ASE Division / Secrétaire de la division SAG	Ajay Dalai
Secretary, EOAS Division / Secrétaire de la division STOA	Ted Evans
Secretary, LS Division / Secrétaire de la division SV	Carol Cass
Secretary, MPS Division / Secrétaire de la division MSP	
Member at Large, ASE Division / Représentant (te) de la division SAG	Flora NG
Member at Large, EOAS Division / Représentant (te) de la division STOA	Nat Rutter
Member at Large, LS Division / Représentant (te) de la division SV	
Member at Large, MPS Division / Représentant (te) de la division MSP	
EXECUTIVE / EXÉCUTIF	2017-2018
Academy President / Président de l'académie	Vijaya Raghavan
Academy President Past /Président sortant	Jamal Deen
Academy President Elect /Président sortant	
Chair – Past Presidents’ Council	Lawrence Mysak
Academy Secretary / Secrétaire de l'académie	Gary Slater
Director, ASE Division /Directeur, SAG	Claudio Canizares
Director, EOAS Division / Directeur, STOA	Barbara Sherwood-Lollar
Director, LS Division / Directrice, SV	Michel Tremblay
Director, MPS Division / Directeur, MSP	Bruce Gaulin
ACADEMY COMMITTEE FOR THE NOMINATION OF OFFICERS / COMITÉ DE NOMINATIONS DES DIREGEANTS DE L'ACADÉMIE	2017-2018
CHAIR, Past-President as Chair / Président sortant	Jamal Deen
Division Representative, ASE / Représentant (te) de la division SAG	Claudio Canizares

Division Representative, ASE / Représentant (te) de la division SAG	
Division Representative, EOAS / Représentant (te) de la division STOA	Barbara Sherwood-Lollar
Division Representative, EOAS / Représentant (te) de la division STOA	
Division Representative, LS / Représentante de la division SV	Michel Tremblay
Division Representative, LS / Représentant (te) de la division SV	Carol Cass
Division Representative, MPS / Représentant (te) de la division MSP	Bruce Gaulin
Division Representative, MPS / Représentant (te) de la division MSP	
ACADEMY COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES	2017-2018
Academy President / Président de l'académie	Vijaya Raghavan
Past-President / President Elect/ Président sortant-élu	Jamal Deen
Academy Secretary / Secrétaire de l'académie	Gary Slater
Director, ASE Division / Directeur, SAG	Claudio Canizares
Director, EOAS Division / Directeur, STOA	Barbara Sherwood-Lollar
Director, LS Division / Directrice, SV	Michel Tremblay
Director, MPS Division / Directeur, MSP	Bruce Gaulin
APPLIED SCIENCES AND ENGINEERING DIVISION / DIVISION DES SCIENCES APPLIQUÉES ET GÉNIE	
	2017-2018
Division Director / Directeur de la division	Claudio Canizares
Division Secretary / Secrétaire de la division	Ajay Dalai
Member at Large / Représentant(e) de la division	Flora NG
DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION	2017-2018
CHAIR / PRÉSIDENT	Safa Kasap
Division Representative / Représentant(e) de la division	Yusuf Altintas
Division Representative / Représentant(e) de la division	Roberto Morandotti
Division Representative / Représentant(e) de la division	Hosalli S Ramaswamy
Division Representative / Représentant(e) de la division	Javad Mostaghimi
Division Representative / Représentant(e) de la division	Xueliang Sun
Division Representative / Représentant(e) de la division	Stephen Larter
DCSNF DIVISION COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES	2017-2018

