

CAIMSPUB V.5.0
OCTOBER 2016

OPERATIONS MANUAL



Canadian Applied *and* Industrial
Mathematics Society

Société Canadienne *de* Mathématiques
Appliquées *et* Industrielles

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This document is maintained and only edited by the CAIMS Secretary

Overview

The Canadian Applied and Industrial Mathematics Society • Société Canadienne de Mathématiques Appliquées et Industrielles (CAIMS•SCMAI), which was formed in 1979, has a growing presence in industrial, mathematical, scientific, and technological circles within and outside of Canada. CAIMS has worked towards increasing public awareness and support for applied and industrial mathematics both nationally and internationally through education and scholarship.

The Society features a Doctoral Dissertation Award program and sponsors the Nerenberg Lecture Series at the University of Western Ontario.

The Society's Arthur Beaumont Distinguished Service Award was established in 1987 and honours members of CAIMS•SCMAI for outstanding service to the society or to Applied Mathematics in Canada.

The Society established a Research Prize in 2003, also awarded at the Annual Meeting. Furthermore, two prizes were introduced in 2010. They were the CAIMS/PIMS Early Career Award in Applied Mathematics and the CAIMS-Mprime Industrial Mathematics Prize, which was renamed as the CAIMS-Fields Industrial Mathematics Prize in 2015.

In addition, CAIMS•SCMAI is a member society of the International Council for Industrial and Applied Mathematics, which hosts the prestigious ICIAM Congresses every four years.

Board of Directors – 2016

The CAIMS•SCMAI board provides overall direction for the activities of the society. Board meetings are held annually.



RAYMOND SPITERI
President
Department of Computer Science
University of Saskatchewan



IAN FRIGAARD
Past President
Department of Mechanical Engineering
University of British Columbia



MATT DAVISON
President-Elect
Department of Applied Mathematics
University of Western Ontario



PIETRO-LUCIANO BUONO
Communications Officer
Faculty of Science
University of Ontario Institute of Technology



JUSTIN WAN
Secretary
Cheriton School of Computer Science
University of Waterloo



LUCY CAMPBELL
Treasurer
School of Mathematics and Statistics
Carleton University



TROY DAY

Member

*Departments of Mathematics
& Biology*
Queen's University



JANE HEFFERNAN

Member

*Department of Mathematics
& Statistics*
York University



HUAXIONG HUANG

Member

*Department of Mathematics
& Statistics*
York University



LILIA KRIVODONOVA

Member

*Department of Applied
Mathematics*
University of Waterloo



STEVE RUUTH

Member

Department of Mathematics
Simon Fraser University



TONY WARE

Member

*Department of Mathematics
& Statistics*
University of Calgary



Roles of the Board

In exercising its leadership responsibilities, the Canadian Applied and Industrial Mathematics Society analyses current areas of interest to its membership and brings forward structure to educate and develop public awareness.

The Canadian Applied and Industrial Mathematics Society follows Canada Not-for-profit Corporations Act and by-laws detailed here: http://caims.ca/sites/default/files/CAIMS_ByLaws.pdf.

CAIMS Executive



RAYMOND SPITERI

President

Department of Computer Science
University of Saskatchewan

president@caims.ca

Raymond Spiteri is a Professor in the Department of Computer Science at the University of Saskatchewan. He performed his graduate work at the Institute for Applied Mathematics at the University of British Columbia. He was a post-doctoral fellow at McGill University and held faculty positions at Acadia University and Dalhousie University before joining the University of Saskatchewan in 2004. He has served on the Executive Committee of the WestGrid High-Performance Computing Consortium since 2005. He was a MITACS Project Leader from 2004-2012 and served as Mitacs Regional Scientific Director for the Prairie Provinces between 2008 and 2011.

Spiteri's areas of research are numerical analysis, scientific computing, and high-performance computing. His area of specialization is the analysis and implementation of efficient time-stepping methods for differential equations. He actively collaborates with scientists, engineers, and medical experts of all flavours. He also has a long record of industry collaboration with companies such as IBM and Boeing.

