2024 SIAG/LS

Activity Group on Life Sciences Business Meeting

Wednesday, June 13th, 5 PM Grand I - Ballroom Level

siam Society for Industrial and Applied Mathematics

SIAG/LS Officers

Chair:

Frederick Adler

*

Vice Chair:

Helen Moore

*

Program Director:

Nessy Tania

*

Secretary:

Cheng Ly

SIAG/LS Announcements

- SIAM Engage:
  - https://engage.siam.org/communities/siag-ls-home?CommunityKey=48ce65e3-7173-43fa-8741-75341904b84e
- SIAG/LS websites:
  - https://www.siam.org/membership/activity-groups/detail/life-sciences
- SIAM News: Story Ideas
- SIAM Blogs
- SIAG/LS Leadership Suggestion Form:
  - https://www.siam.org/forms/siam-activity-group-leadership-form

SIAG/LS Fellows

Class of 2023

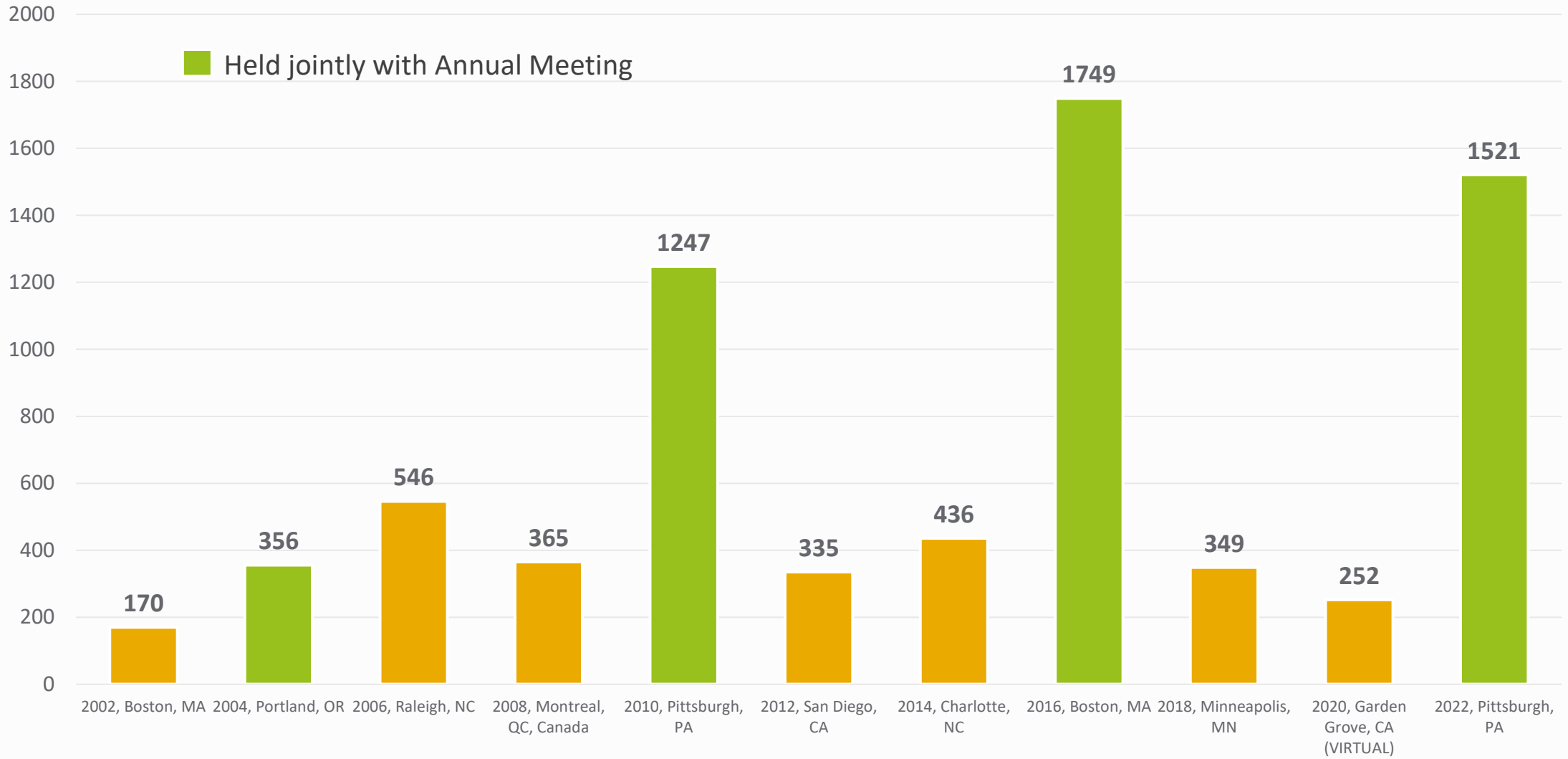
Lenore Cowen

Class of 2024

Aaron Fogelson

Carola-Bibiane Schönlieb

SIAG/LS Conference History



SIAG/LS Conference 2024

Organizing Committee Co-Chairs

Nick Cogan, Florida State University, U.S.
Nessy Tania, Pfizer Worldwide Research, Development, and Medical, U.S**.**

*

Organizing Committee

Vianey Leos Barajas, University of Toronto, Canada
Abba Gumel, University of Maryland, College Park, U.S.
Christoph Hauert, University of British Columbia, Canada
Yi Jiang, Georgia State University, U.S.
Jae Kyoung Kim, Korea Advanced Institute of Science and Technology, South Korea
Brynja Kohler, Utah State University, U.S.
Carrie Manore, Los Alamos National Laboratory, U.S.
Markus Owen, University of Nottingham, United Kingdom
Erica Rutter, University of California, Merced, U.S.
Cole Zmurchok, AbCellera, Canada

SIAG/LS Early Career Prize

COVID-19: Why Do Some Get Sick, and Some Feel Fine?

Thursday, June 13th, 1:45 PM – 2:15 PM

Grand I - Ballroom Level

During the height of the COVID-19 pandemic in 2020, apart from developing a vaccine, a large focus of the research community was on determining why some individuals were developing severe responses to SARS-CoV-2 infections (the COVID-19 causing virus) whereas others were asymptomatic. Given the plethora of data that was becoming available from hospitalised and non-hospitalised COVID-19 patients, we decided to see if we could use a mathematical modelling approach to answer the question: what drives severe COVID-19 disease dynamics?

Using a system of delay-differential equations fit to a range of data, we created a population of "virtual" human patients who exhibited a range of responses from mild to severe COVID-19 disease. We then investigated what causes the disease severity seen in our virtual patients and identified one crucial biomarker. In this talk, I'll present the methods we used to tackle this project and our conclusions, which have since been verified clinically.

Adrianne L. Jenner

Queensland University of Technology, Australia

SIAG/LS Conference 2024

SIAG/LS Travel Awards

US National Science Foundation

DMS 2244415

- 3 Students
- 3 Early Career
- $4,500

SIAM Student Travel Awards

SIAM Operating Funds & Donations from SIAM community.

Thank you to our donors!

https://siam.org/donate

- 23 Students
- $20,575

Life Sciences and Dynamical Systems Travel Fund

This fund was established through a generous gift from Dr. Simone Bianco

- Obinna Ukogu, University of Washington
- James Mason, University of Cambridge
- Xuesong Bai, Brandeis University

SIAG/LS Conference 2024

SIAM thanks Dr. Simone Bianco for establishing the Life Sciences and Dynamical Systems Travel Fund

His generous gift will be used to support **students and early career researchers** who are **historically underrepresented in STEM** in attending the SIAM Conference on the Life Sciences and SIAM Conference on Applications of Dynamical Systems.

The Life Sciences and Dynamical Systems Travel Fund provides awardees with **up to $3,000** towards their conference registration and costs of attendance, including travel, lodging, and meals.

https://siam.org/donate

siam 2024 Annual Meeting

July 8th – July 12th, 2024
Spokane Convention Center
Spokane, Washington, U.S.

The Annual Meeting provides a broad view of the state of the art in applied mathematics, computational and data science, and their applications through invited presentations, prize lectures, minitutorials, minisymposia, contributed presentations, and posters.

The 2024 online component will take place July 18th-20th

Organizing Committee Co-Chairs

Michael P. Friedlander, University of British Columbia, Canada
Anna Mazzucato, Pennsylvania State University, U.S.

siam 2024 Annual Meeting

July 8th – July 12th, 2024
Spokane Convention Center
Spokane, Washington, U.S.

Held Jointly with:

- SIAM Conference on Discrete Mathematics (DM24)
- SIAM Conference on Applied Mathematics in Education (ED24)

Tracks of Sessions by SIAM SIAGs:

- Dynamical Systems

Registration Deadline:

- June 10th, 2024

Hotel Registration Deadline:

- June 10th, 2024

Travel Fund Application Deadline:

- April 8th, 2024

- *Online component July 18th-20th*

More information available at:
https://www.siam.org/conferences/cm/conference/an24

Gene Golub SIAM Summer School

Iterative and Randomized Methods for Large-Scale Inverse Problems

July 22nd - August 2nd 2024

Campus of the Escuela Politécnica Nacional, Ladrón de Guevara E11-253, Quito, Ecuador.