CHAIR, Division Director / PRÉSIDENT, Directeur de la division	Claudio Canizares
Division Secretary / Secrétaire de la division	Ajay Dalai
Division Representative / Représentant(e) de la division	Clement Gosselin
Division Representative / Représentant(e) de la division	Yusuf Altintas
Division Representative / Représentant(e) de la division	Praveen Jain
Division Representative / Représentant(e) de la division	Weihua Zhuang
Division Representative / Représentant(e) de la division	Jingxu Zhu
Division Representative / Représentant(e) de la division	Warren Finlay
Division Representative / Représentant(e) de la division	Zhenghe Xu
Division Representative / Représentant(e) de la division	Ned Djilali
Division Representative / Représentant(e) de la division	Ke Wu
Division Representative / Représentant(e) de la division	David Layzell
EARTH, OCEAN AND ATMOSPHERIC SCIENCES DIVISION / DIVISION DES SCIENCES DE LA TERRE, DE L'OcéAN ET DE L'ATMOSPHERE	
	2017-2018
Division Director / Directeur de la division	Barbara Sherwood-Lollar 2017-2019
Division Secretary / Secrétaire de la division	Ted Evans 2017-2019
Member at Large / Représentant(e) de la division	Nat Rutter 2017-2019
DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION	
	2017-2018
CHAIR / PRÉSIDENT	Nat Rutter 2017-2019
Division Representative / Représentant(e) de la division	Mark Hannington 2017-2018
Division Representative / Représentant(e) de la division	Peter Dillon 2017-2018
Division Representative / Représentant(e) de la division	Kurt Konhauser 2017-2019
Division Representative / Représentant(e) de la division	VACANT
DCSNF	
DIVISION COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES	
	2017-2018
CHAIR, Division Director / PRÉSIDENT, Directeur de la division	Barbara Sherwood-Lollar 2017-2019
Division Secretary / Secrétaire de la division	Ted Evans 2019-2019
Division Representative / Représentant(e) de la division	Larry Heaman 2017-2019
Division Representative / Représentant(e) de la division	Dominique Weis 2017-2019
Division Representative / Représentant(e) de la division	Tim Moore 2017-2018
Division Representative / Représentant(e) de la division	Bernard Boudreau 2017-2020
Division Representative / Représentant(e) de la division	Anne de Vernal 2017-2018

Division Representative / Représentant(e) de la division	David Neelin 2017-2019
LIFE SCIENCES DIVISION / DIVISION DES SCIENCES DE LA VIE	
	2017-2018
Division Director / Directeur de la division	Michel Tremblay (McGill)
Division Secretary / Secrétaire de la division	Carol Cass (U of Alberta)
Member at Large / Représentant(e) de la division	
DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION	
	2017-2018
CHAIR / PRÉSIDENT	Amira Klip (Toronto)
Division Representative / Représentant(e) de la division	James Davie (Manitoba)
Division Representative / Représentant(e) de la division	Morag Park (McGill)
Division Representative / Représentant(e) de la division	Frank Sicheri (Toronto)
Division Representative / Représentant(e) de la division	Keith Humphries (UBC)
DIVISION COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES	
	2017-2018
CHAIR, Division Director / PRÉSIDENT, Directeur de la division	Michel Tremblay (McGill)
Division Secretary / Secrétaire de la division	Carol Cass (U of Alberta)
Division Representative / Représentant(e) de la division	Louis Bernachez (U Laval)
Division Representative / Représentant(e) de la division	Janet Rossant (U of T)
Division Representative / Représentant(e) de la division	Michael Gray (Dalhousie)
Division Representative / Représentant(e) de la division	Ruth McPherson U of O)
Division Representative / Représentant(e) de la division	Sam Aparicio (BC)
Division Representative / Représentant(e) de la division	Marek Michalak (u of Alberta)
Division Representative / Représentant(e) de la division	
MATHEMATICAL AND PHYSICAL SCIENCES DIVISION / DIVISION DES MATHÉMATIQUES ET SCIENCES PHYSIQUES	
	2017-2018
Division Director / Directeur de la division	Bruce Gaulin
Division Secretary / Secrétaire de la division	
Member at Large / Représentant(e) de la division	
DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION	
	2017-2018

