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Annual Report of the SIG Governing Board

For the period: 1-July-2021 through 30-June-2022

Submitted by: Jens Palsberg

Date: September 20, 2022

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The SIG Governing Board (SGB)

The SGB is comprised of the chief executive officer or designee of each regular SIG. The SGB is charged with forming SIGs, with managing them and setting policies for their management, and with recommending their dissolution. The SGB elects a Chair, Executive Committee and 3 additional representatives to Council.

The SGB EC

The SGB elects a Chair and an Executive Committee, which has full authority to act on behalf of the SGB between its meetings. The SGB EC is bound by the SGB's actions and the SGB may override any decision of the SGB EC. The SGB EC is made up of the following positions which were approved following the review and approval of the restructuring task force recommendations:

> **SGB Chair -** Serves as SGB EC Chair, one of the four SIG Representatives on ACM Council, and as the SIG Representative on the ACM Executive Committee. Also responsible for SIG financial and budgetary issues and overseeing SGB committees and task forces.
> **SGB EC Vice Chair for Operations** – Presides over SGB and SGB EC Meetings, including SGB EC conference calls. Oversees SIG Liaisons to ACM Committees and Boards.
> **SIG Development Advisor** –. Identifies emerging technical areas and works with individuals and groups interested in forming SIGs.
> **SGB Conference Advisor** – Oversees developing conference activity to be sponsored by the SGB.
> **New SIG Advisor** – Acts as liaison for newly chartered SIGs and helps to nurture and support new SIG leadership as they develop programs and activities.
> **SIG Viability Advisor** – Oversees transitional SIGs and works with SIGS scheduled for program reviews. Also acts as the SIG election liaison.
> **SIG Awards Advisor -**. Acts as liaison for SIG leaders and Awards Committee and helps SIG leadership with proposals and approval process.
> **Publications Advisor** – Acts as liaison between SGB and Publications Board and oversees issues related to publications as directed by the SGB
> **SGB Past Chair-** Provides guidance and advice to the SGB EC and chairs the SGB EC nominating committee.
> **Director of SIG Services** – Staff liaison

During FY'22 the following individuals held the positions indicated:

Name	Position	Term End
Jens Palsberg	Chair	June 30, 2022
Jeff Jortner	Past Chair	June 30, 2022
Adrienne M Decker	SIG Viability Advisor	June 30, 2023
Jian Pei	SIG Development Advisor	June 30, 2022
Sanmay Das	Conference Advisor	June 30, 2023
Shan Lu	SGB EC Vice Chair for Operations	June 30, 2022
Ben Carterette	SIG Awards Advisor	June 30, 2023
Laurie Fox	New SIG Advisor	June 30, 2022
Jonathan Aldrich	Publications Advisor	June 30, 2023
Donna Cappo	Staff Liaison	

Council Representatives

The SGB elects 3 representatives to the ACM council for two-year terms. During FY'22 the following individuals held the ACM Council positions indicated:

Name	Position	Term End
Thomas Zimmermann	SGB Council Representative	June 30, 2023
Pankaj Jalote	SGB Council Representative	June 30, 2022
Jeanna Matthews	SGB Council Representative	June 30, 2022

Standing Committees

The SGB is responsible for the oversight of the Federated Computing Research Conference Steering Committee currently chaired by Vivek Sarker.

Significant Issues Faced by SGB Leadership

We encourage you to review the individual SIG Annual Reports in Appendix D for more detailed information regarding conference activity.

SGB Meetings

Virtual SGB meetings were held in October 2021 and April 2022.

Emerging Interest Groups

Smart Connected Communities
Reproducibility and Independent Verification

Miscellaneous Appointments
SIG leaders appointed as committee liaisons:

Name	Position	Term End
Jonathan Aldrich	Publications Board Liaison	June 30, 2023
Vivek Sarkar	FCRC Steering Comm. Chair	June 30, 2023
Kim Tracy	History Committee Liaison	June 30, 2022
Jeanna Matthews	ACM Technology Policy Council	June 30, 2023
Michel Beaudouin-Lafon	ACM Technology Policy Council	June 30, 2023

SGB Nominating Committee

The SGB Nominating Committee nominates candidates for the SGB EC, in addition to nominating candidates for SGB Chair and SGB Representatives to ACM Council. It is led by the Past SGB Chair and includes the current SGB Chair. Cappo acts at staff liaison.