Our Summer School will enable students to learn state-of-the-art mathematical and statistical tools to discover information hidden within large-scale data sets and solve complex inverse problems. Through hands-on experience with techniques from Randomized Numerical Linear Algebra, data assimilation, iterative algorithms, and inverse problems we will offer students a two-week summer school to learn this valuable range of computational mathematics topics.

SIAM will be accepting proposals for the 2026 school in the fall, with a deadline of January 31, 2025.

For more information visit: https://www.siam.org/students-education/programs-initiatives/gene-golub-siam-summer-school

SIAM Journals

SIAM's 18 journals are all available for download on SIAM's virtual library, epubs.siam.org. SIAM's virtual library is the definitive source for the final, peer-reviewed version of every published article, so be sure to utilize it!

Questions about using epubls.siam.org? Contact sales@siam.org for a user guide and personal assistance!

Future conferences?

LOCATION

DATES

THEMES

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*!
- SIAG membership FREE for one year

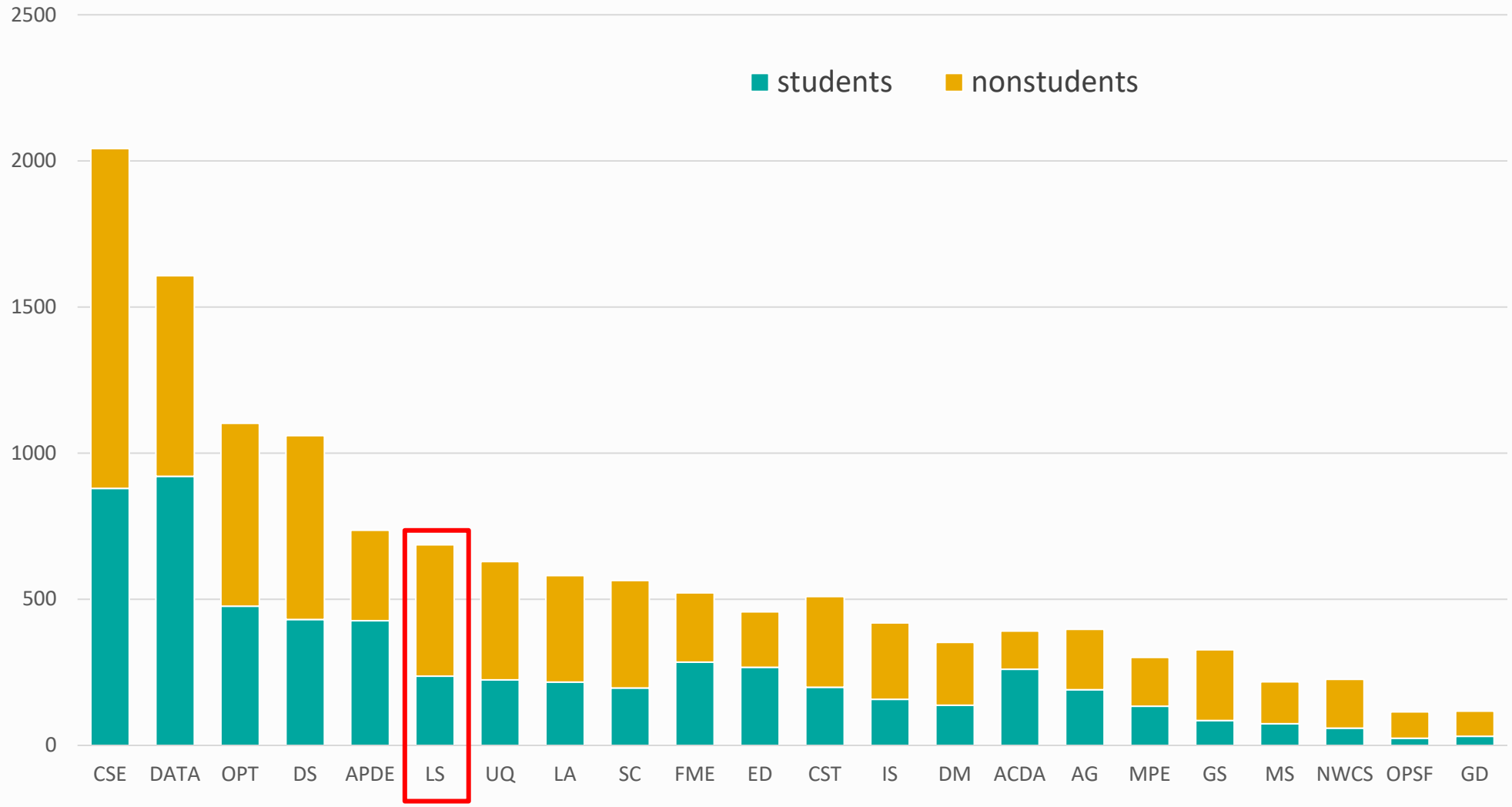
2024 SIAG/LS

Membership Report

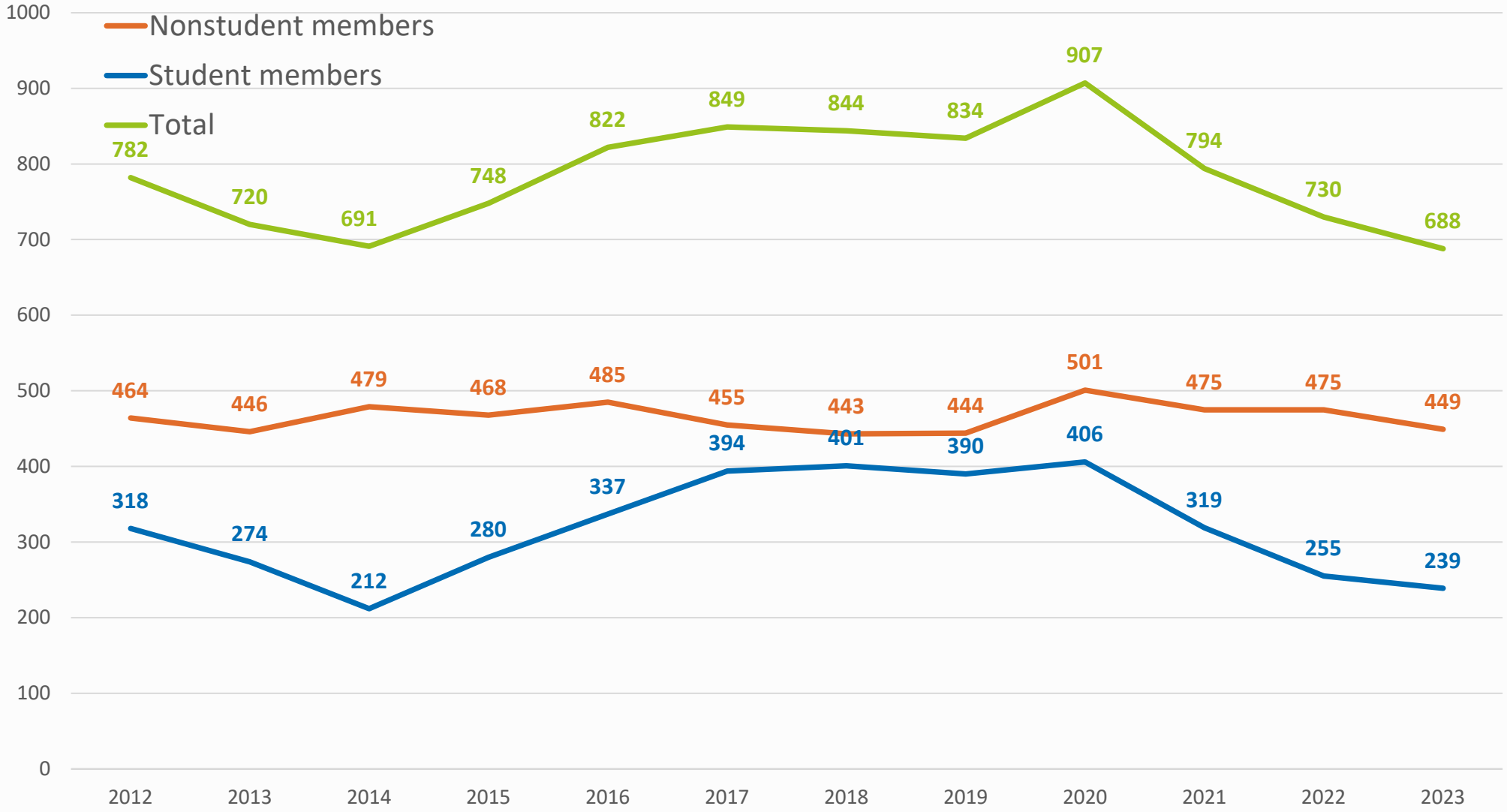
(data as of December 31, 2023)