CHAIR / PRÉSIDENT	TK Sham
Division Representative / Représentant(e) de la division	
Division Representative / Représentant(e) de la division	
Division Representative / Représentant(e) de la division	
Division Representative / Représentant(e) de la division	
DCSNF DIVISION COMM. FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES	2017-2018
CHAIR, Division Director / PRÉSIDENT, Directeur de la division	Bruce Gaulin (McMaster)
Division Representative / Représentant(e) de la division	Julio Navarro (U Victoria) Astro
Division Representative / Représentant(e) de la division	Christian Genest (McGill)-Math
Division Representative / Représentant(e) de la division	Bruce Lennox (McGill) - Chem
Division Representative / Représentant(e) de la division	Gail Murphy (UBC) - Comp Sci
Division Representative / Représentant(e) de la division	Mary Ann White (Dalhousie) - Chem
Division Representative / Représentant(e) de la division	Eugene Fiume (Toronto) - Comp Sci
Division Representative / Représentant(e) de la division	Ian Goulden (Waterloo)- Math
Academy of Science / Awards Committee	
	2017-2018
Past-President, Academy III (Chair)	Jamal Deen
Secretary, Academy III	Gary Slater
Director, ASE Division	Claudio Canizares
Director, EOAS Division	Barbara Sherwood-Lollar
Director, LS Division	Michel Tremblay
Director, MPS Division	Bruce Gaulin

Appendix 4 – Facets; pages 13 to 14

***FACETS* Endorsed as Official Journal of the Royal Society of Canada’s Academy of Science**

Appointment highlights new innovative partnership between Canada’s National Science Academy and Canada’s foremost science publisher

Ottawa, ON (June 20, 2017) - Canadian Science Publishing, an independent, not-for-profit scholarly publisher dedicated to serving the needs of researchers and their communities, and the Royal Society of Canada (RSC), the country’s senior collegium of distinguished scholars, artists and scientists, announced today that *FACETS* has been selected as the official journal of the RSC’s Academy of Science. *FACETS* is Canada’s first and only multidisciplinary open access science journal that publishes and shares rigorously peer-reviewed science which matters to Canadians from policy and regulatory frameworks, to cross-disciplinary research and scientific approaches that address questions and issues in new ways.

“I am extremely proud to call *FACETS* the official journal of the Academy of Science,” says Dr. Jules Blais, Editor-in-Chief of *FACETS*. “The appointment of an official journal by the Royal Society of Canada signals the ever important need for researchers and the organizations that support them to come together to solve the complex scientific problems facing our society through sound scientific research and widespread dissemination to all interested readers.”

“Many National Academies around the world have official journals and today I am proud that the Academy of Science joins that list with the selection of *FACETS* its official journal,” says Jamal Deen, President, Academy of Science, Royal Society of Canada. “This is the first time in our history of over 130 years that we have selected an official journal, which points to the calibre of *FACETS* and its publishing process. The Academy of Science is pleased to offer a place for its Fellows and College members to publish their work, in accordance with the highest standards of scientific integrity. This partnership signifies the continued outreach and exposure that the Royal Society of Canada is working to achieve for its community.”

“I am proud to be both a Fellow of the Royal Society of Canada and an Editor of *FACETS* for this historic appointment,” says Dr. John Smol. “The validation and communication of science is arguably the most pressing issue of our time. Formalizing a relationship between this Canadian institution and Canada’s open access science journal that encourages multi- and interdisciplinary approaches is an important step in ensuring the effectiveness of our scientific output in Canada while ensuring that this research is openly accessible for all readers,” continues Dr. Smol. “*FACETS* is taking an important step not only in validating and publishing scientific research but also in connecting researchers and readers on the science that matters most to them. RSC Fellows and College members will enjoy the increased

exposure of their work through a variety of science communication approaches coordinated by *FACETS*.”

“The work of the science publisher to validate and formalize the research output through peer review continues to be the pillar of our scientific process. Formalizing a relationship with the most well respected organization of scientists in Canada helps *FACETS* enhance the connection between researchers and readers through our state-of-the-art platform,” adds Dr. Blais. “We look forward to working with the RSC Fellows and College members to validate, publish, and promote the very best research that our country has to offer.”