Spiteri has been lifetime member of CAIMS/SCMAI since 2000. He helped co-organize the 2004 Annual Meeting at Dalhousie and the 2014 Annual Meeting in Saskatoon and served on the Cecil Graham Doctoral Dissertation Award Committee from 2005 to 2009, acting as chair from 2007. He has been an active participant in CAIMS, serving several times on the Scientific Committee for the Annual Meeting, as well as frequently attending and organizing mini-symposia. Spiteri believes it is important for applied mathematics to play a major role in the efforts to meet Canada's most pressing societal challenges, including the sustainability of our healthcare system, our natural resources, and the environment.

ROLES

1. Chair monthly meetings
2. Chair Annual General Meeting
3. Chair Annual Board Meeting
4. Deliver Annual Meeting Speeches
5. Liaise with local organizers of Annual Meeting

DUTIES

1. Mentor the incoming President-Elect
2. Oversee CAIMS/SCMAI activities
3. Provide governance and authority to the Board
4. Represent CAIMS/SCMAI on the ICIAM Board of Directors
5. Report on the annual events in the President's Report
6. Engage membership, think strategically, and communicate vision for CAIMS

CAIMS Executive



IAN FRIGAARD

Past President

Department of Mechanical Engineering
University of British Columbia

past-president@caims.ca

Professor, Department of Mathematics and Department of Mechanical Engineering University of British Columbia.

Lifetime member of CAIMS since 2002

ROLES

1. Mentor the incoming President and coordinate handover of responsibilities
2. Provide continuity and institutional memory of Board practices
3. Support the President and President-Elect in Executive activities
4. Potentially take on specific roles involving liaison/strategic relationships, etc., where the President is not available

DUTIES

1. Available as the first delegate for the President in their absence or if there are duties to perform

CAIMS EXECUTIVE



MATT DAVISON

President-Elect

Department of Applied Mathematics

University of Western Ontario

president-elect@caims.ca

Matt Davison works at the intersection of quantitative finance and operations research. His particular interests are computational finance, incomplete market theory, real options theory, and energy finance. He held a Tier II Canada Research Chair in quantitative finance between 1996 and 2016.

Davison's academic background is in engineering (B.A.Sc. Engineering Science (Geophysics option), University of Toronto 1991) and applied math (M.Sc. 1993, PhD 1995, Applied Mathematics, UWO). He worked as a postdoc at the University of Bern (1995-1997) and as a front office desk quant at Deutsche Bank Canada (1997-1999). He has been a faculty member at Western University (formerly known as UWO) since 1999. Currently Matt is chair of the department of Statistical & Actuarial Sciences at Western as well as having a two-year term (2015-2017) as acting chair of the department of Applied Mathematics.

ROLES

1. Pay attention to all processes to learn how to be an effective president
2. Liaise with appointed committees and positions
3. Help recruit and liaise with candidates for elective CAIMS office

DUTIES

1. Attend monthly meetings
2. Attend Annual General Meeting
4. Attend Annual Board Meeting
5. With advice from the Board, identify and recruit new members for appointed CAIMS prize committees, liaising with PIMS and Fields leaders as appropriate.
6. With advice from the Board, identify and recruit board members for appointed roles (e.g., membership chair).
7. With advice from the Board, identify and recruit candidates for CAIMS elective office. Once candidates have agreed to stand, election details are handled by membership chair.

CAIMS EXECUTIVE



PIETRO-LUCIANO BUONO

Communications Officer

Faculty of Science

University of Ontario Institute of Technology

communications-officer@caims.ca

I am Associate Professor of Mathematics at the University of Ontario Institute of Technology (UOIT). Before joining UOIT in 2004, I held postdoctoral research positions at the University of Ottawa, University of Warwick (UK) and Université de Montréal where I held an NSERC postdoctoral fellowship. I did graduate work at the Université de Montréal and at the University of Houston where I received my Ph.D.