SIG Membership

Appendix A summarizes basic SIG Statistics for FY'22. Included are member and subscriber totals and conference activities.

Membership Counts by class of membership:

	FY'22
ACM/SIG Members	22,405
SIG Only Members	10,002
Subscribers	137
Total SIG Members/Subs	32,544
Total ACM Members	113,165

The SIGs overall member/subscriber count is 32,544 as compared to 31,393 in FY'21.

SIG Program Reviews and Annual Reports

Program Reviews and annual reports are the reporting mechanism for individual SIGs to the SGB.

Program Reviews
The following SIGs were found viable to continue their status for the next 4 years: SIGEVO, SIGKDD, SIGMICRO, SIGMM, SIGSAC, SIGSIM, SIGecom, SIGMOD, & SIGCAS.

Annual Reports
Annual reports were received by the submission deadline from: SIGACCESS, SIGAPP, SIGARCH, SIGBED, SIGCAS, SIGCSE, SIGDOC, SIGEVO, SIGMETRICS, SIGMICRO, SIGMIS, SIGPLAN, SIGSAC, SIGSAM, SIGSIM, SIGSOFT, SIGSPATIAL, SIGUCCS. These reports can be found in Appendix D.

Annual reports were received following the submission deadline from: SIGAI, SIGDA, SIGEnergy, SIGGRAPH, SIGHPC, SIGKDD, SIGMM, SIGMOD, SIGOPS, and SIGWEB. These reports have been added to Appendix D.

Annual reports were not received from: SIGACT, SIGAda, SIGBIO, SIGCHI, SIGCOMM, SIGEcom, SIGIR, SIGITE, SIGLOG and SIGMOBILE. This will be noted in their viability reviews.

Highlights from Appendix D – SIG Annual Reports

Awards

The SIGBED-SIGSOFT Frank Anger Memorial Award is a student award in the name of late Dr. Frank Anger to promote cross-disciplinary research between embedded systems and software engineering. After several years during which no award was given due to the lack of nominations, since 2020 SIGBED has revamped the selection process and begun to advertise it aggressively. The effort has paid off: they received seven stellar candidates from the community. The award selection committee this year chaired by Professor Nan Guan from City University of Hong Kong, with five other award committee members who are all respected seniors in the field. All the applicants have excellent research records in embedded systems and proposed exciting research topics crossing over embedded systems and software engineering. After a two-round selection process, finally the selection committee decided to grant the award to Akshay Gadre, who is a graduate student in Carnegie Mellon University under the supervision of Swarun Kumar. The award was recognized by the ACM SIGBED Chair at the ESWEEK 2021 virtual conference. SIGBED is currently soliciting nominations for its 2022 award.

The Outstanding Service award is generally presented to a SIGCAS member who merits recognition for outstanding service in carrying out work that fosters SIGCAS' well-being, vibrancy, visibility, and currency.

This service may take many forms, including organizational leadership, editorial board participation or outreach efforts to expand SIGCAS' influence in the ACM and computing community at large. In 2021, the award was presented to Barbara Boucher Owens. Barbara has been in the computing field since 1967 when she started work at IBM Research in Yorktown Heights, NY. Since that time, she has provided leadership in dozens of projects with SIGCAS, SIGCSE, and the ACM.

The 2022 SIGCSE Award for Lifetime Service to the Computer Science Education Community was given to Simon. Simon has been involved on numerous program and conference organizing committees and has served as submissions and database chair for many years for the ICER conference. Simon elected to have his award presented at ITiCSE 2022.

The Rigo Award is named after Joseph Rigo, the founder of SIGDOC. The award celebrates an individual's lifetime contribution to the fields of communication design, technical communication, user experience, or another related field. Dr. Miriam F. Williams is the 2022 Rigo Award recipient. She is Professor of English and Associate Chair of Texas State University's Department of English.

SIGMM 2021 Technical Achievement Award for *Outstanding Technical Contributions to Multimedia Computing, Communications and Applications* was awarded to Prof. Jiebo Luo in recognition of his outstanding, pioneering, and continued research contributions in the areas of multimedia content analysis and social media analytics, and for outstanding and continued service to the multimedia community.