As part of this appointment, Canadian Science Publishing has become the 57th Institutional Member of the Royal Society of Canada. The Institutional Membership program was designed for cross-pollination of support, ideas, and collaboration between the Royal Society of Canada and member institutions.

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Appendix 5 - New Fellows Orientation Manual; pages 15 to 21

**Orientation Manual
Fellows of Academy III
Royal Society of Canada**

DRAFT-2: 13 November 2017

- Welcome from Academy III President
- What is the RSC?
- What is Academy III?
- What is the role of Academy III?
- What are the responsibilities of the Fellows of Academy III?
- Selected demographic information on the Academy III Fellowship

Welcome from Academy III President – Dr. M. Jamal Deen

It gives me great pleasure to welcome all new Fellows of the Academy of Science. Our Academy is a vibrant, active academy within the Royal Society of Canada (RSC). We are very proud of the work we have done within RSC that includes serving on important committees such as Equity and Diversity, Awards and Recognition, Fellowship, International Affairs, Finance, and Interventions in the Public Interest. We actively participated in several Expert Panels and the excellent and timely reports that were subsequently produced.

Our Academy, divided into four divisions, is well-positioned to bring the Society's membership together beyond traditional barriers to address current and future challenges in energy, environmental sustainability and health, to name a few. Engaging with the other two sister academies is important in the 21st century, especially since the astounding scientific and technological advances that continue at an accelerating pace must also consider the important accompanying human and social issues. If our Academy is to contribute to resolving many national and global issues, interdisciplinary collaboration is vital. Therefore, it is important that we strategically expand and strengthen interactions not only with our sister academies within RSC, but also worldwide, to address issues of mutual interest such as health, security, energy, and environment.

As an Academy, we need to continue our great efforts on timely, important and forward looking expert panels as well as engaging the public with lectures to improve our public profile and image, and to promote the critical role of science in our society. It is important that we convey the message that great science leads to new and fruitful applications, which in turn stimulate growth and prosperity in the private sector, better public policies, and better living conditions. Therefore, we need to continue to raise the public understanding and capture their interest in our Academy members' role in addressing high-impact issues, some of which were mentioned above. When the public is engaged, they can appreciate the value and importance of our members work, and the importance of our Academy to our national interests. Using the knowledge, expertise and stature of our members, we must continue to work diligently to increase the national and international influence of the Academy. Our Academy's membership should be a source of reliable and credible knowledge and information, and sound, substantiated views for policy makers, the private and public sectors, and the public.

As Fellows, we must continue working with colleagues in our two other Academies and institutions towards making our Academy's membership more representation of Canada's diversity. In our activities, we should maintain the highest standards of intellectual and professional integrity and transparency. In all these initiatives, we need to involve more members with fresh new energy, collectively contributing towards our bright future as the home of the best and brightest "body of independent scholars, researchers and creative people in Canada" and who "can provide intellectual leadership for the betterment of Canada and the world". While this century presents challenges, as an Academy, we should seek to develop programs to turn these challenges into opportunities to build a sustainable, thriving future for our Academy and Canada.

What is the RSC?

The Royal Society of Canada (RSC): The Academies of Arts, Humanities and Sciences of Canada was established under an Act of Parliament in 1883 as Canada’s National Academy, the senior collegium of distinguished scholars, artists and scientists in the country. The primary objective of the Society is to promote learning and research in the arts, the humanities and the natural and social sciences.

As Canada’s senior national academy, the RSC exists to promote Canadian research and scholarly accomplishment in both of Canada’s official languages, to recognize academic and artistic excellence, and to advise governments, non-governmental organizations, and Canadians generally on matters of public interest. The RSC undertakes a diverse range of initiatives and sponsors numerous activities to fulfill its mandate, including, but not limited to, bestowing awards and honours, organizing and hosting symposia, and conducting Expert Panels.



