

2023 SIAG on Optimization

SIAM Conference on Optimization

Co-located with the SIAM Conference on Applied and Computational Discrete Algorithms

Activity Group on Optimization Business Meeting

Wednesday, May 31st, 6:45 - 7:45 pm PDT
Grand Ballroom B/C/D, 2nd floor
The Sheraton Grand Seattle
Seattle, Washington U.S.



2023 SIAG/OPT BUSINESS MEETING

Join SIAM Today!

Benefits of SIAM Membership Include.....

- *SIAM Review* (Print & Electronic)
- *SIAM News* (Print)
- 30% Off SIAM Books
- \$15 / Activity Group Membership
- 20% - 30% Off Registrations
- 80% Off Journals (up to 4)
- 95% Off e-Access to Journals
- Spouse may join as Associate Member
- *SIAM Unwrapped*
- Vote in SIAM Elections
- Eligible to Hold Office
- Eligible for Committee Appointments
- Nominate SIAM Fellows
- Be Nominated as a SIAM Fellow
- Eligible for Group Insurance
- Nominate 2 Students for Free Membership
- Qualifying Student Members can join 2 SIAGs for *free!*

Nonmember attendees can save up to \$160 their 2023 membership!

SIAG on Optimization Officers

Chair:

Luis Nunes Vicente

*

Vice Chair:

Coralia Cartis

*

Program Director:

Gabriele Eichfelder

*

Secretary:

Juliane Mueller

SIAG on Optimization Thank you to all 2020-2022 Officers

Chair:

Katya Scheinberg

*

Vice Chair:

Samuel Burer

*

Program Director:

Jeff Linderoth

*

Secretary:

Stefan Wild

SIAG on Optimization Communications

- [SIAM Engage](#)
- SIAG/OPT websites: [Official one](#) [Our github one](#)
- [SIAG/OPT Views and News](#) (Editors: Pietro Belotti, Dmitriy Drusvyatskiy, Matt Menickelly)
- SIAM News (Matt Menickelly is our liaison)
- [SIAG/OPT Leadership Suggestion Form](#)
- SIAM Blogs

