

## Candidate for Chair

Laureano Gonzalez-Vega  
Universidad de Cantabria, Santander, Cantabria, Spain

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Universidad de Cantabria, 1989, Mathematics.

#### Professional Experience:

Full Professor, Universidad de Cantabria, Santander, 2002 – 2009;

General Director Higher Education & Research, Cantabria Regional Government, Cantabria, 2003 – 2004;

Director, International Center for Mathematical Encounters, Castro Urdiales, 2006 – 2008.

#### Professional Interest:

Symbolic Computation; Computer Aided Geometric Design; Computational Real Algebraic Geometry; Industrial Mathematics.

#### ACM Activities:

Associate Editor, ACM Communications in Computer Algebra, 1999 – 2009.

### **STATEMENT**

SIGSAM must become a more dynamic organization to respond to the needs of its members. Some immediate issues to be considered are:

- Membership: researchers or practitioners in symbolic computation need to see a benefit as well as a cause for being a member. Our figures are not especially good and we must continue working to bring more members (and resources) to SIGSAM.
- SIGSAM and ACM: we must use all the opportunities ACM offers to approach other SIGs in order to get greater visibility.
- ISSAC: SIGSAM is strongly involved with the ISSAC organization through its Steering Committee. Like many other similar conferences, I am convinced that ISSAC's format and scope must be changed to some extent in order to get a greater impact. SIGSAM should continue sponsoring other events as a way of improving our visibility.
- SIGSAM tools: web page and CCA must continue to be improved and they should pay much more attention to software and applications.

I would like to say that I partially owe my professional career to SIGSAM but, more importantly, I have found here great colleagues and good friends. Thus, I will be honored to serve SIGSAM as its Chair.

## Candidate for Chair

Jeremy Russell Johnson  
Drexel University, Philadelphia, PA USA

### **BIOGRAPHY**

#### Academic Background:

Ph.D., The Ohio State University, 1991, Computer Science.

#### Professional Experience:

Professor and Dept. Head, Drexel University, Philadelphia, PA USA, 2002 – 2009;

Visiting Associate Professor, Carnegie Mellon University, Pittsburgh, PA USA,  
1998 – 1999;

Associate Professor with tenure, Drexel University, Philadelphia, PA USA, 1997 – 2002.

#### Professional Interest:

Computer Algebra Algorithms and Systems; High Performance Computing; Problem Solving Environments; Automated Performance Tuning; Hardware Generation.

#### ACM Activities:

General Conference Co-Chair, International Symposium on Symbolic and Algebraic Computation (ISSAC), 2009;

Program Committee Member (multiple times - last indicated), International Symposium on Symbolic and Algebraic Computation (ISSAC), 2006.

#### Membership and Offices in Related Organizations:

Member (currently chair) Cognitive and Computer Science Cluster, Franklin Institute - Committee on the Arts and Sciences, 2006 – 2009;

Member Steering Committee (chair 2008), International Symposium on Symbolic and Algebraic Computation (ISSAC), 2005 – 2008;

Co-founder (1994) and co-organizer, East Coast Computer Algebra Day, 2006.

#### Awards Received:

Drexel University Outstanding Online Instructor, 2008; Project SPIRAL (used by Intel MKL and IPP libraries), 2008; SPIRAL project ([www.spiral.net](http://www.spiral.net)) funded by DARPA, NSF, Intel.

### **STATEMENT**

The computer algebra (CA) and symbolic computing community has a long history of significant contributions to Computer Science, Education, Mathematics, and a wide variety of application domains. Fundamental algorithmic problems have been solved, and we now take for granted the availability of powerful general purpose CA systems. These systems

are commonly used when teaching mathematics and related topics and many symbolic mathematical computations are performed routinely. Despite the many successes CA remains a niche field in many universities and the SIGSAM community has shown little growth.

If elected, my primary objective would be to promote the field and to broaden and increase the SIGSAM community. I would work on strengthening the interaction between SIGSAM and other computer algebra related organizations and conferences and would reach out to other communities that use computer algebra systems. Specifically:

- Sponsor and affiliate with conferences worldwide to promote CA and reach out to students and users in addition to researchers;
- Provide a forum for sharing CA resources and expertise for applications and education;
- Extend the type of material included in the CCA to benefit a wider audience and promote cross-collaboration;
- Provide a venue for CA developers to promote and obtain recognition for their software.

## Candidate for Vice Chair

Xiao-Shan Gao

Institute of Systems Science, Chinese Academy of Sciences, Beijing, China

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Chinese Academy of Sciences, 1988, Applied Mathematics.