SIGSAC bestowed six individuals with awards in FY '22. Among these awards were the Outstanding Innovation Award (Patrick McDaniel and Srinivas Devadas), Outstanding Contributions Awards (Elena Ferrari), Doctoral Dissertation Award (Jo Van Bulck) and the Doctoral Dissertation Award Runners-Up (Ioannis Demertzis and Güliz Seray Tuncay).

The Awards panel for the 2021 ACM SIGSAM Richard Dimick Jenks Memorial Prize (Chaired by Michael Monagan, Simon Frasier University) selected Henri Cohen, Karim Belabas, and Bill Allombert as the winner for the Pari/GP computer algebra system for the Macaulay and Macaulay2 computer algebra systems. The award was presented at ISSAC 2022.

SIGSPATIAL - In 2021, the 10-Year Impact Award was given to the following paper from the 2011 conference: "Transportation Mode Detection using Mobile Phones and GIS Information" by Leon Stenneth, Ouri Wolfson, Philip S. Yu, and Bo Xu, all from the University of Illinois, Chicago. This annual award is given to a regular paper published at their main conference 10 years ago whose value and prescience have become apparent over a long period of time. It is chosen by a committee from their research community.

Significant Papers and Publications

SIGACCESS - The **ASSETS 2021 Best Paper** award went to Qisheng Li, Josephine Lee, Christina Zhang, Katharina Reinecke for their work "**How Online Tests Contribute to the Support System for People with Cognitive and Mental Disabilities**." The authors described how prior work had found that people with cognitive and mental disabilities assess themselves using online tests and assessments, yet it had been unknown whether and how effectively these tests fill gaps in healthcare and general support systems. They interviewed adults with cognitive or mental disabilities about their motivation for and experience using online tests, and they found that online tests were an important resource for these users, i.e., lowering barriers to a professional diagnosis, providing valuable information about the nuances of a disability, and supporting people in forming a disability identity.

SIGBED blog has attracted many contributions by highly active researchers that reflect cutting-edge work and new events on embedded systems being done today. Since September 2021, the SIGBED blog has published eight high-quality articles on a variety of topics. Please see https://sigbed.org/blog/ for more details.

The SIGMETRICS Achievement Award was awarded to Prof. Balaji Prabhakar of Stanford University in recognition of his outstanding contributions to applied probability and the theory and design of Internet algorithms, data center networks and societal networks.

In 2021, The DATA BASE for the Advances in Information Systems (SIGMIS publication) received 79 submissions from 24 different countries across the globe. A total of 25 manuscripts were accepted for publication, and 160 different reviewers assisted with the editorial process.

SIGSIM – This year's MSWiM Best Paper Award was awarded to the paper "No Reservations Required: Achieving Fairness between Wi-Fi and NR-U with Self-Deferral Only" by Ilenia Tinnirello, Alice Lo Valvo, Szymon Szott, and Katarzyna Kosek-Szott.

International Activities

SIGCAS - GoodIT (Information Technology for Social Good) convened in a hybrid model (most delegates in person, in Rome, Italy, and others attending remotely) GoodIT focuses on the application of IT technologies to the social good. It concentrates on "world citizens uniting to unlock the potential of individuals, technology, and collaboration to create positive societal impact."

SIGCSE - A doctoral consortium ran virtually just prior to the 2021 International Computing Education Research Conference (ICER). The students presented their work to the discussants and engaged in discussion about various topics such as graduate school, research, and careers. The doctoral consortium was attended by 14 graduate students in computer science education. SIGCSE typically provides travel grants to the students and partial funding for lodging during the workshop and during the ICER conference. However, since the conference was virtual, travel support was not needed. Students instead only received free registration for the conference. The SIGCSE Board will continue to fund up to twenty Doctoral Consortium grants for participants of the ICER conference in 2022. The Doctoral Consortium was run by Lauren Margulieux (Georgia State University, USA) and Felienne Hermans (Leiden University, Netherlands).

SIGSPATIAL has prioritized DEI in awarding student travel funds to their conference. This includes both the funds acquired from NSF for student travel for US-based students as well as SIGSPATIAL funds used to support international students.

Collaboration

Jointly with TCCA, SIGARCH launched a program in 2017 to honor at ISCA the contributions of members of their community who are retiring or have recently retired. In 2021, they honored the contributions of Prof. Wen-Mei Hwu who entered from UIUC.