SIAG on Optimization Fellows

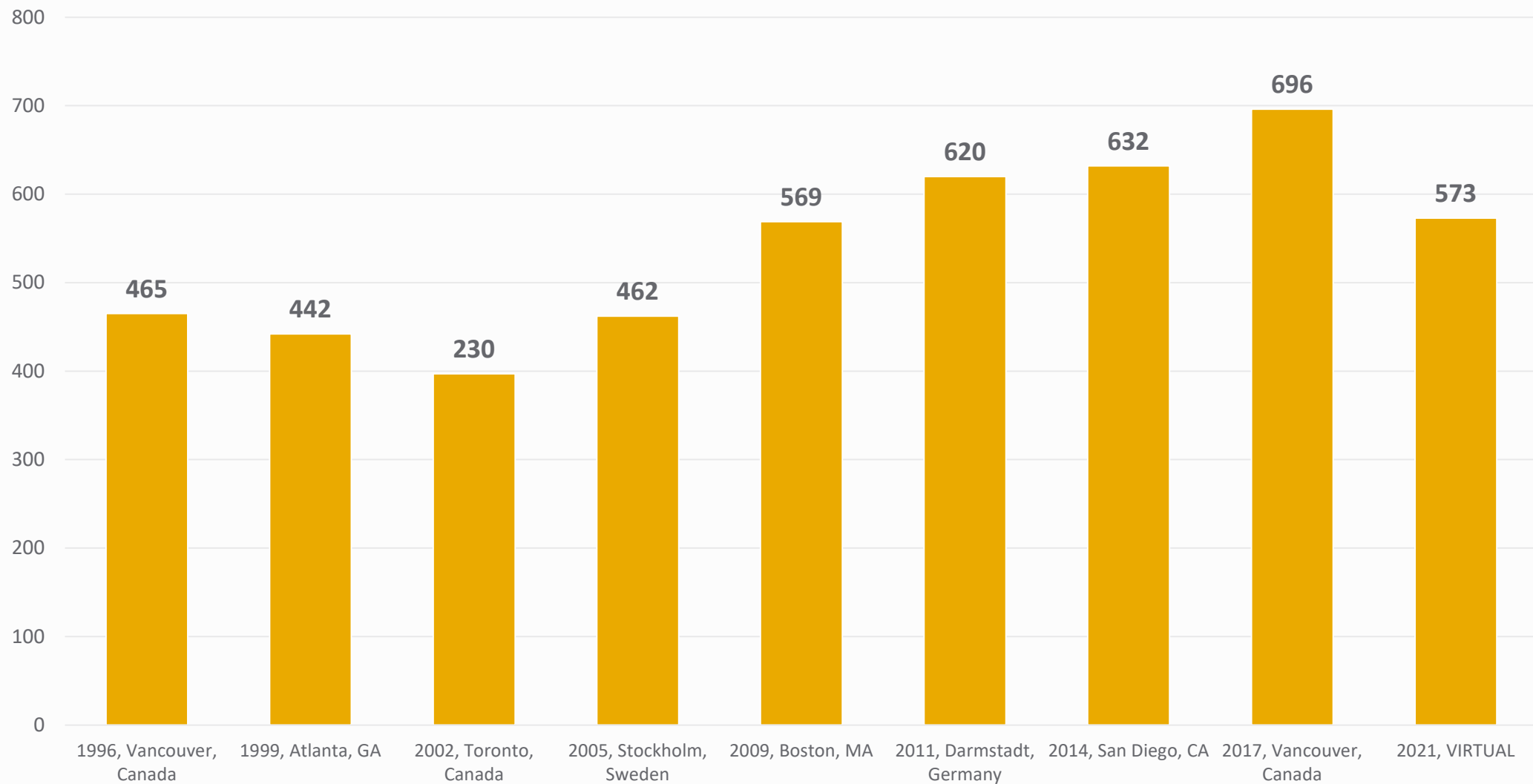
Class of 2022

Sharon Arroyo
James Crowley

Class of 2023

George Biros
Coralia Cartis
Caroline Uhler

SIAG on Optimization Conference History



SIAG on Optimization Conference 2023

Organizing Committee Co-Chairs

Coralia Cartis, University of Oxford, United Kingdom

Jeffrey Linderoth, University of Wisconsin, U.S.

Katya Scheinberg, Cornell University, U.S.



Organizing Committee

Amitabh Basu, Johns Hopkins University, U.S.

Güzin Bayraksan, Ohio State University, U.S.

Stefania Bellavia, University of Florence, Italy

Yuhong Dai, AMSS, Chinese Academy of Sciences, PR China

Dmitriy Drusvyatskiy, University of Washington, U.S.

Dorit Hochbaum, University of California, Berkeley, U.S.

Ruth Misener, Imperial College London, United Kingdom

Ali Pinar, Sandia National Laboratories, U.S.

Fred Roosta, University of Queensland, Australia

Johannes O. Royset, Naval Postgraduate School, U.S.

Mikhail V. Solodov, IMPA-Instituto de Matematica Pura e Aplicada, Brazil

Kim-Chuan Toh, National University of Singapore, Singapore

SIAG on Optimization Conference 2023

SIAG/OPT Best Paper Prize

Stochastic Model-Based Minimization of Weakly Convex Functions

Friday, June 2nd, 9:15 AM – 10:00 AM PDT

Room: Grand Ballroom B/C/D, 2nd floor

Chair: Luis Nunes Vicente, *Lehigh University, U.S.*

We consider a family of algorithms that successively sample and minimize simple stochastic models of the objective function. We show that under reasonable conditions on approximation quality and regularity of the models, any such algorithm drives a natural stationarity measure to zero at the rate $O(k^{-1/4})$. As a consequence, we obtain the first complexity guarantees for the stochastic proximal point, proximal subgradient, and regularized Gauss--Newton methods for minimizing compositions of convex functions with smooth maps. The guiding principle, underlying the complexity guarantees, is that all algorithms under consideration can be interpreted as approximate descent methods on an implicit smoothing of the problem, given by the Moreau envelope. Specializing to classical circumstances, we obtain the long-sought convergence rate of the stochastic projected gradient method, without batching, for minimizing a smooth function on a closed convex set.

Damek Davis

Cornell University, U.S.

Dmitriy Drusvyatskiy

University of Washington, U.S.

SIAG on Optimization Conference 2023

SIAG/OPT Test of Time Award

Two Decades of Low-Rank Optimization

Friday, June 2nd, 10:00 AM – 10:45 AM PDT

Room: Grand Ballroom B/C/D, 2nd floor

Chair: Luis Nunes Vicente, *Lehigh University, U.S.*

In this talk, we offer our personal perspective on low-rank algorithms for semidefinite programs and related optimization problems. We touch on their history and describe connections with other trends in optimization, including first-order methods and benign nonconvexity. Finally, we highlight recent theoretical insights into low-rank algorithms---as well as various applications for which the low-rank approach has proven successful.

Samuel Burer

University of Iowa, U.S.

Renato Monteiro

Georgia Institute of Technology, U.S.