#### Professional Experience:

Director (2003-present) and Professor, Institute of Systems Science, Chinese Academy of Sciences, Beijing, China, 1997 – Present;

Research Scientist, Wichita State University, Wichita, KS, 1994 – 1996;

Post-Doctoral Fellow, University of Texas at Austin, Austin, TX, 1988 – 1990.

#### Professional Interest:

Symbolic computation; Automated reasoning; Computer aided design; Differential algebra.

#### ACM Activities:

Chair, ISSAC Steering Committee, 2008 – 2009;

Co-Chair, ACM ISSAC, 2005;

Track Co-Chair, ACM SAC, 2006 – 2009;

PC Member, ISSAC 2003, 2008.

#### Membership and Offices in Related Organizations:

Chair, Chinese Society of Computer Mathematics, CMS, 2007 – 2010;

Member, IEEE Computer Society, 1999 – 2009.

#### Awards Received:

A first class prize in natural science from CAS, 1995; A Chinese national second class prize in natural science, 1997; Best Paper Award, Asian Symp on Mathematics Technology, 1999; Zhong-Chuang Software Award, 2006.

### **STATEMENT**

I have been an active participant of ACM/SIGSAM activities through its flagship conference ISSAC. I believe the field of symbolic and algebraic computation will have new breakthroughs and more profound applications. As vice chair, I will assist the chair to promote the status of SIGSAM and the field of symbolic and algebraic computation by attracting more young researchers into the field, by providing better services to current members, and by introducing more cooperation between our field and other research communities and possibly industries.

## Candidate for Vice Chair

Elizabeth Mansfield  
University of Kent, Canterbury, United Kingdom

### **BIOGRAPHY**

#### Academic Background:

Ph.D., University of Sydney, 1992, Mathematics.

#### Professional Experience:

Professor of Mathematics, University of Kent, Canterbury, UK, 2005 – Present;  
Reader of Mathematics, University of Kent, Canterbury, UK, 2002 – 2005;  
Senior Lecturer in Mathematics, University of Kent, Canterbury, UK, 1998 – 2002.

#### Professional Interest:

Symbolic invariant calculus; Moving frames; Discrete variational methods; Symmetries of differential equations; Differential Groebner bases.

#### Membership and Offices in Related Organizations:

Board member, Foundations of Computational Mathematics, 2005 – Present;  
Mathematics Strategic Advisory Team member, Engineering and Physical Sciences Research Council, UK, 2007 – Present;  
Member, London Mathematical Society, 1993 – Present.

### **STATEMENT**

My interests have always revolved around symbolic computation for analysis, particularly differential equations, and more recently to discrete equations and numerical methods. I co-organized the Symbolic Analysis workshop at three successive Foundations of Computational Mathematics conferences, which are held every three years, and have given Plenary Lectures both for FOCM '05 and at ISSAC '08. I have four graduate students and speak at a variety of conferences. I have written two major MAPLE packages to support my research. The first, `diffgrob2`, concerned differential Grobner Bases. The second, `Indiff`, supports my current research in symbolic invariant calculus. The applications include solving Lie group invariant differential equations, particularly Euler Lagrange equations. My current major project is writing a book on this topic for Cambridge University Press.

I believe in supporting quality mathematics wherever it is, and have acted to raise awareness of how unwitting prejudice operates particularly against women. I have participated in mentoring schemes on both sides. Societies play an important role in making the culture of research as enjoyable and creative as it should and can be for everyone, and I am happy to play my part in that.

## Candidate for Secretary

Wen-shin Lee  
University of Antwerp, Belgium

### **BIOGRAPHY**

#### Academic Background:

Ph.D., North Carolina State University, 2001, Computational Mathematics.

#### Professional Experience:

Postdoc Researcher, University of Antwerp, Belgium, 2005 – Present;  
Post Doctorant, INRIA-Sophia Antipolis, France, 2003 – 2004;  
Postdoctoral Fellow, University of Waterloo, Canada, 2001 – 2003.

#### Professional Interest:

Symbolic-numeric computation; Approximate algebra; Sparse interpolation; Sparse modeling; Rational approximation.

#### ACM Activities:

Secretary, SIGSAM, 2007 – 2009;  
Poster Committee Member, Conference: ISSAC, 2008;  
Program Committee Member, Conference: ISSAC, 2006;  
Poster Committee Member, Conference: ISSAC 2004.

#### Membership and Offices in Related Organizations:

Program Committee Member, Conference: Asian Symposium on Computer Mathematics, 2007;  
Program Committee Member, Conference: Asian Symposium on Computer Mathematics, 2003;  
Local Arrangement and Web Master, Conference: East Coast Computer Algebra Day, 1999.

#### Awards Received:

East Coast Computer Algebra Day Tenth Anniversary Travel Awards, 2003.

