SEMF

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booklet

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The **Society for Multidisciplinary and Fundamental Research** (SEMF) is an international registered non-profit organization (Spanish Registry of Associations – 625202) dedicated to the advancement of research and development in fundamental topics that transcend conventional disciplinary divisions. SEMF aims to create a space for genuine interdisciplinary collaboration at the intersection of science, technology and art by:

➔ Ideating and organizing conferences, summer schools and workshops in cooperation with a broad spectrum of world class academics, researchers and industry professionals.

➔ Maintaining a global community of active members that engage in regular work groups, incubators and seminars on cutting edge areas of research and development.

➔ Releasing material online, freely accessible to general audiences, that communicates ongoing trends in a variety of fields of human creation and development.

➔ Providing tools and resources, based on modern trends in network science, to better understand the process of knowledge generation and the emergence of new ideas.

A Word From Our Founding Director

"For as long as I can remember I have had a strong drive to understand the world, get absorbed in its most aesthetic components and share it with my peers. In this sense, SEMF is just a continuation of my natural tendency towards community building, scientific inquiry and artistic exploration.

I decided to found SEMF at a time when my research career was taking a turn that would distance me from traditional academic circles, in part, motivated by the lack of genuine interdisciplinary discourse that I observed during my time in university departments in Cambridge, Edinburgh, London and Valencia.

I wanted to create an intellectual environment that I would be thrilled to be part of for years to come, and that would bring me into contact with the most interesting minds working on current fundamental problems at the frontier of human understanding.

After a few years of intense work and dedication, I am happy to see that SEMF has greatly fulfilled my personal expectations and is now on a path to becoming a very valuable player in the modern intellectual ecosystem."

Carlos Zapata-Carratalá, PhD

Team and Expertise

Direction and management of SEMF is carried out by a small group of passionate individuals covering a broad spectrum of backgrounds and areas of expertise. Activity is organized into **offices** (administration, finances, fundraising, website, infrastructure, community, media...) that can be taken up by one or more **associates** (SEMF's formal members).

This is a summary of the current SEMF's core team of active members and their skillset:

Mar Zandvliet - software development, game design, sound design, music, podcasting
Alona Litovinskaia - business management, fundraising, arts production
Fotis Tsiroukis - cybernetics, organizational design, digital anthropology, improv
Daniel Rico - mathematical education, website development, community management
Philip Klop - software development, metathinking, uncertainty engineering, music, improv
Elena Isais - non-profit volunteering, mathematical research
Pinar Temiz - sound engineering, sound design, podcasting
Carlos Zapata - multidisciplinary research, leadership, event design, academic relations, improv
Álvaro Moreno - writing, administration, digital production

Financials

SEMF has operated with **no funding for most of its history**, relying solely on the volunteer work of its active members and the in-kind contributions of collaborators and hosting institutions. We now have a **donation platform on Open Collective**.

When funding is available, SEMF projects a **$40,000 yearly budget** to cover costs derived from maintaining regular operations: officer remuneration (direction, fundraising, secretary), administration and legal fees, online platforms, promotional materials, and tool development.

Additional budgeting will be done on a per-project basis in collaboration with partners.

Partners, Sponsors and Networked Institutions

From 2022 SEMF is **partnered** with the Foundation for the Spanish Royal Academy of Sciences.

Other **networked institutions** include Wolfram Research, Spanish Royal Academy of Physics, Centre for Philosophy of Natural and Social Science at London School of Economics, Maxwell Institute for Mathematical Sciences...