The industrial advisory board (IAB) of SIGDA had several discussions about how the IAB contributed to the SIGDA community in general. The IAB generally agrees to improve the presence of industrial experts in SIGDA's education and technical activities and provide necessary support and guidance to the organization of these activities.

SIGMETRICS partners with SIGSOFT and SPEC as technical sponsors of the ICPE conference, and together with IEEE in IWQoS, as well as with SIGCOMM and other SIGs in cosponsoring IMC and SenSys.

To strengthen the synergy between TSAS and SIGSPATIAL, SIGSPATIAL continues to publish in TSAS special issues of extended versions of the best-paper award nominees from the previous year's SIGSPATIAL conference. They also have two special issues related to the COVID-19 pandemic. The first

is on Contact Tracing with Guest Editors: Mohamed Mokbel (University of Minnesota, USA), Demetris Zeinalipour (University of Cyprus, Cyprus), and Li Xiong (Emory University, USA), and was published in June 2022. The second ongoing special issue is on Understanding the Spread of COVID-19 with Guest Editors: Taylor Anderson (George Mason University, USA), Andreas Züfle (George Mason University, USA), and Song Gao (University of Wisconsin, USA).

Programs and conferences

SIGAPP: Applied Computing Review is now stabilized, and SIGAPP has begun publishing quarterly and electronically since the spring of 2012. Ultimately, the SIG would like to have ACR appear in the SCI (Science Citation Index). ACR contains invited papers from world-renowned researchers and selected papers presented by prominent researchers and professionals who attended the SAC, RACS, PEARC, and ICEA conferences. The selected papers have been expanded, revised, and peer-reviewed again for publishing in ACR. The next issue will be published in the fall of 2022.

SIGARCH provides financial support for several initiatives aimed at developing talent, improving well-being, and advancing diversity and inclusion for their members at various levels of seniority at SIGARCH-sponsored events. In 2021, they sponsored CASA's Promotion of Balanced Mental Health event for Graduate Students, the Undergrad Architecture Mentoring Workshop (Uarch), Young Architect Workshop (Yarch), and the grad cohort of CRA Committee on Widening Participation in Computing Research (CRA-WP).

SIGACCESS commissioned a history research project, which gathered interviews with prominent members of the SIG, and historical information. The report from this project contributed to the content of the historical panel presentation at the ASSETS 2021 conference, and it was published this year as an article within the SIGACCESS newsletter.

SIGCSE - Every other year, the SIGCSE Board runs a workshop for graduate students and new academics called the Professional Development Session for New and Aspiring Educators. The workshop features small group discussions among the students and presentations by seasoned academic mentors providing advice and guidance to faculty who are just starting out in their careers. Topics for discussion and presentation centered around finding a career path; balancing teaching, research, and service; working with colleagues; navigating the tenure process; course organization; and student mentoring advice. The workshop took place on Wednesday, March 2, 2022 directly before the 2022 symposium and was attended by both in-person and virtual attendees. The workshop was organized by Diane Horton (University of Toronto) and Meghan Allen (University of British Columbia).

The conferences under the SIGDA umbrella continue to maintain an exceptional standard of quality and visibility in the design automation area. Submissions in general continue to go up. For example, submissions to one of their flagship conferences (DAC) increased to 987 in 2022, from 914 in 2021. Submissions to the three main ESWEEK conferences were also up compared to 2021 (CASES - 118 submissions, a 200% increase; CODES – 127 submissions, a 6% increase; and EMSOFT – 100 submissions, a 76% increase). Submissions to ICCAD, another flagship conference, went up to 595, a 12% increase over 2021.

The SIGDOC Chair and some members are working towards a project titled DART (data repository), which would provide open access data from various publications in the field of technical communication.

SIGEVO: GECCO 2021 was a hybrid event in Boston with a high number of submissions (470). The conference had a record number of participants with 412 onsite and 561 online for a combined total of 973 participants. Running the hybrid event was a positive experience and future GECCOs will also be hybrid. Whova was well accepted by attendees and those who entered Gathertown liked it.

SIGMIS has begun the planning for their 2023 conference as a face-to-face conference in sunny Southern California, USA. Indira Guzman and Sam Zaza will serve as the conference co-chairs. The 2024 conference will be held in Waco, Texas at Baylor University. Using a university facility should decrease the expenses for the conference and allow the conference to bring in more revenue to the SIG. Cindy Riemenschneider will serve as one of the conference co-chairs for 2024.

SIGMM provided support for student travel through grants, at all their SIGMM-sponsored conferences. In 2021 SIGMM rearranged the way student travel grants are awarded by centralizing the process. To have full control of the total amount given for travel grants, in 2022 SIGMM recommended the committee to allocate budgets to conferences proportionally to the historical conference attendance.

Until the pandemic, SIGPLAN provided $120,000 annually in travel grants, which go mostly to students. Additionally, SIGPLAN provided a total of $80,000 annually to support the Programming Languages Mentoring Workshops. This money went to cover the travel costs of students. Also, SIGPLAN provided a total of $50,000 annually to support four summer schools. This money goes mostly to cover the travel costs of students. As SIGPLAN has transitioned back to in-person events, they have begun providing these grants again, though not yet at the pre pandemic level of sponsorship. SIGPLAN anticipates grant totals will rise to the previous levels in the coming fiscal year.

ISSAC 2021 was held Jul 18, 2021 – Jul 23, 2021, run in a hybrid format, with some participants on-site in St. Petersburg, Russia, but the majority attending online. It was sponsored by ACM / SIGSAM. ISSAC 2022, which was held Jul 4, 2022 – Jul 7, 2022, was initially planned as a full in-person edition in Lille, France. However, because of the ongoing and new crises, it ran in a hybrid format with a large in-person portion. It was sponsored by ACM/SIGSAM.

SIGSIM - Special committee on Space Simulations has been formed for bringing new researchers and activities in federated simulation technologies for space models such as lunar and Mars missions.

MICRO conference (https://www.microarch.org/) is the flagship event sponsored by SIGMICRO. MICRO celebrated its 54th year in 2021. It was held virtually. It is growing in terms of attendance, submissions, and impact. This 54th incarnation also introduced Artifact Evaluation (https://www.microarch.org/micro54/submit/artifacts.php) for the first time, to encourage open science. As stated by the Program Chairs, "Artifact Evaluation promotes reproducibility of experimental results and encourages code and data sharing to help the community quickly validate and compare alternative approaches." Both the conference program and artifact evaluation process have been deemed very successful. A record of 94 papers were presented at MICRO-54, which were selected via a rigorous process among the 430 submissions. MICRO-55 will be held in Chicago October 1-5, 2022, in person.

Through the Conference Aid Program for Students (CAPS), SIGSOFT provided travel support to conferences for dozens of graduate and undergraduate student-members as well as support to defray the costs of childcare for all members of their community (faculty qualify as well).

In the past year, SIGSOFT launched the SIGSOFT Blog (https://sigsoft.medium.com/) as an additional way to enhance the communication between the SIGSOFT Executive Committee and the software engineering community, and to create a sense of community within SIGSOFT, and publicize software engineering and SIGSOFT activities to the outside world. The blog featured several important updates to the community such as "What's New with ICSE 2022" and "Why Publish in ACM TOSEM in the Twenties?"

SIGUCCS continues to engage their community through bi-monthly book club and monthly Zoom "meet-ups". Book club meetings are held every other month and are attended by anywhere from 8-15 persons. Books for the 2021-2022 year include:

● The No Asshole Rule: Building a Civilized Workplace and Surviving One That Isn't - Robert I. Sutton (September 2021)

● First, Break All the Rules - Marcus Buckingham & Curt Coffman (November 2021)

● Four Thousand Weeks: Time Management for Mortals - Oliver Burkeman (January 2022)

● REMOTE: Office not Required - Fried & Hansson (March 2022)

● My Own Words - Ruth Bader Ginsberg (May 2022)

● Drive: The Surprising Truth about what Motivates Us - Dan Pink (July 2022)

Additional books for September and November 2022 are already selected.

Volunteer Development

SIGAPP continues to improve and establish their volunteers. However, the development process is an essential issue for SIGAPP. SIGAPP Executive Committee keeps looking for new volunteers to serve the future SIGAPP officer appointments. SIGAPP has encouraged SIGAPP members to serve as volunteers for the SAC conference, which is the flagship conference of SIGAPP. In addition, they have brainstormed career paths for young researchers in their career development, including the Career Award, Young Researcher Award, and a queue of service positions from TPC members, Track Chairs, to Conference Chairs. This will help attract people to join and work together in SIGAPP.