2023 SIAG on Optimization

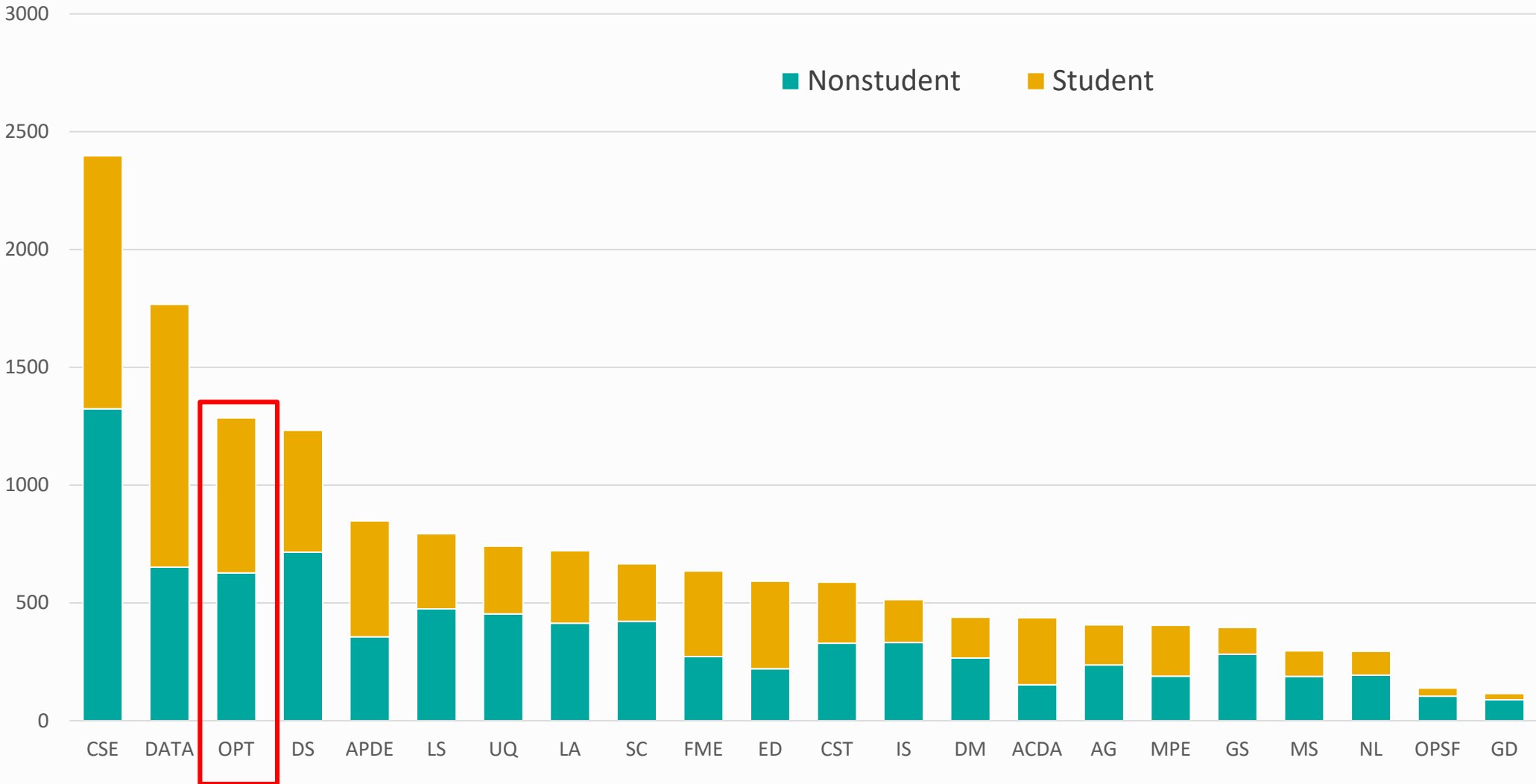
Membership Report

(data as of December 31, 2022)