My main research area is in Dynamical Systems, in particular, the development of bifurcation theory of nonlinear dynamical systems with symmetry, and its applications in biology (neural networks, animal aggregations), celestial mechanics and coupled devices (e.g. gyroscopes, lasers). More recently, I have started collaborating with conservation biologists on spatial distribution of large mammals (caribou, moose, wolf) in the Canadian boreal forest.

I have been a member of CAIMS since 2004 and on the Scientific Committee for CAIMS annual meetings in 2012 and 2014 and I have organized mini-symposium sessions at various meetings.

ROLES

1. Manage the electronic means of communications of the society.
2. Main point of contact for the society's Activity Groups.

DUTIES

1. Webmaster for the CAIMS-SCMAI website, both English and French versions
 - a. Contact person for website domain name subscription and with webhosting company.
 - b. Contact person in case of problems with www.caims.ca website.
 - c. Monitor the functions (e.g., memory allocation) of the website via the Webhost Manager (WHM) website: login: root.
 - d. Activate webforms for award nominations in late November
 - e. Collect submissions for awards in early February, send to committees.
 - f. Update the list of Board Members in early July.
2. Manage @caims.ca email addresses and mailing lists via the cPanel website. The cPanel is accessible via WHM.
3. Manage the CAIMS-SCMAI Facebook page. <https://www.facebook.com/CAIMS.SCMAI>
4. Manage the CAIMS-SCMAI YouTube channel.
<https://www.youtube.com/channel/UCeVUnfXOJhQBszxxJ8rJSDQ>

5. Recruit Activity Group leaders.
6. Main contact person for Activity Group leaders.
7. Meet with Activity Group leaders at the Annual Meeting.
8. Produce and order promotional material
9. Design and order annual plaques for the award ceremony at annual meeting. To be done as soon as all the winners are known.

CAIMS EXECUTIVE



JUSTIN WAN

Secretary

Cheriton School of Computer Science

University of Waterloo

secretary@caims.ca

Justin Wan is a Canada Research Chair in Scientific Computing. He is a faculty member of the Scientific Computing group in the David R. Cheriton School of Computer Science at the University of Waterloo since 2001. Justin is currently the Associate Director of the Cheriton School of Computer Science. Before that, he was the Director of the Centre for Computational Mathematics in Industry and Commerce (CCMIC) at the University of Waterloo from 2010-2015. He is a member of CAIMS since 2001 and currently serves as the Secretary on the Board of Directors. Justin has co-organized a number of workshops and conferences such as the Workshop Celebrating 40 Years of Nested Dissection sponsored by the Fields Institute in 2013, and the Canadian Symposium in Numerical Analysis and Scientific Computing held with CAIMS Annual Meeting in Waterloo in 2015.

Justin Wan's research is in the area of scientific computing with special interests in developing efficient numerical techniques for solving partial differential equations arising from modeling. His research interests also include numerical linear algebra, iterative methods, and multigrid preconditioning with applications in medical image registration, cell image segmentation and tracking, computational finance, and parallel computation on high performance platforms.

ROLES

1. Oversee the process of meetings and election.
2. Prepare and keep formal records and documentation.
3. Communicate past and future events to members.

DUTIES

1. Organize monthly Exec meetings:
 - a) Set up meeting times (in late Aug for Sept to Nov meetings, and then in Dec for Jan to May meetings). Board Members to attend November and March meetings.
 - b) Prepare agendas, minutes, including reports of the Presidents, Treasurer, Secretary and Communications Officer.
2. Send out E-News:
 - a) Collect items from Exec, CAIMS members, and others
 - b) Compile items in E-News format and in plain text.
 - c) Send it to CAIMS mailing list and archive it at CAIMS website.
 - d) E-news are sent regularly throughout the year, approximately once a month.