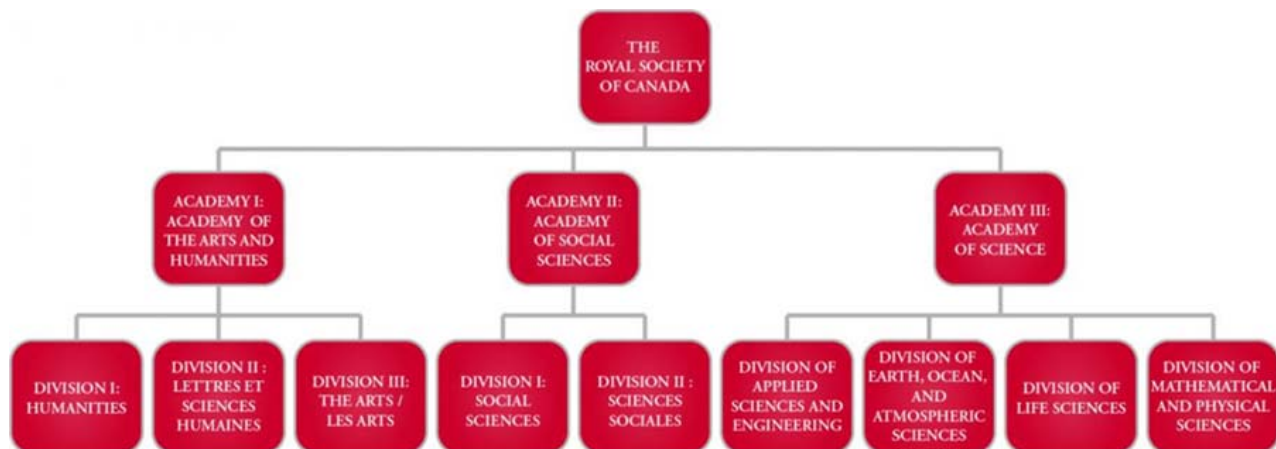
What is Academy III?

The Royal Society of Canada is an institution encompassing three Academies. The overall direction of the Society is given by the Society’s Council, an Executive Committee of the Council, and the Society’s Executive Officers, as assisted by several non-executive officers, several standing and ad hoc committees, and the President’s Advisory Council. The affairs of Academies and their Divisions are managed by their Council and Executive Officers and their several standing and ad hoc committees.

Academy III is the Academy of Science. There are four Divisions of Academy III:

- Applied Sciences and Engineering;
- Earth, Ocean and Atmospheric Sciences;
- Life Sciences; and
- Mathematical and Physical Sciences.

Each Division of Academy III is comprised of both English-speaking and French-speaking Fellows. The fellowship of Academy III (currently numbering **???** Fellows) comprises distinguished men and women from all branches of learning who have made remarkable contributions to the sciences, within Canada and internationally.



What is the role of Academy III?

Academy III plays a key role in advising the RSC about current scientific issues of importance to Canadians (i.e. through The Committee on Interventions in the Public Interest). Additionally, on request from external agencies, including industry and government, Fellows of the Academy provide expert independent opinions on request. These Expert Panels, struck as a public service to Canadians, have provided insight, advice and recommendations to Canadian governments, industry and NGOs on public policy matters ranging from the health effects of asbestos to early childhood education. The work of the RSC’s Expert Panels ensures that there is independent, comprehensive, and evidenced-based input into the public policy development process in Canada. For example, an Expert Panel was established in 2015 in response to a request from the Canadian Energy Pipeline Association (CEPA) and the Canadian Association of Petroleum Producers (CAPP).