siam Society for Industrial and Applied Mathematics

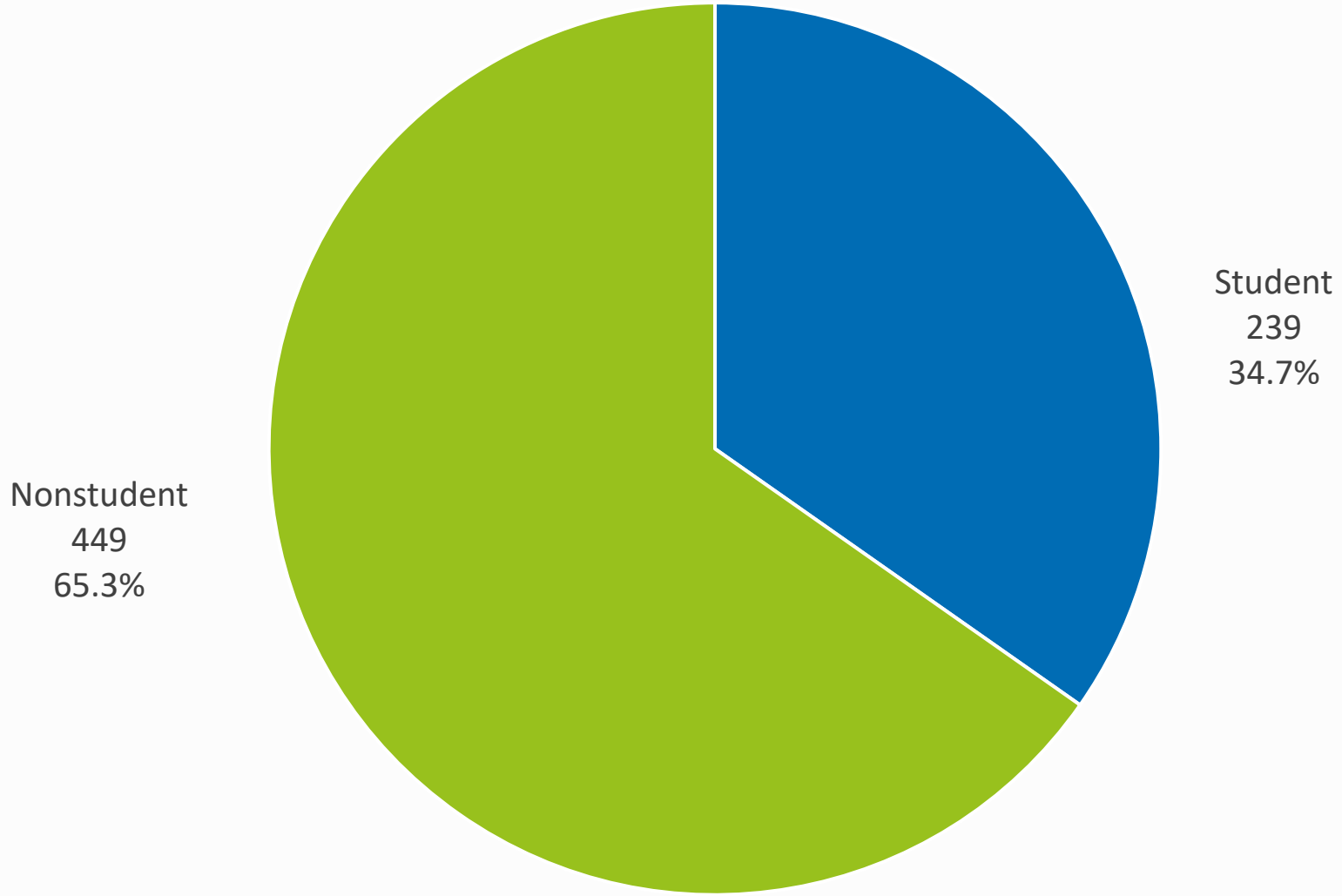
SIAG Overall Membership



SIAG/LS Membership Demographics



SIAG/LS Membership Demographics

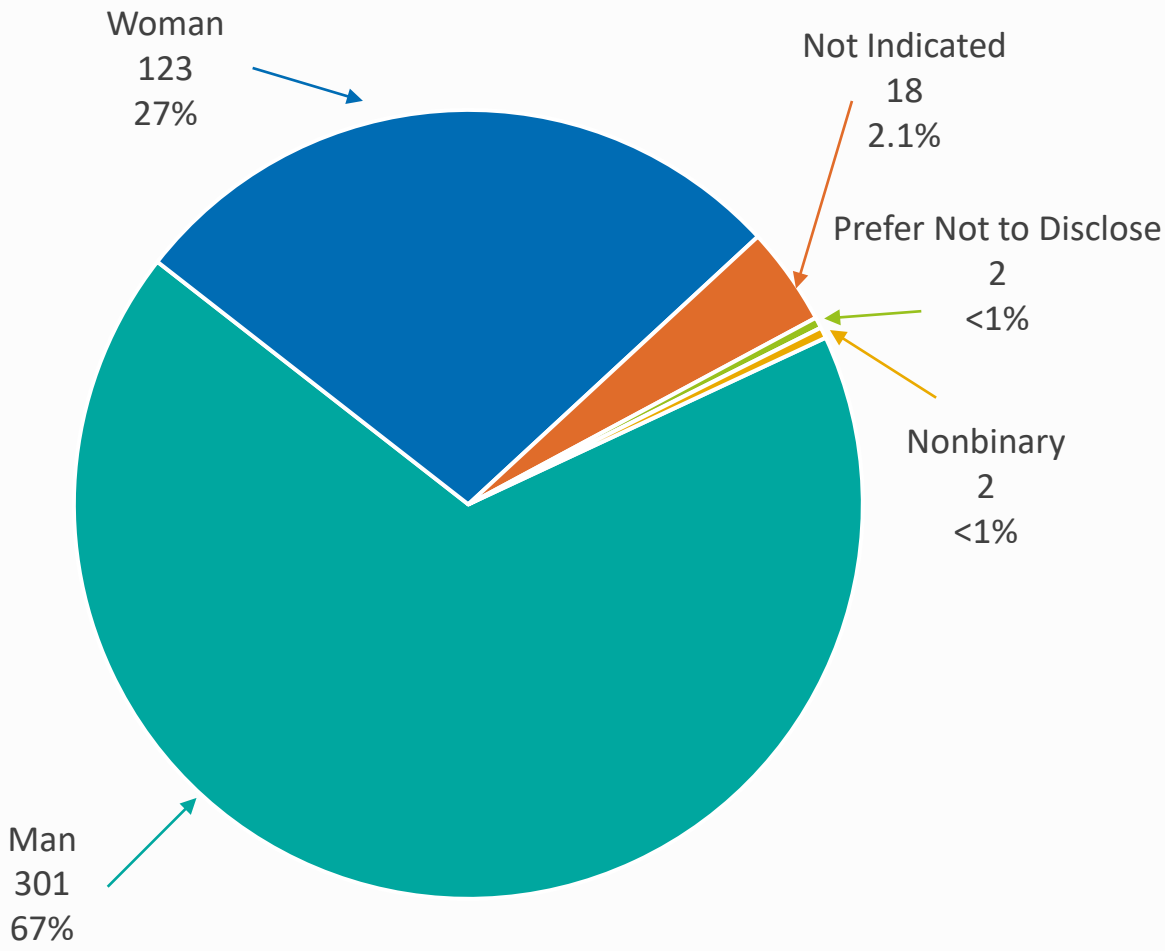


SIAG/LS Membership by Geography

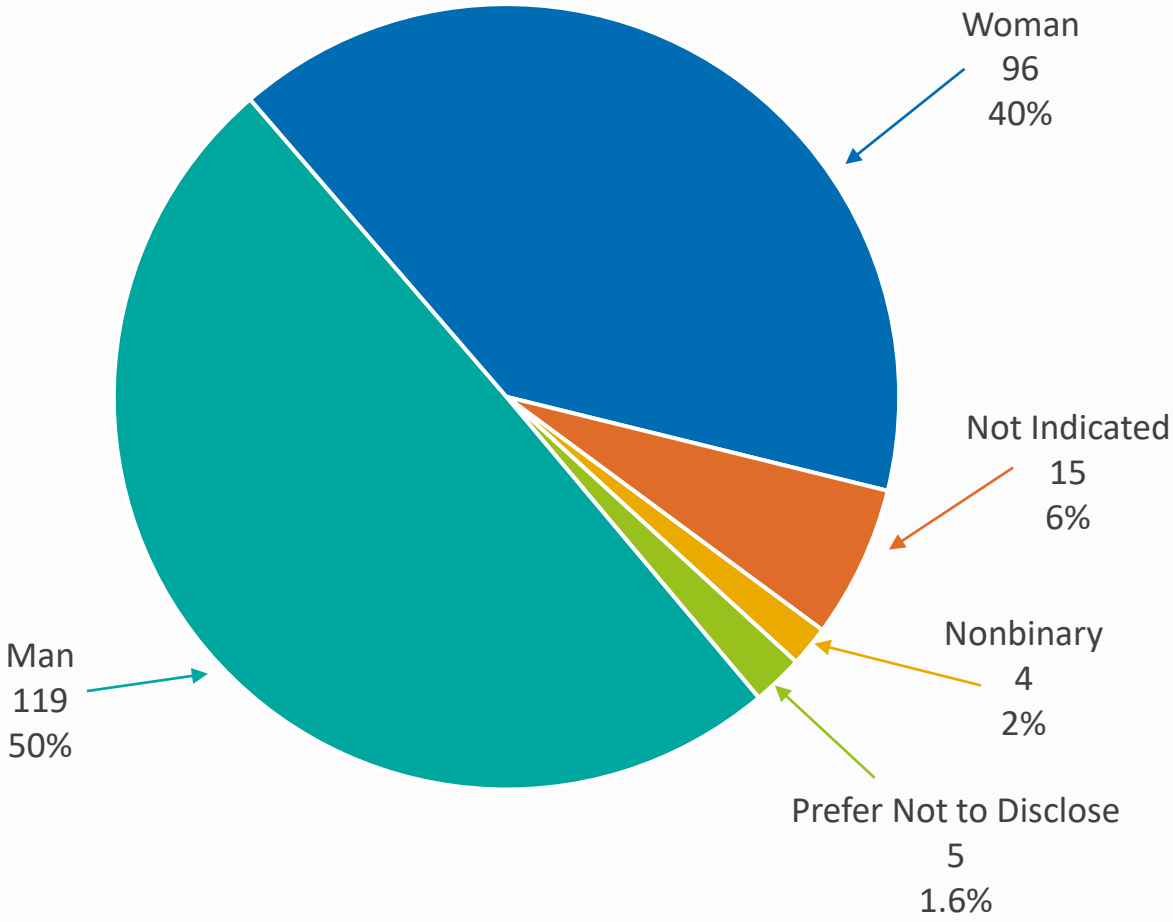
	US		Non-US		Total	
Nonstudent	340	49%	109	16%	449	65%
Student	169	25%	70	10%	239	35%
Total	509	74%	179	26%	688	

SIAG/LS Membership by Gender

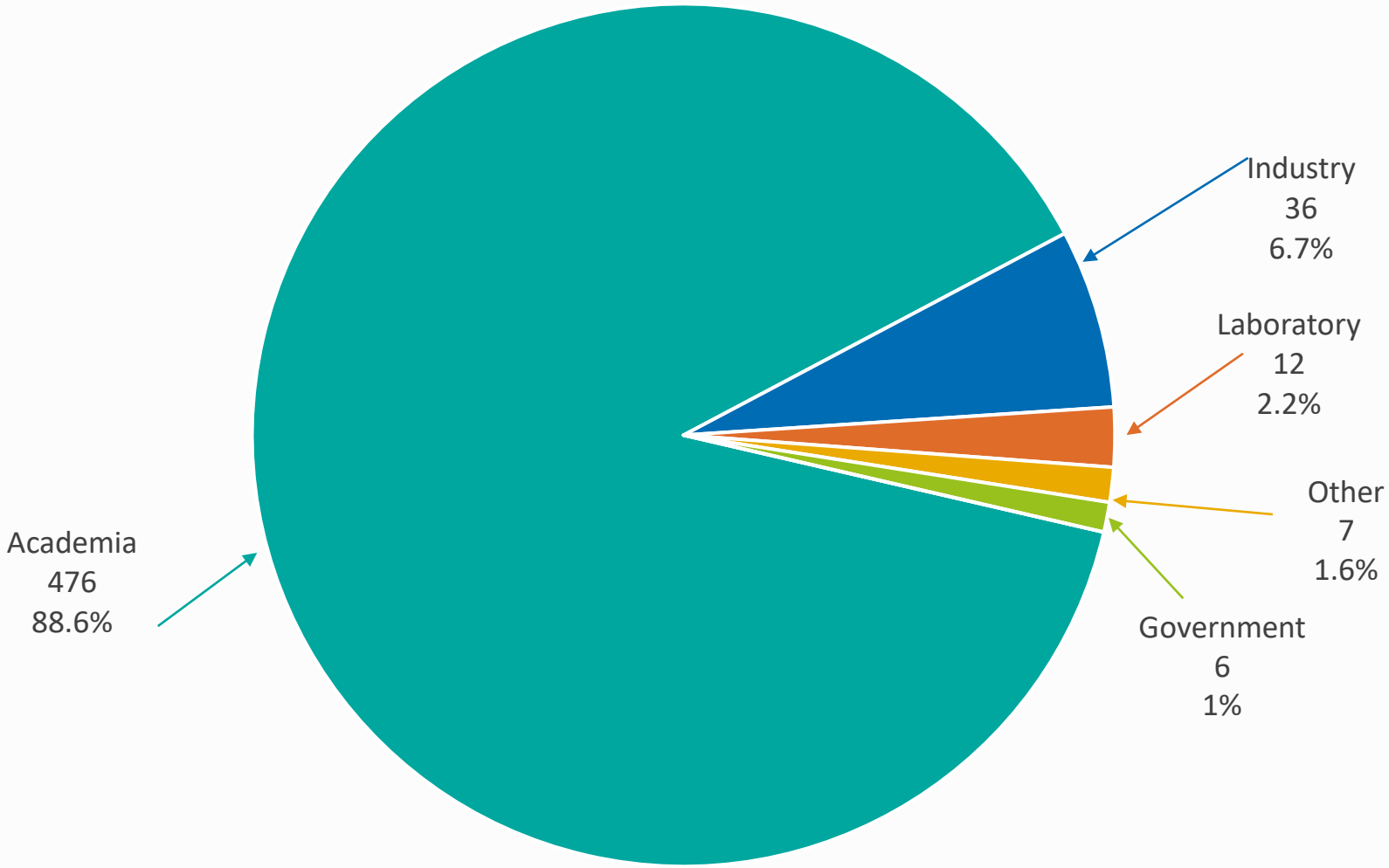
Nonstudents



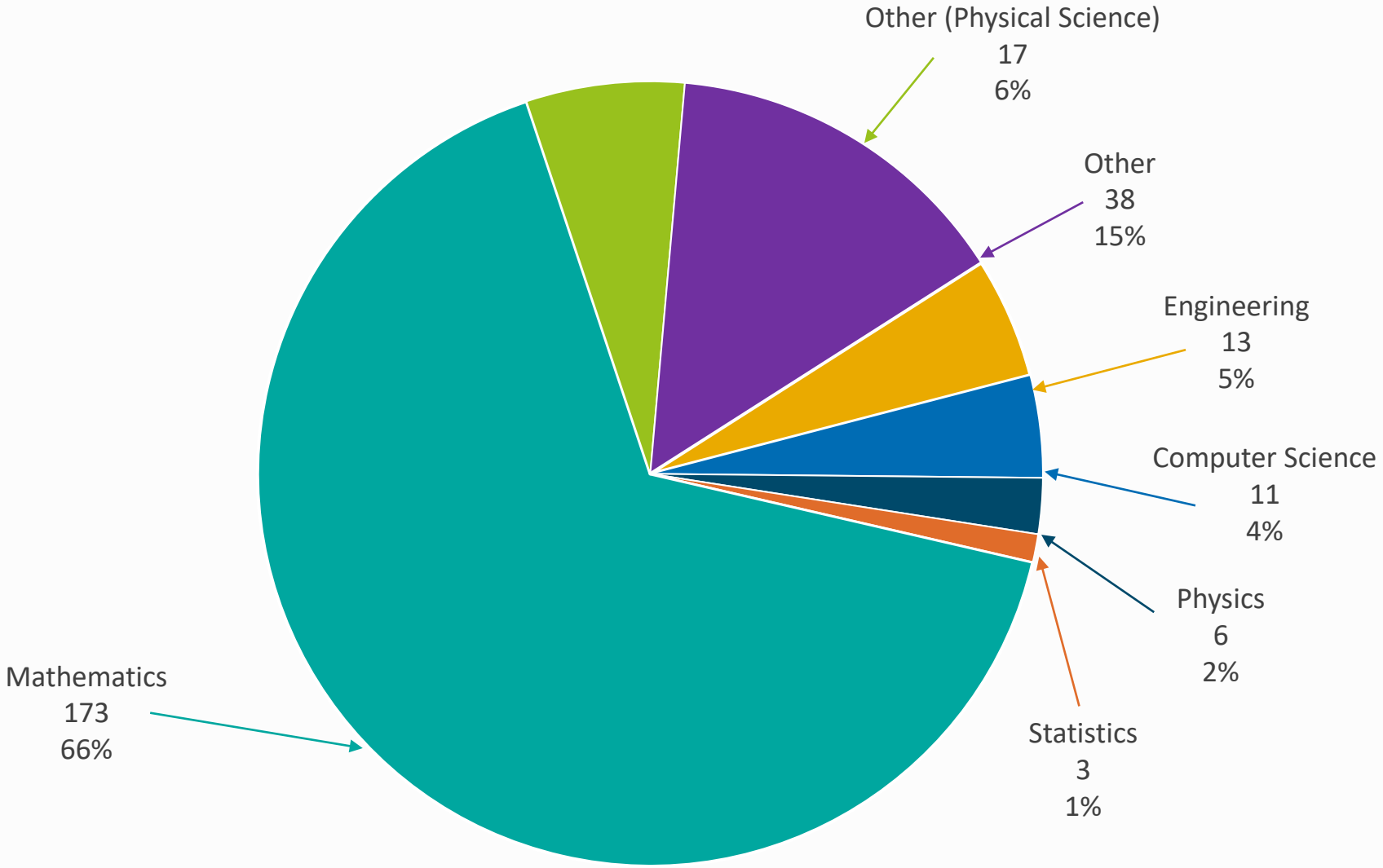
Students



SIAG/LS Membership by Employer Type



SIAG/LS Membership by Department Type



Other Business

Contacts

Chair	Frederick Alder adler@math.utah.edu
Vice Chair	Helen Moore dr.helen.moore@gmail.com
Program Director	Nessy Tania nessy.tania@pfizer.com
Secretary	Cheng Ly cly@vcu.edu