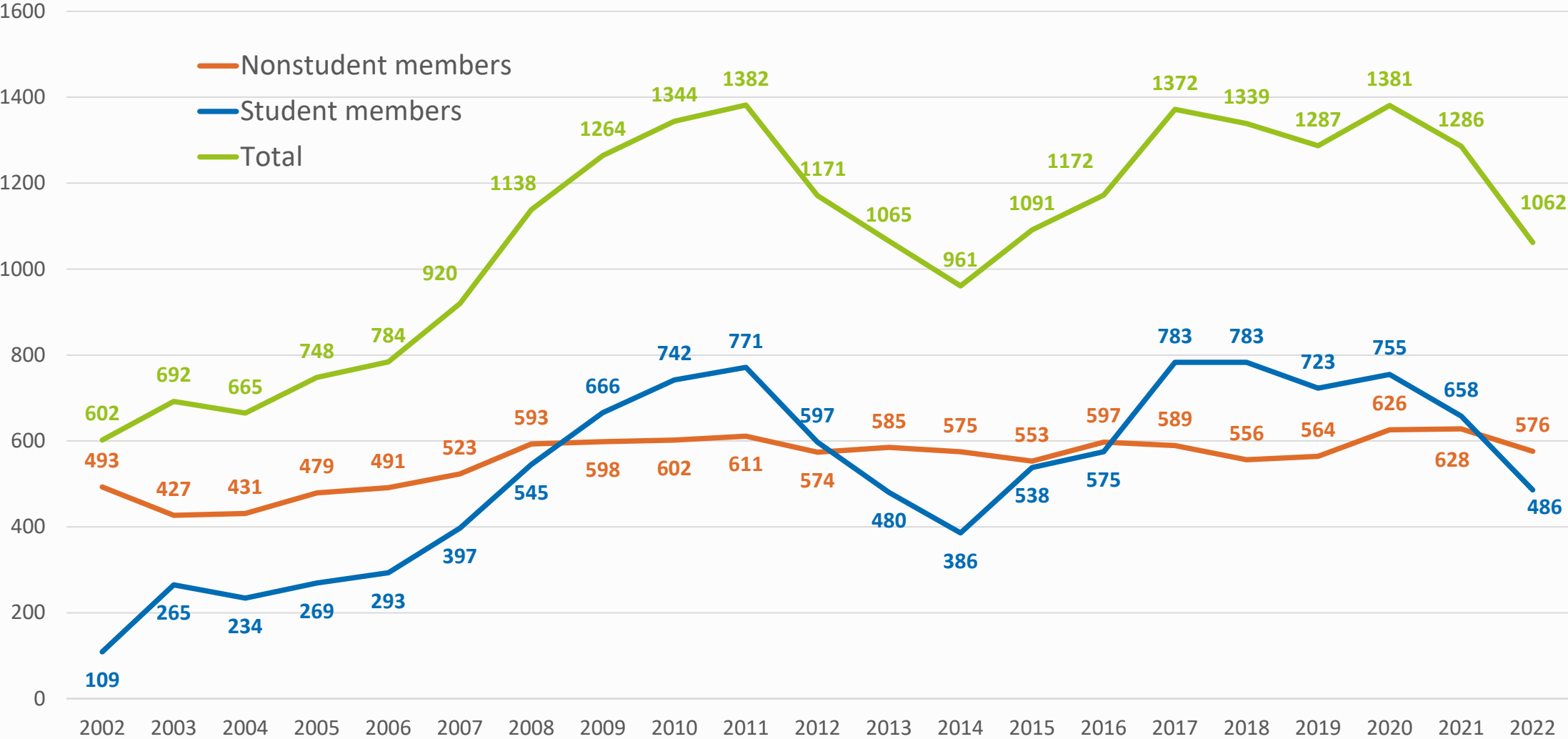


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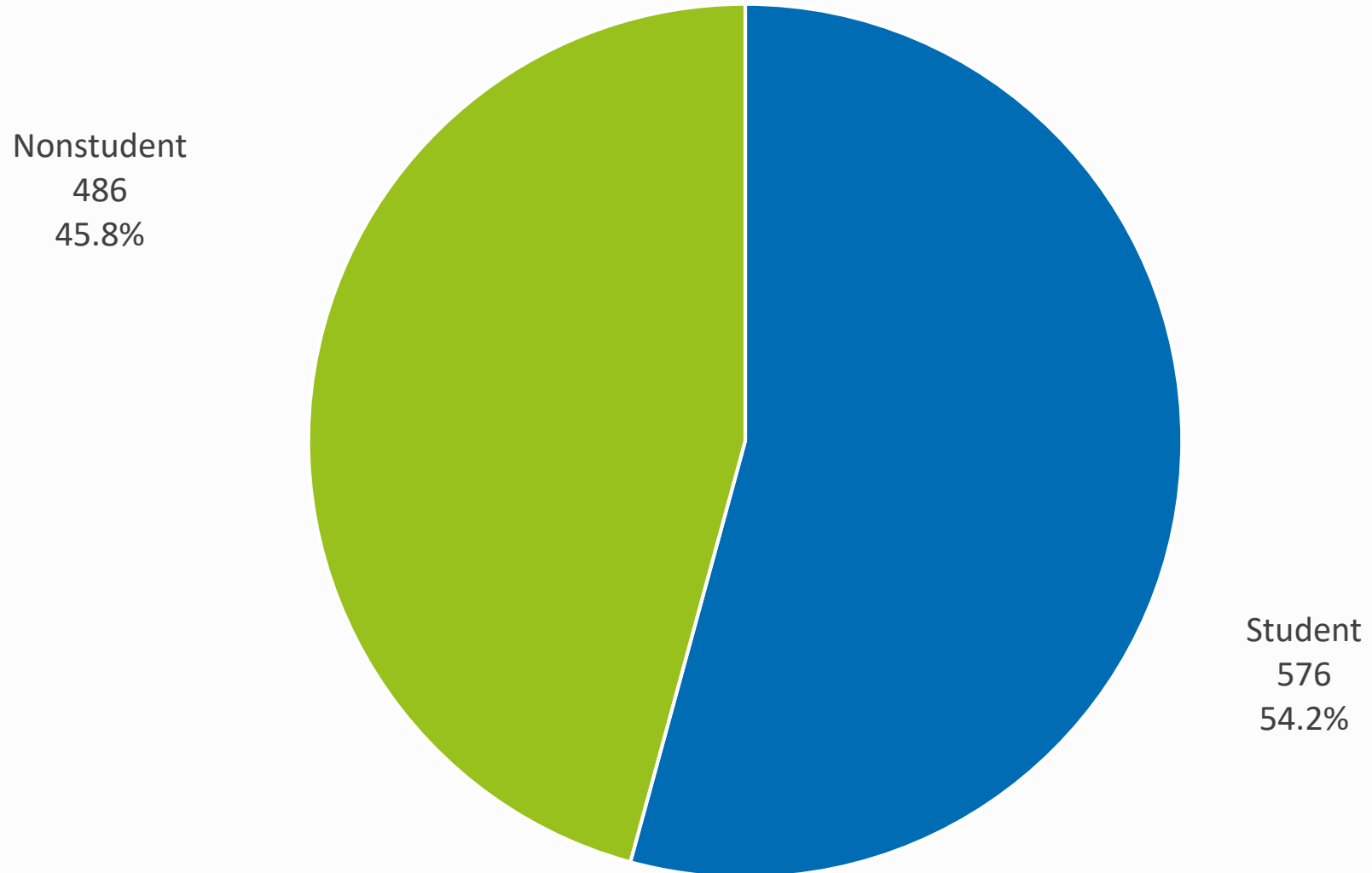
SIAG Overall Membership



SIAG/OPT Membership Demographics



SIAG/OPT Membership Demographics

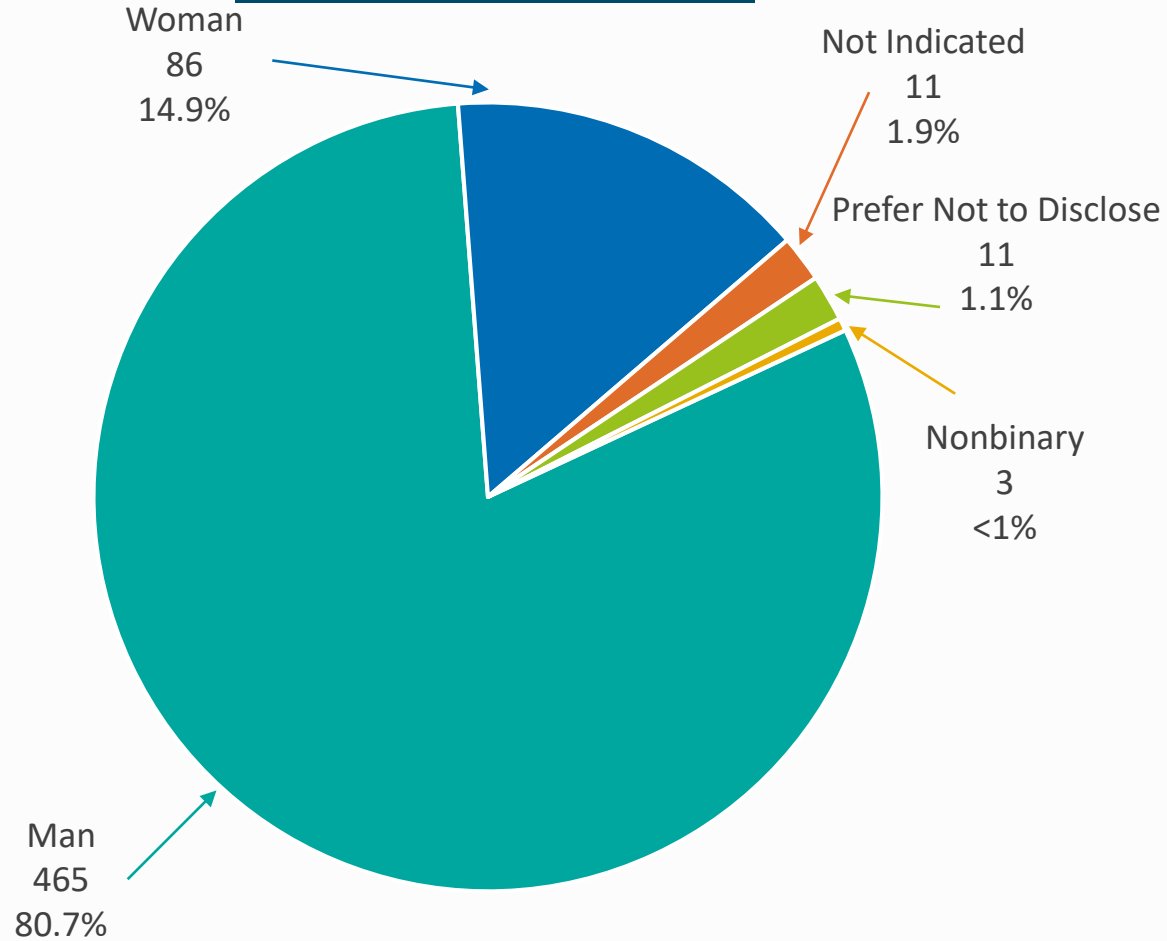


SIAG/OPT Membership by Geography

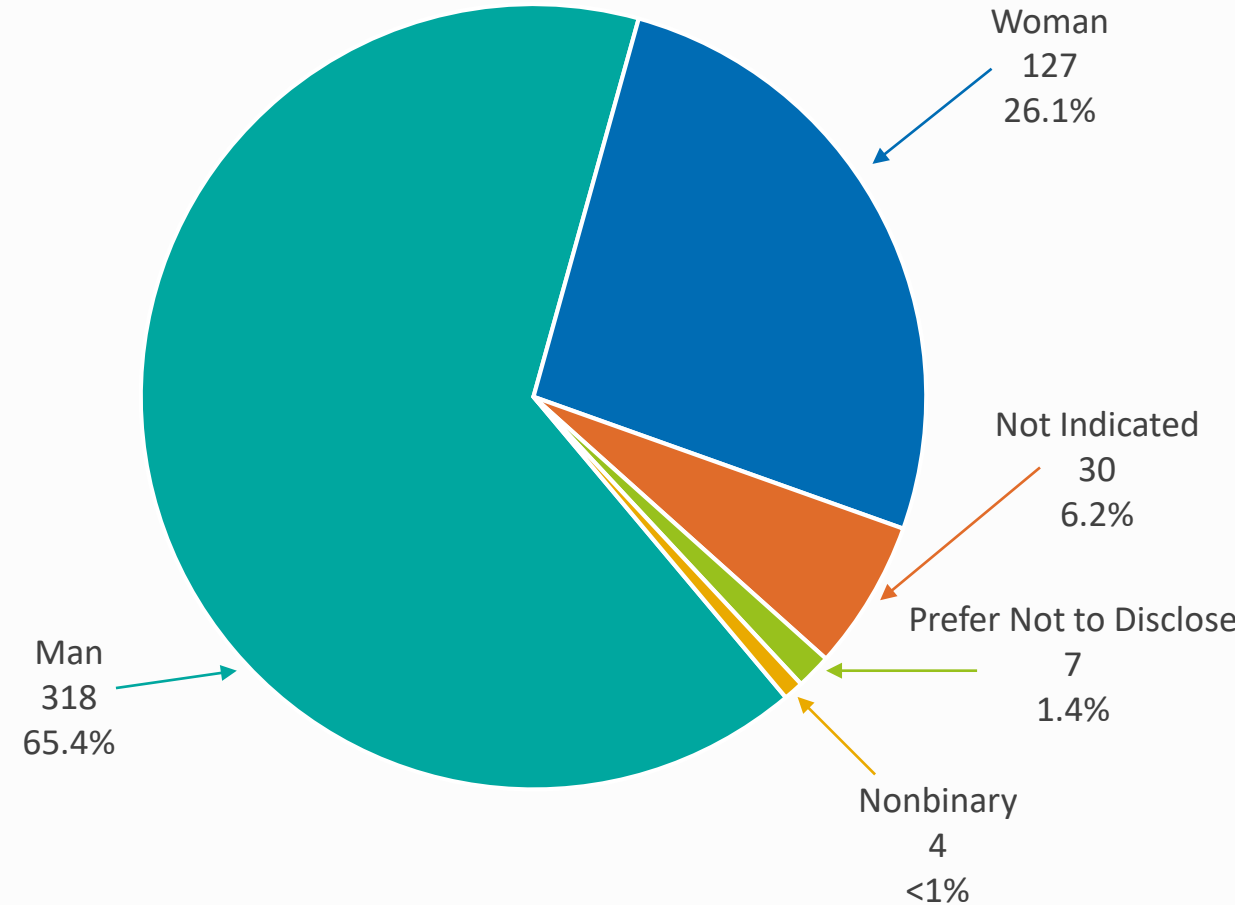
	US		Non-US		Total	
Nonstudent	330	31.1%	246	23.2%	576	54.2%
Student	301	28.3%	185	17.4%	486	45.8%
Total	631	59.4%	431	40.6%	1062	

SIAG/OPT Membership by Gender

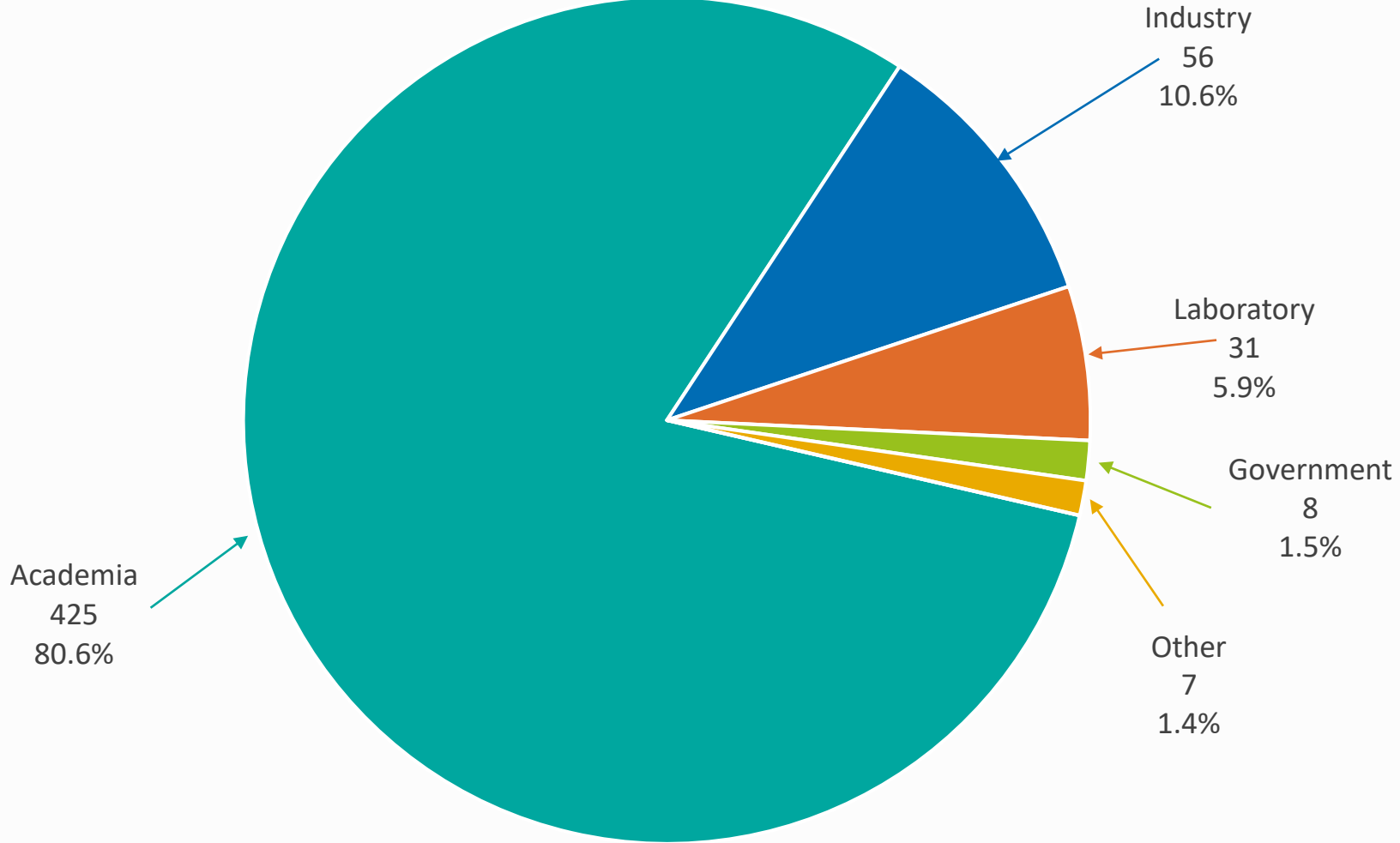
Nonstudents



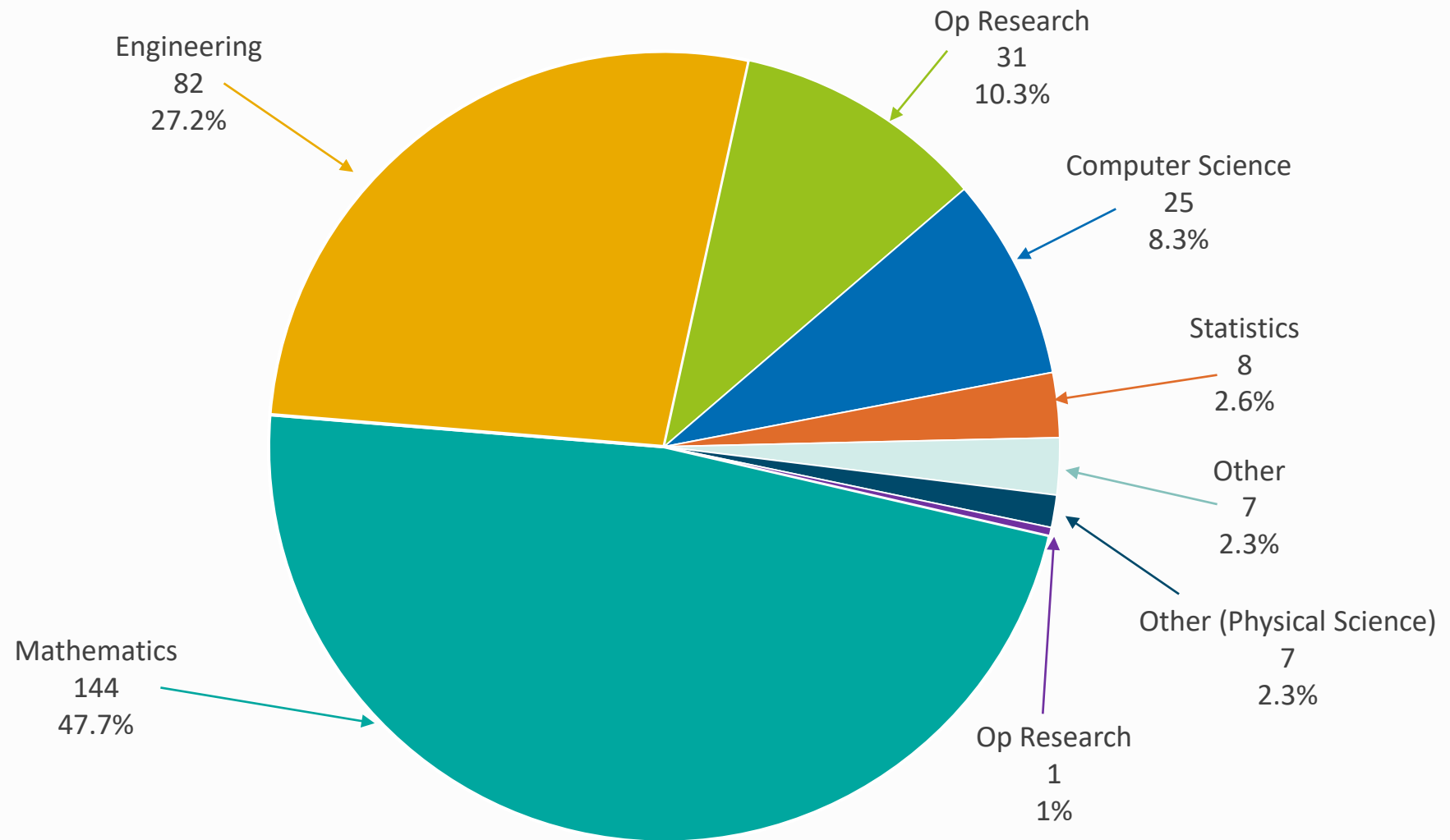
Students



SIAG/OPT Membership by Employer Type



SIAG/OPT Membership by Department Type



What to do between SIOPT conferences?

- Nothing...
- Virtual vs In-person
- Frequency
- Type of event

Social Hours

- Virtual (75 minutes)
- Twice a year (March & September)
- 45 minutes: ~2 featured (non-technical) short talks + QAs
- 30 minutes: Break-out rooms of 20 max

Mini-Courses

- Virtual (0.5 day long)
- When timely

SIOPT 2026 conference?

LOCATION

DATE

ICIAM 2023



The congress will take place at Waseda University, Tokyo, Japan from August 20-25, 2023.

SIAM is a member of the International Congress on Industrial and Applied Mathematics (ICIAM).

ICIAM 2023 is being organized by JSIAM (Japan Society for Industrial and Applied Mathematics) and MSJ (Mathematical Society of Japan), members of ICIAM.

<https://iciam2023.org/>

Other Conferences

ISMP 2024, Montreal

ICCOPT 2025, Los Angeles

SIOPT 2026 Conference?

LOCATION

DATE

Other Business

ANY OTHERS?

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