3. Annual Newsletter:
 - a) Editor-in-Chief
 - b) Start (early!) in September/October.
 - c) Contact people for contribution of articles, including President for Society report, President-Elect for Committee memberships, CAIMS Annual meeting organizers, Fields Institute, PIMS, CRM, etc.
 - d) Send drafts to President for review.
 - e) Publish Newsletter by the end of November.
4. Administer the mailing list
5. Job Advertisements
 - a) Main contact person for CAIMS advertisements.
 - b) Receive ad materials from requesters and post them to CAIMS website, E-News, or Newsletter. (Note: for posting on CAIMS website, it requires login account for access. Talk to Communication Officer for login information.)
 - c) Inform Treasurer for invoicing, if not paid by credit card.
6. Election (E-Voting)
 - a) Advertise positions in December or early January.
 - b) Contact candidates for a short biography and a recent photo.
 - c) Set up an account on votenet.com (cost ~\$500 for one-time vote).
 - d) Set up voting pages and instructions.
 - e) Compile final voting results.
 - f) Election is normally carried out in March.
7. Annual Board Meeting and Annual General Meeting
 - a) Usually held at the Annual CAIMS Conference.
 - b) Prepare and distribute materials in advance for the annual meeting (notice of meeting, minutes, agenda, proxy form).
 - c) Work with the conference organizers that the Board and General meetings are scheduled in the annual conference program, have appropriate rooms assigned with necessary equipment, and have lunch provided.

CAIMS EXECUTIVE



LUCY CAMPBELL

Treasurer

School of Mathematics and Statistics
Carleton University
treasurer@caims.ca

Lucy Campbell received her Ph.D. in Applied Mathematics from McGill University and has been at Carleton University since 2003. Her research interests are in geophysical fluid dynamics and numerical and asymptotic methods for partial differential equations. She is a lifetime member of CAIMS and has been attending CAIMS meetings regularly since 1996. She has twice been an organizer of the Canadian Symposium on Fluid Dynamics and was a member of the Board of Directors from 2008 to 2011 and the chair of the Membership Committee from 2009 to 2011.

ROLES

1. Maintenance of proper accounting records in compliance with the Canadian Not-for-Profit Corporations Act (CNCA)
2. Deposit, safekeeping, and disbursement of funds Financial reporting

DUTIES

1. CAIMS bank account: depositing cheques, making payments, other transactions; maintenance; communication with bank; processing credit card transactions
2. CAIMS membership: developing, maintaining regonline forms; management of regonline account and paper forms; communication with members regarding membership and payment issues; maintenance of database
3. Invoicing other parties for ads on the CAIMS website and other services
4. Preparation of financial statements for members and for Corporations Canada, preparation and filing of tax returns; working with accountant; communication with CRA
5. Communication with Corporations Canada
6. Working with annual meeting organizers
7. Updating the By-Laws, Articles of Continuance and Operating Policies, as appropriate, to meet the needs of the Society; communicating updates to Corporations Canada
8. Providing advice to CAIMS on day-to-day activities to ensure compliance with CNCA

Membership

Advantages of membership in the Society include free subscription to the Annual Newsletter, registration for the CAIMS•SCMAI Annual Meeting at reduced rates, and affiliated membership in Gesellschaft für Angewandte Mathematik und Mechanik (GAMM) at two-thirds the current subscription rate. The normal annual membership fee is \$60.00 for the Society. CAIMS regular members employed outside the USA are entitled to regular membership in SIAM (under a reciprocity agreement) at 80% of the regular annual membership rate.

CAIMS•SCMAI publishes a Newsletter once a year and maintains a web site in both English and French at <http://www.caims.ca/>. The membership is also kept up to date via the E-News, an electronic newsletter that is published several times a year.

The Society contributes to the development and maintenance of Applied and Industrial Mathematics in Canada and worldwide, an endeavour that deserves support. Membership application/renewal forms are available online or by contacting communications-officer@caims.ca.

Rates for Individual Membership:

- \$800 Lifetime Membership
- \$240 Retired Lifetime Membership
- \$60 Regular Annual Membership
- \$20 Student/Retired/Unemployed Annual Membership
- \$42 non-Canadian SIAM/SMAI members (70% of the regular rate)
- \$40 non-Canadian GAMM members (2/3 of the regular rate)
- Free Associated Institutional Membership (grad students/postdocs as long as their institution remains as an Academic Institutional Member)
- Free Associated Institutional Membership for new faculty member for one year
- Free Associated Institutional Membership for academic research visitors for up to 1 year

Rates for Academic Institutional Membership:

- \$200 per year for institutions with a total enrollment of 10,000 or more
- \$100 per year for institutions with a total enrollment of under 10,000

Rate for Industrial Membership:

- \$300 per year

Committees

CAIMS•SCMAI operates multiple committees whose responsibilities cover the entire range of its activities. The membership and structure of each committee are specific to its area of operation but basic membership information can be found below.

Arthur Beaumont Award Committee

The Arthur Beaumont Distinguished Service Award Committee honours members of CAIMS•SCMAI for outstanding service to the society or to Applied Mathematics in Canada.
(Chair: Sue Ann Campbell, University of Waterloo)

CAIMS-Fields Industrial Mathematics Prize Committee

The CAIMS-Fields Annual Industrial Mathematics Prize recognizes exceptional research in any branch of industrial mathematics, interpreted broadly.
(Chair: Huaxiong Huang, York University)

CAIMS-PIMS Early Career Award Committee

The CAIMS-PIMS Early Career Award Committee recognizes exceptional research in any branch of applied mathematics, interpreted broadly.
(Chair: Geoff Wild, Western University)

CAIMS Research Prize Committee

The CAIMS Research Prize Committee recognizes innovative and exceptional research contributions in applied or industrial mathematics.
(Chair: Jianhong Wu , York University)

Doctoral Dissertation Award Committee

The Cecil Graham Doctoral Dissertation Award Committee recognizes an outstanding PhD thesis in Applied Mathematics defended at a Canadian University during the calendar year prior to the year of the award.
(Chair: Greg Lewis, University of Ontario Institute of Technology)

Nominations Committee

CAIMS•SCMAI presents annual awards that recognizes excellence in all areas of applied mathematics and encourages nominations from the community. CAIMS•SCMAI encourages its members to participate actively, to stand for election to positions on the Board of Directors, and to contribute to the society and the health of the Canadian Applied Mathematics community.
(Chair: Matt Davison, President-Elect)

Membership and Liaison Committee

CAIMS•SCMAI is a society run by the members and for the members. The Membership Committee governs all matters associated with membership of the society. Links with the mathematics departments across Canada are maintained with the aid of the liaison committee, consisting of representatives from each department.
(Chair: Troy Day, Queen's University)

Awards

CAIMS•SCMAI administers and awards a number of prizes for excellence in applied and industrial mathematics.

Arthur Beaumont Distinguished Service Award

The Arthur Beaumont Distinguished Service Award honours members of CAIMS•SCMAI for outstanding service to the society or to Applied Mathematics in Canada. The award is named after its first recipient, and was initiated as a means to honour Arthur for his years of unselfish service to the society. Arthur was a founding member of CAIMS•SCMAI and acted as its Secretary/Treasurer for eight years.

CAIMS-Fields Annual Industrial Mathematics Prize

The CAIMS-Fields Annual Industrial Mathematics Prize is to be awarded to a researcher in recognition of exceptional research in any branch of industrial mathematics, interpreted broadly. The nominee's research should have been conducted primarily in Canada. This Prize would not only be a high honour to bestow upon an individual, but also an acknowledgement of industrial mathematics as a fundamental and vibrant discipline within the research culture of Canada.

CAIMS/PIMS Early Career Award

The prize is to be awarded to a researcher less than ten years past the date of Ph.D. at the time of nomination (i.e. 2006 or later for 2016 prize). The prize recognizes exceptional research in any branch of applied mathematics, interpreted broadly. The nominee's research should have been conducted primarily in Canada or in affiliation with a Canadian university.

CAIMS•SCMAI Research Prize

The society's preeminent research award recognizes innovative and exceptional research contributions in applied or industrial mathematics.

Cecil Graham Doctoral Dissertation Award

The award has been established by the Canadian Applied and Industrial Mathematics Society (CAIMS) to recognize and to publicize an outstanding PhD thesis in Applied Mathematics defended at a Canadian University during the calendar year prior to the year of the award.