### **STATEMENT**

As the special interest group representing researchers and practitioners in our community, SIGSAM has been the key instrument in promoting computer algebra through various awards, supports, and outreach initiatives.

The experience of SIGSAM Secretary has helped me to acquire understanding of SIGSAM and ACM structure and procedures. Besides the duties of Secretary, I will keep supporting actions that have been effectively advocating the interest of our community. The member participation is the key to a successful SIGSAM; I welcome feedback and will make efforts to obtain input from members. I will assist exploring initiatives raised during terms of current and former officers, e.g., how to better support related conferences? As one of the initial SIGs of ACM, SIGSAM can play a critical role to increase the recognition of computer algebra in the general computing community.

After graduating from National Taiwan University, I pursued my doctoral study at North Carolina State University, where I learned about computer algebra and became a SIGSAM student member in 1997. It was a privilege to serve as Secretary in the past two years. I am honored to be nominated for this office again, and will do my best if continue to have the chance.

## Candidate for Secretary

Eric Schost  
The University of Western Ontario, London, ON Canada

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Ecole polytechnique, 2000, Computer Science.

#### Professional Experience:

Assistant Professor, The University of Western Ontario, London, ON, 2006 – 2009;  
Assistant Professor, Ecole polytechnique, Palaiseau, France, 2001 – 2006.

#### Professional Interest:

Computer algebra; Complexity; Geometry and algorithms; High-performance computing.

#### Awards Received:

Distinguished paper award, ISSAC, 2004.

### **STATEMENT**

I am honored to be nominated for this office and will do my best to serve this SIG.

## Candidate for Treasurer

Jean-Guillaume Dumas  
University of Grenoble, Grenoble, France

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Institut National Polytechnique de Grenoble, 2000, Parallel Exact Linear Algebra.

#### Professional Experience:

Head, Computer Algebra and Dynamical Systems team, Applied Mathematics and Computer Department, University of Grenoble, Grenoble, France, 2006 – Present;  
Head, Applied Mathematics Master Program, University of Grenoble, France, 2006 – Present;  
Maître de conférences, University of Grenoble, Grenoble, France, 2002 – Present.

#### Professional Interest:

Exact Linear Algebra; Arithmetic and Cryptology; Parallel Algorithms; Models of computation and software engineering; Hybrid Dynamical Systems.

#### ACM Activities:

ACM-CCA Associate Editor, SIGSAM, 2006 – Present;  
Advisory board member at large, SIGSAM, 2007 – 2010.

### **STATEMENT**

I have been involved in the organization of several french and international conferences for the past years (EJCACF 2004, chair; Transgressive Computing 2006, co-chair; ISSAC 2006, editor; JNCF 2008, treasurer; JNCF 2010, co-chair).

As head of my research team I also have to manage its budget. I therefore have some experience of treasury and wish to do my very best in this SIGSAM position.

## Candidate for Treasurer

Agnes Szanto  
North Carolina State University, Raleigh, NC, USA

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Cornell University, 1999, Applied Mathematics.

#### Professional Experience:

Associate/Assistant Professor, North Carolina State University, Raleigh, NC, USA,  
2002 – Present;

Postdoctoral fellow, University of Kent, Canterbury, UK, 2000 – 2002;

Postdoctoral fellow, Simon Fraser University, Vancouver, Canada, 1999 – 2000.

#### Professional Interest:

Computer algebra; Symbolic-numeric computation; Solution of polynomial systems;  
Differential algebra.

#### ACM Activities:

ISSAC '07 Program Committee Member, SIGSAM (ISSAC), 2007;

ISSAC '03 Exhibitions Chair, SIGSAM (ISSAC), 2003.

#### Membership and Offices in Related Organizations:

Local Co-Chair FoCM '11, Foundations of Computational Mathematics FoCM, 2009;

ACA '03 Co-Chair, Applications of Computer Algebra, 2003;

Member, AMS, 1993 – 2000, 2004 – Present;

Member, MAA (Mathematical Association of America), 2004 – Present.

#### Awards Received:

ACM: Best poster award, ISSAC 2004, 2004.

Other: CAREER award of the National Science Foundation, 2004.

### **STATEMENT**

I am honored to be nominated for the Treasurer post of SIGSAM.

As Treasurer I will work with the Chair to maintain the financial stability of SIGSAM. Beyond trying to balance the budget, I will work toward the goal of reaching the funding level recommended by ACM. It will be my priority to communicate financial matters to the general SIGSAM membership.

Working as part of the team of SIGSAM Officers, I will continue the work of advancing the field of Computer Algebra through various initiatives. I would promote the expansion of SIGSAM's cooperation with other professional societies as well as with various conferences and workshops.