The panel was asked to address a number of questions, including:

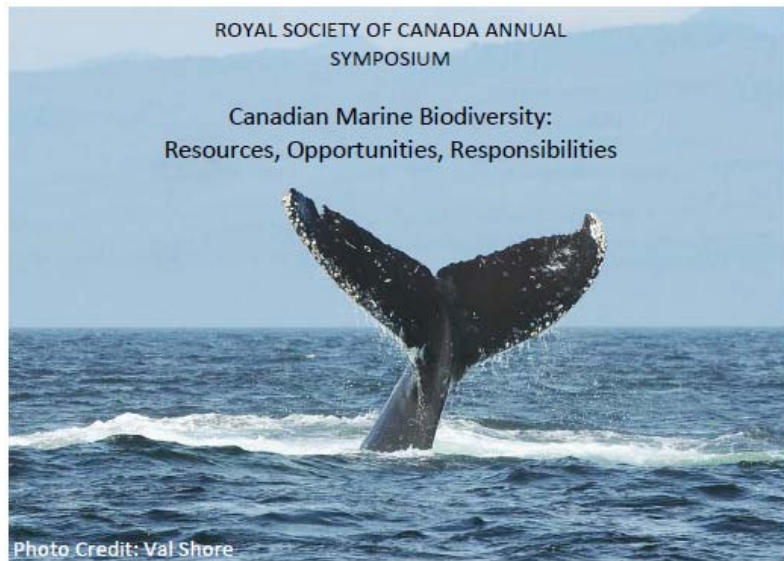
- How do the various crude oils compare in their chemical composition and toxicity to organisms in aquatic ecosystems?
- Is the research community able to relate, with reliable predictions, the chemical, physical and biological properties of crudes to their behaviour, toxicity and ability to be remediated in water and sediments?
- How should these scientific insights be used to inform optimal strategies for spill preparedness, spill response and environmental remediation?

The resultant report was published by the RSC in 2015:

The Behaviour and Environmental Impacts of Crude Oil Released into Aqueous Environments

Abstract: A solid scientific understanding of the behaviour and environmental impacts of crude oil if accidentally released into aqueous environments can make an important contribution to the identification of optimal strategies for spill preparedness, spill response, and environmental remediation. A panel of experts is asked to review the state of the science on how various kinds of

conventional and unconventional crude oils transported in North America interact with the surface waters and associated sediments (suspended, shoreline, ocean/lake/river floor) in marine, estuarine and freshwater settings under a wide range of environmental conditions.



Fairmont Empress | November 26, 2015 | 8:30 am – 5:30 pm

The Academy of Science also organizes thematic symposia, an example of which is the symposium of 2015. Home to the longest oceanic border in the world, Canada is a logical choice of country in which to discuss marine biodiversity and Canada's National Academy offered an appropriate venue within which such discussions could take place. The 2015 Symposium, entitled "*Canadian Marine Biodiversity: Resources, Opportunities, Responsibilities*", built upon the foundation of knowledge, perspective, and recommendations provided by the RSC's 2012 Expert Panel on *Sustaining Canadian Marine Biodiversity*. That Panel concluded that Canada's progress in fulfilling national and international obligations, impressive in some aspects, is generally impaired by regulatory conflict, unhelpfully discretionary legislation, and an inconsistent, unduly slow pace of statutory and policy implementation. With presentations from ten individuals of national and international renown presenting their work, the 2015 Annual Symposium offered interdisciplinary perspective, thoughtful critiques, viable means of strengthening Canada's oceans stewardship, and passion, and left several lasting impressions among symposium participants:

- Foremost is the realization that Canada is an ocean nation. From a purely geographical perspective, the ocean stewardship responsibilities borne by Canada are arguably greater than those of any other country. And given that three-quarters of Canada's coastline is located in Nunavut, ocean issues in Canada are de facto Arctic issues, a region with which Canadians strongly identify.
- In 2009, the Royal Society of Canada took a leadership role by establishing the Expert Panel on

Canadian marine biodiversity. In 2015, the RSC continued that leadership by making this topic the central theme of its Annual Symposium. The symposium can be viewed as a tangible and promising step in connecting the new federal government, and Canadians, with the empirically sound and practically realistic advice that can be proffered by Canada's National Academy.