Event Stats

Speakers

A **total of 89 speakers** have taken part in SEMF events, including well-known researchers such as Stephen Wolfram, Michael Levin, Barbara Tversky or Peter Gärdenfors.
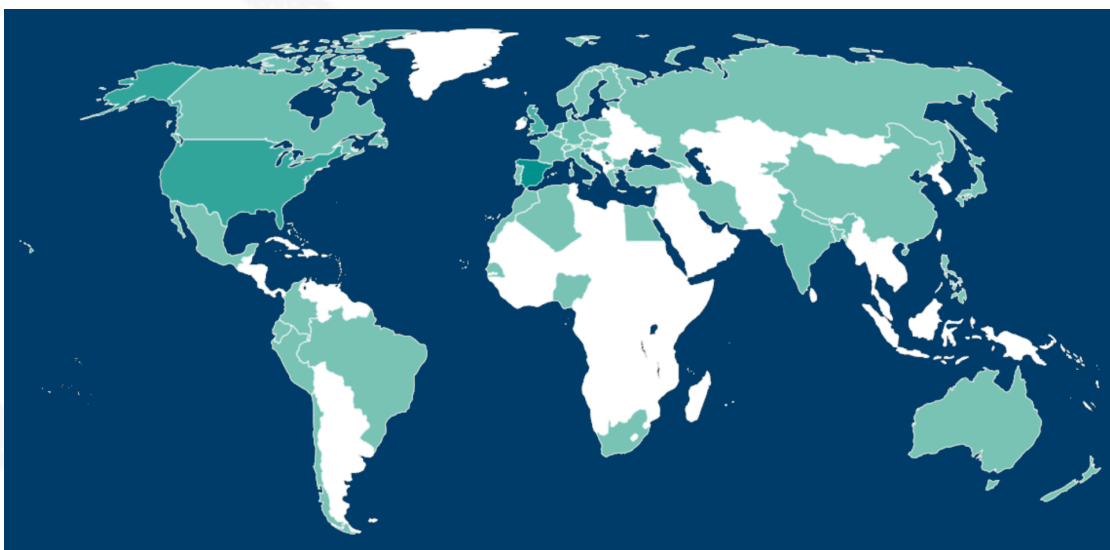
Their **affiliations** included Stanford University, MIT, University of Oxford, UCLA, University College London, University of Pennsylvania, Columbia University, Imperial College London, ETH Zurich, Princeton University, University of Edinburgh, New York University, Carnegie Mellon University, Perimeter Institute, Santa Fe Institute, Wolfram Research...
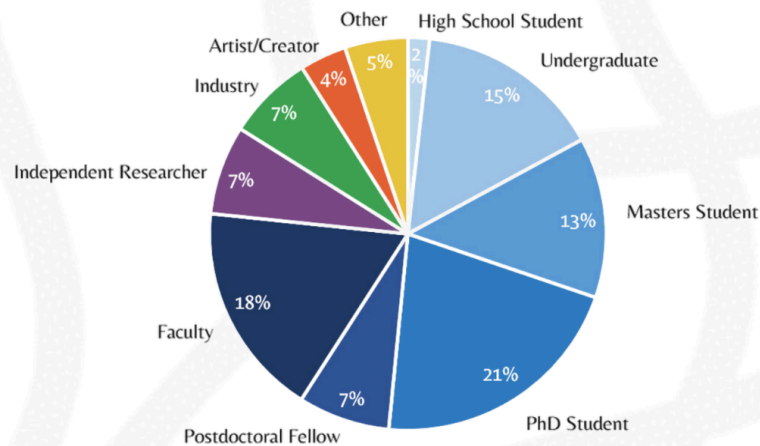
Participants

A total of **677 people** attended SEMF main events.

Participant **affiliations** spanned 220+ universities and research centres including many world class institutions: Harvard University, University of Cambridge, Johns Hopkins University, University of Washington, Sorbonne University, Max Planck Institute, UC Berkeley, UC San Diego, National Cancer Institute, CSIC, University of São Paulo, Northwestern University, ETH Zurich, King's College London, New York University, Caltech... Affiliations included as well several companies, foundations, collectives and other organizations, such as IBM, Baillie Gifford, Capgemini, James S. McDonnell Foundation, Gartner, Mozilla, Champalimaud Foundation...
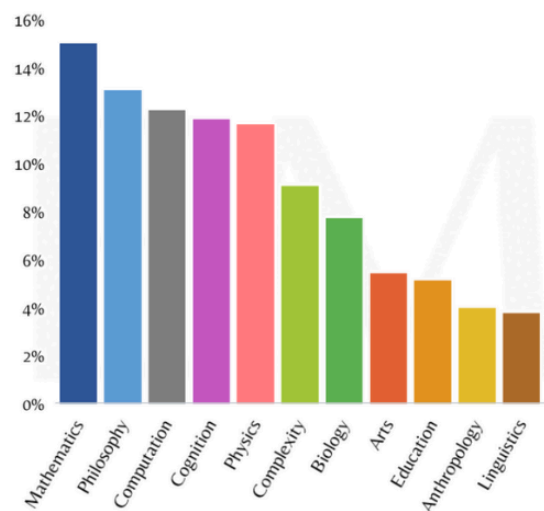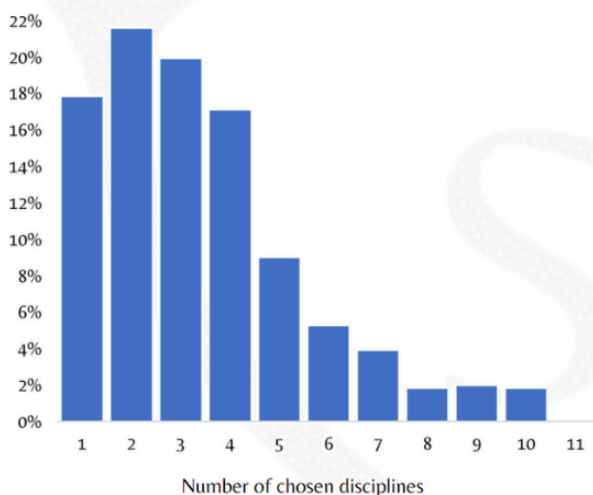
Participants spanned **50+ countries**, covering several time zones, with Spain (30%), USA (18%), UK (11%), India (4%), France (3%), Germany (3%), Italy (3%), and Canada (2%) representing ~¾ of the attendance:

Distribution of **participant backgrounds**:

In the registration forms, participants were asked what disciplines better represented their interests, studies, research activity or work. From this data two plots were made, showing interdisciplinary depth (the number of disciplines selected per participant) and disciplinary representation (the number of times a discipline was selected by participants):

The in-person events organized by SEMF were:

· Interdisciplinary Summer School 2022 - Valencia, Spain
· Interdisciplinary School 2023 - Valencia, Spain
· Into the Information Continuum Workshops (2024) - Amsterdam, Netherlands
· Axiomatic Creation Workshop - Madrid, Spain

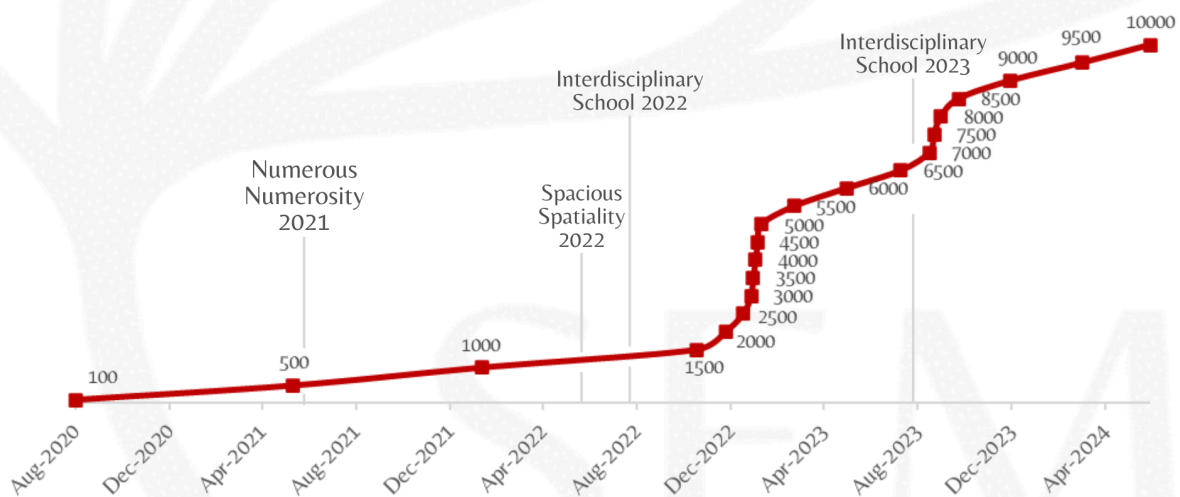The most relevant online events organized by SEMF were two conferences:

· Numerous Numerosity 2021
· Spacious Spatiality 2022

Community Stats

SEMF community has **800+ registered members**, who have joined by submitting some demographic data through an online form on our website. Most of them are subscribed to our mailing list.

Registered members of the community can access the SEMF **Discord server**, where they can find a series of chat channels and forums dedicated to discussion, recommendations, queries to associates, organization of community activities... SEMF Discord server has **300+ users**.

SEMF events are recorded on our **YouTube channel**, which has **200+ videos** and livestreams and **10,000+ subscribers**.

SEMF has facilitated and coordinated a number of community-based discussions and a particular kind of workshop labelled **Concept Collider** where focused work is done by a self-organized group of participants. Here is a list of sessions:

· Information Continuum
· Dimensional Reduction
· Multidisciplinary Ramifications of Mathematical Physics
· Bioelectricity
· Worldbuilding
· Axiomatics and Creativity
· Entropy and Free Energy
· Active Inference
· Physics & Economics
· Complexity & Mathematics

Quotes and Statements

I think this was just a terrific prompt for a conference of something that I just don't know what field it counts as being in, and that's a very good thing. I'm just sorry that my day job didn't allow me to participate more than I've been able to, but terrific thing.

Stephen Wolfram, speaker - Numerous Numerosity 2021

This conference has been one of the best academic events (offline and online) that I have ever attended. The organisation of the event was outstanding from the very beginning. Every important piece of information was very clearly communicated and the organisers were always available for questions. The homepage was very professional and contained all relevant information. The organisers took a lot of effort to make this a truly interdisciplinary event - with outstanding success. The event itself was highly interesting, with a lot of cutting-edge talks from various disciplines that complemented each other in the best possible way. I also very much appreciated the constructive and open-minded discussions following each talk. Overall, it was a great pleasure to participate in this conference and I have learned a lot during the past week. I cannot think of anything that could have been done better or that should be improved for future events. All I can say is: A big thank you to the organisers for all your hard work! Congratulations to this outstanding success!

Karenleigh Overmann - Numerous Numerosity 2021 (post-event survey)

Thank you for organizing this absolutely amazing event. I think this was a beautifully organized conference, and in addition to all the wonderful talks that gave me a lot of new things to think about, what i also really appreciated was not only that there was so much time and space for discussion but also the way that we engage with each other's work and then with different ideas across disciplines.

Regina Fabryi, speaker - Numerous Numerosity 2021

It is truly remarkable to have such a wonderful variety of the best academics across different fields.

Pablo Dopico, workshop speaker - Numerous Numerosity 2021

This is really fantastic, the whole conference, the conference that happened before... True multidisciplinarity is something that is exceedingly rare, and this group of people nurturing that I think is a really really fantastic kind of thing, and anybody who has followed the talks in the last couple of days knows that the full bandwidth of things is stuff you typically don't see together.

Maximilian Schich, speaker - Spacious Spatiality 2022

I'm delighted to be here, thank you for putting on such an amazing symposium.

Michael Levin, speaker - Spacious Spatiality 2022

Thanks so much for inviting me to speak here today and a very interesting set of conferences that you've had both this year and previous years. A very eclectic and interesting cut through topics, I think it's a very interesting idea and a very interesting thing to do.

Vijay Balasubramanian, speaker - Spacious Spatiality 2022

There are not so many places for creative academic people with plenty of interests and competencies in areas traditionally thought as distant and uncoupled. Thank you for this initiative!

Anonymous - SEMF community registration form

SEMF hosts some of the most impactful and informative researchers and does a fantastic job at catalyzing collective growth through their multidisciplinary and fundamental approach.

Anonymous - SEMF community registration form

I was especially impressed by the authentic desire of the organizers and participants to find new paths and connect old ones in new ways, and by their determination to find clarity in communicating difficult subjects. There was a sense of inclusivity and openness that made participants feel they could discuss matters together without having to be an expert. Likewise, experts could feel comfortable learning from new perspectives outside their field.

Andrea Hiott, in-person speaker - Interdisciplinary School 2023

I had a great time as both a speaker and a participant at the summer school. The participants were inquisitive, diverse, and precocious; remote participation went off without a hitch; and there is a lively online community still discussing the ideas. I highly recommend it to anyone looking to work technically at the intersection of scientific fields-

Ryan Wisnesky, online speaker - Interdisciplinary School 2023

The talks and discussions at the School seamlessly transcended disciplinary – and all the other – barriers. The participants of the school, students, young researchers, and artists, were wonderful listeners, curious inquirers, and passionate debaters. Beyond that, I really enjoyed how the School was structured as a whole. It nicely combined intense intellectual content during the day with a social activities programme in the afternoon. With this, many discussions carried over from the auditorium to more informal settings.

Anatolii Kozlov, in-person speaker - Interdisciplinary School 2023

The whole week was extremely well organized. I got exposed to a broad range of subjects from the speakers, but also from other participants during informal discussions. I often felt like discovering really interesting and far-reaching pieces of knowledge that I should have known before, but they were just too far away from my professional field of research. Aiming to broaden my horizons, this week was absolutely well invested.

Václav Zatloukal, in-person speaker - Interdisciplinary School 2023

Not sure I'm ready to return to non SEMF life, probably the most incredible week of my life to date.

Lucy Spouncer, in-person participant - Interdisciplinary School 2023

I am so very grateful for the memories of this week. To me it was the perfect balance of brain work and socials; and I am more than grateful for everything I learned from all of you! This crowd consists of very inspiring minds and the sense of connection made this a very unique experience!

Merle Praum, in-person participant - Interdisciplinary School 2023

Never have I seen someone doing so much with so little infrastructure and fundings. Truly amazing job.

Anonymous - post-event survey, Interdisciplinary School 2023

This was an incredible event. I am so so so grateful to have attended and genuinely impressed by the high quality of the organisation. Many thanks for all of your amazing work! Excited for next editions.

Anonymous - post-event survey, Interdisciplinary School 2023