In 2015 the RSC published a Position Paper that called for the establishment of a Chief Scientist to coordinate and ensure evidence-informed decision-making in Canada. In 2016, the Honourable Kirsty Duncan, Minister of Science, wrote to the RSC asking for advice on the establishment of the position of Chief Science Officer. The RSC's response incorporated feedback from a number of Fellows who had a depth of experience in the area, and was well-received by Minister Duncan.

Finally, Fellows of Academy III also contribute through service on a wide variety of other Academy III and RSC committees, including Equity and Diversity, Awards and Recognition, Fellowship, International Affairs, Finance and Interventions in the Public Interest.

Committees in Academy III

- COUNCIL/ CONSEIL
- EXECUTIVE / EXÉCUTIF
- ACADEMY COMMITTEE FOR THE NOMINATION OF OFFICERS / COMITÉ DE NOMINATIONS DES DIREGEANTS DE L'ACADÉMIE
- ACADEMY COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES

APPLIED SCIENCES AND ENGINEERING DIVISION / DIVISION DES SCIENCES APPLIQUÉES ET GÉNIE

- DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION
- DCSNF - DIVISION COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES

EARTH, OCEAN AND ATMOSPHERIC SCIENCES DIVISION / DIVISION DES SCIENCES DE LA TERRE, DE L'OCÉAN ET DE L'ATMOSPHÈRE

- DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION
- DCSNF - DIVISION COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES

LIFE SCIENCES DIVISION / DIVISION DES SCIENCES DE LA VIE

- DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION
- DIVISION COMMITTEE FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES DES NOUVEAUX MEMBRES

MATHEMATICAL AND PHYSICAL SCIENCES DIVISION / DIVISION DES MATHÉMATIQUES ET SCIENCES PHYSIQUES

- DIVISION NOMINATING COMMITTEE / COMITÉ DES NOMINATIONS DE LA DIVISION
- DCSNF - DIVISION COMM. FOR THE SELECTION OF NEW FELLOWS / COMITÉ DES CANDIDATURES

DES NOUVEAUX MEMBRES

Academy of Science Awards Committee

- Bancroft Award (bi-annual)
- Flavelle Medal (bi-annual)
- Henry Marshall Tory Medal (bi-annual)
- John L. Synge Award (bi-annual)
- McLaughlin Medal (annual)
- Miroslaw Romanowski Medal (annual)
- Willet G. Miller Medal (bi-annual)

What are the responsibilities of the Fellows in Academy III?

- Each inductee shall take the Royal Society of Canada Oath and sign the Charter Book.
 “We who have hereunto subscribed, do hereby promise, each for himself/herself, that we will endeavour to promote the good of RSC and to pursue the end for which it was founded; that we will be present at meetings of RSC as often as we conveniently can; and that we will observe the RSC By-Laws and regulations.”
- Undertake to promote the interests and objectives of the Academy of Science and RSC/
- Pay membership dues.
- Stand for election as Officers, Members of Council or other elected positions of the Academy or RSC.
- Vote in affairs of the Society and of the Academies and Divisions to which they belong, including elections of Officers or other officials of the Society or the Academies.
- Not be convicted of a serious crime as the Council of the Society may terminate the membership of a Fellow.
- Not to have engaged in serious scholarly misconduct, such as, but not limited to, deliberate plagiarism or falsification of data as the Council of the Society may terminate the membership of a Fellow.

Selected demographic information on the Academy III Fellowship

The the fellowship comprises four categories: Honorary Fellows, Regularly Elected Fellows, Specially Elected Fellows and Foreign Fellows. They are over 2000 Canadian scholars, artists, and scientists, peer-elected as the best in their field tp fellowship in RSC. Some selected demographic information of the Academy of Science’s fellowship are provided below.

Demographic Information:

Men:	Average age:	English:	French:
Women:	Average age:	English:	French:

Other demographic information: