



ISSTA 2023

Opening Remarks

Welcome to Seattle



- ISSTA is an active and growing research community.
- ~~First in-person~~ ISSTA after the pandemic.
- Seattle is very outdoorsy, walkable, and bikeable.

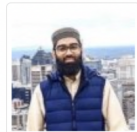
Thanks to the Organizing Committee



Gordon Fraser Program Chair
University of Passau



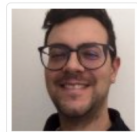
Brittany Johnson Workshops Co-Chair
George Mason University
United States



Abdul Ali Bangash Web Co-Chair, Publicity Co-Chair
University of Alberta, Canada
Canada



Pascal Weisenburger Web Co-Chair, Publicity Co-Chair
University of St. Gallen
Switzerland



Alessio Gambi Artifact Evaluation Co-Chair
IMC University of Applied Sciences Krems
Austria



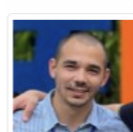
Jonathan Bell Tool demonstrations co-chair
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United States



April Tea Local Arrangements Chair, Student Volunteer Co-Chair
University of Washington, Seattle
United States



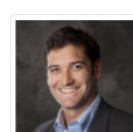
Michael D. Ernst Sponsors Co-Chair
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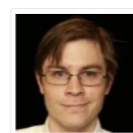
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Luxembourg



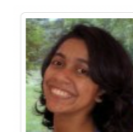
Cindy Rubio-González Doctoral Symposium Co-Chair
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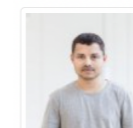
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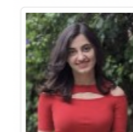
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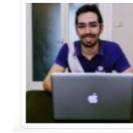
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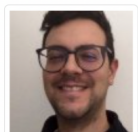
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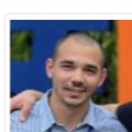
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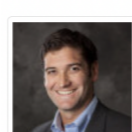
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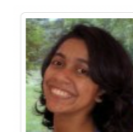
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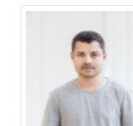
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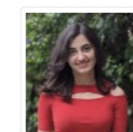
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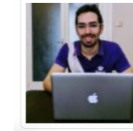
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Thanks Gordon for creating 10 programs :)

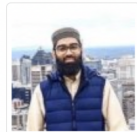
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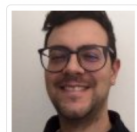
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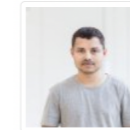
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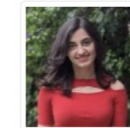
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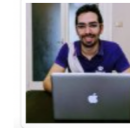
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Thanks April and UW CSE for the incredible local support!

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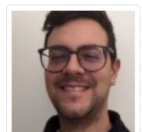
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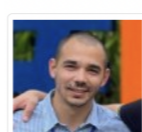
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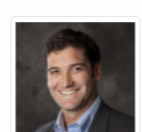
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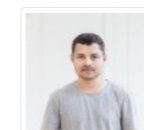
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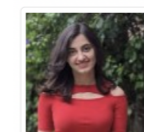
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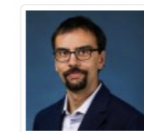
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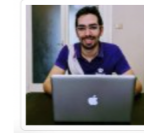
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Thanks Chandra for starting a Student Research Competition at ISSTA!

ISSTA/ECOOP'23: Program overview

Tuesday		Wednesday		Thursday		Friday	
8:00--8:30		Coffee and light breakfast (Allen Center)					
8:30--10:00	G20: Opening remarks and Keynote	G20: 2 Impact Paper Awards (45min each)		G20: Opening remarks and Keynote		G20: Opening remarks and Keynote	
10:00--10:30		Coffee break (Allen Center)					
10:30--12:00	G20: ISSTA 1 G10: ISSTA 2 G01: --- G04: Rehearsal and equipment testing	G20: ECOOP 1 G10: ISSTA 5 G01: ISSTA 6 G04: ISSTA SRC Talks		G20: ISSTA 9 G10: ISSTA 10 G01: ECOOP 4 G04: Rehearsal and equipment testing		G20: ECOOP 7 G10: --- G01: --- G04: ---	
12:00--13:30		Lunch (Zillow Commons, 4th floor Gates Center)					
13:30--15:00	G20: ISSTA 3 G10: ISSTA 4 G01: ISSTA-Tools-talks G04: Rehearsal and equipment testing	G20: ECOOP 2 G10: ISSTA 7 G01: ISSTA 8 G04: Rehearsal and equipment testing		G20: ISSTA 11 G10: ISSTA 12 G01: ECOOP 5 G04: Rehearsal and equipment testing		End of conference after lunch	
15:00--15:30		Coffee break (Allen Center)					
15:30--17:00	G20: --- G10: ISSTA-Online 1 G01: ISSTA-Online 2 G04: ISSTA-Online 3 AC: Posters	G20: ECOOP 3 G10: ISSTA-Online 4 G01: ISSTA-Online 5 G04: ISSTA-Online 6 AC: ISSTA-Tools-demos/Posters		G20: ISSTA-Online keynote, preview, closing G10: --- G01: ECOOP 6 G04: Rehearsal and equipment testing AC: ---		End of conference after lunch	
17:00--17:30			Reception (Allen Center)				
17:30--18:30	Reception (HUB Games)		Banquet (HUB Ballroom)				
18:30--20:00							

ISSTA/ECOOP'23: Joint Keynotes

Tuesday	Wednesday	Thursday	Friday
8:00--8:30 Coffee and light breakfast (Allen Center)			
8:30--10:00 G20: Opening remarks and Keynote	G20: 2 Impact Paper Awards (45min each)	G20: Opening remarks and Keynote	G20: Opening remarks and Keynote

Two Test-of-Time Award talks on Wednesday

- **8:30–9:15:** ISSTA Impact Paper Award (William G.J. Halfond)
- **9:15–10:30:** AITO Test of Time Award (Andrew P. Black)

Additional Keynote on Thursday afternoon

- **15:30–16:30:** Online Keynote (Satish Chandra)

ISSTA/ECOOP'23: Technical sessions

Tuesday		Wednesday		Thursday		Friday	
8:00--8:30		Coffee and light breakfast (Allen Center)					
8:30--10:00	G20: Opening remarks and Keynote	G20: 2 Impact Paper Awards (45min each)		G20: Opening remarks and Keynote		G20: Opening remarks and Keynote	
10:00--10:30		Coffee break (Allen Center)					
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15:30--17:00	G20: --- G10: ISSTA-Online 1 G01: ISSTA-Online 2 G04: ISSTA-Online 3 AC: Posters	G20: ECOOP 3 G10: ISSTA-Online 4 G01: ISSTA-Online 5 G04: ISSTA-Online 6 AC: ISSTA-Tools-demos/Posters		G20: ISSTA-Online keynote, preview, closing G10: --- G01: ECOOP 6 G04: Rehearsal and equipment testing AC: ---		End of conference after lunch	

**Pick any session (ISSTA, ISSTA Tools, SRC, ECOOP)
in any of the 4 conference rooms!**

ISSTA/ECOOP'23: ISSTA Tools and SRC

Tuesday		Wednesday		Thursday		Friday	
8:00--8:30		Coffee and light breakfast (Allen Center)					
8:30--10:00	G20: Opening remarks and Keynote	G20: 2 Impact Paper Awards (45min each)		G20: Opening remarks and Keynote		G20: Opening remarks and Keynote	
10:00--10:30		Coffee break (Allen Center)					
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Don't miss the Tool demo talks and the SRC finalist presentations!

ISSTA/ECOOP'23: Rehearsal and equipment check

Tuesday		Wednesday		Thursday		Friday	
8:00--8:30		Coffee and light breakfast (Allen Center)					
8:30--10:00	G20: Opening remarks and Keynote	G20: 2 Impact Paper Awards (45min each)		G20: Opening remarks and Keynote		G20: Opening remarks and Keynote	
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Test your set up and/or rehearse your talk in G04.

ISSTA/ECOOP'23: Online sessions and Posters/Demos

Tuesday		Wednesday		Thursday		Friday	
8:00--8:30		Coffee and light breakfast (Allen Center)					
8:30--10:00	G20: Opening remarks and Keynote	G20: 2 Impact Paper Awards (45min each)		G20: Opening remarks and Keynote		G20: Opening remarks and Keynote	
10:00--10:30		Coffee break (Allen Center)					
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15:00--15:30		Coffee break (Allen Center)					
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**Remote presentations in the conference rooms.
Poster session and Tool demos in the Allen Center.**

ISSTA/ECOOP'23: Conference Catering

Tuesday		Wednesday		Thursday		Friday	
8:00--8:30		Coffee and light breakfast (Allen Center)					
8:30--10:00	G20: Opening remarks and Keynote	G20: 2 Impact Paper Awards (45min each)		G20: Opening remarks and Keynote		G20: Opening remarks and Keynote	
10:00--10:30		Coffee break (Allen Center)					
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Coffee breaks: Allen Center
Lunch: 4th floor (+overflow 271/Allen Center/outside)

ISSTA/ECOOP'23: Social events

	Tuesday	Wednesday	Thursday	Friday
17:00--17:30			Reception (Allen Center)	
17:30--18:30	Reception (HUB Games)	Banquet (HUB Ballroom)		
18:30--20:00				

- **Tuesday Reception:** Bowling and other games plus drinks and snacks
- **Wednesday Banquet:** Catered banquet plus award ceremony
- **Thursday Reception:** Informal gathering plus drinks and snacks

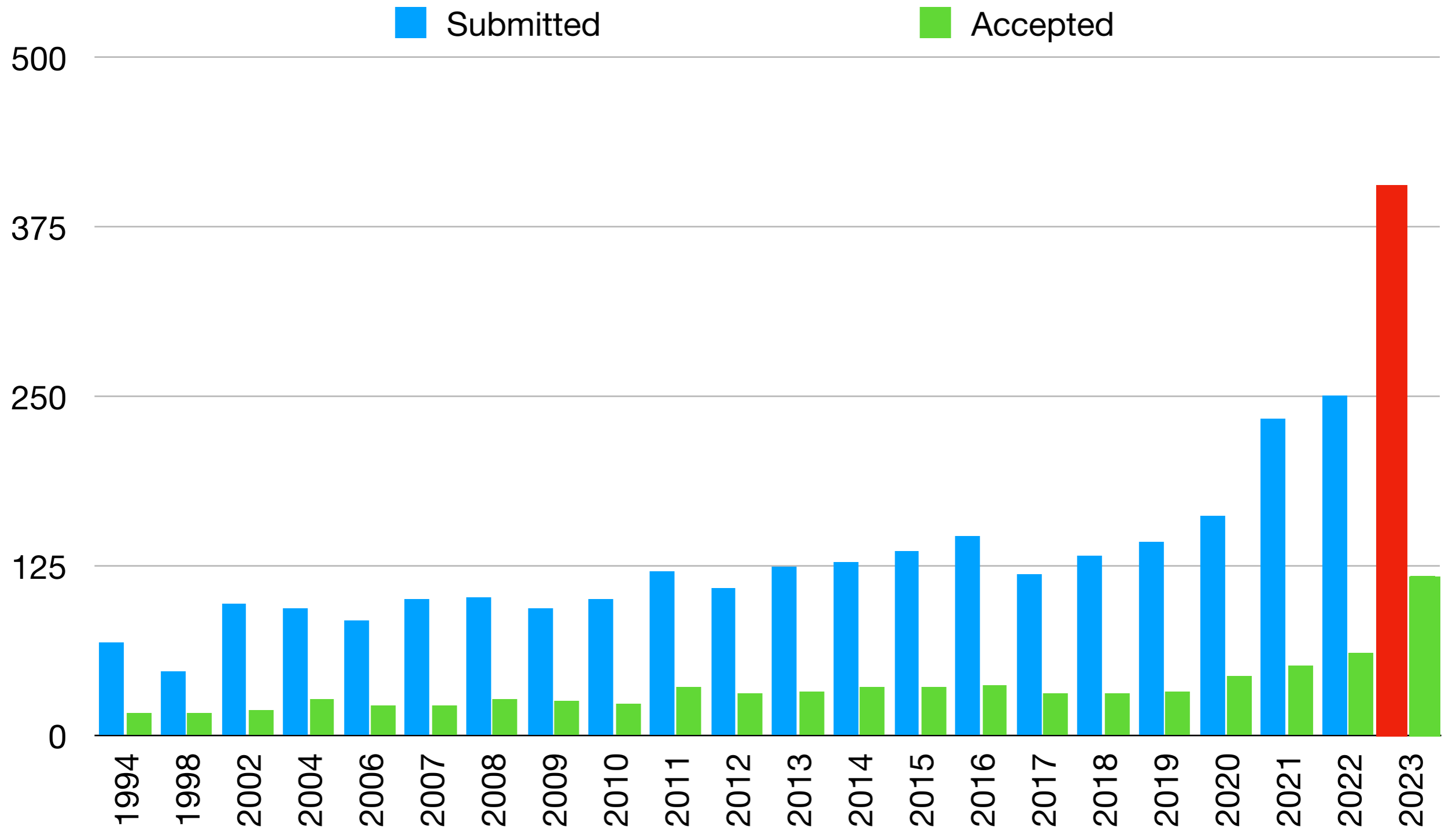
**Follow the purple shirts (SVs)
from the Allen Center to the HUB!**

Comments from the PC Chair

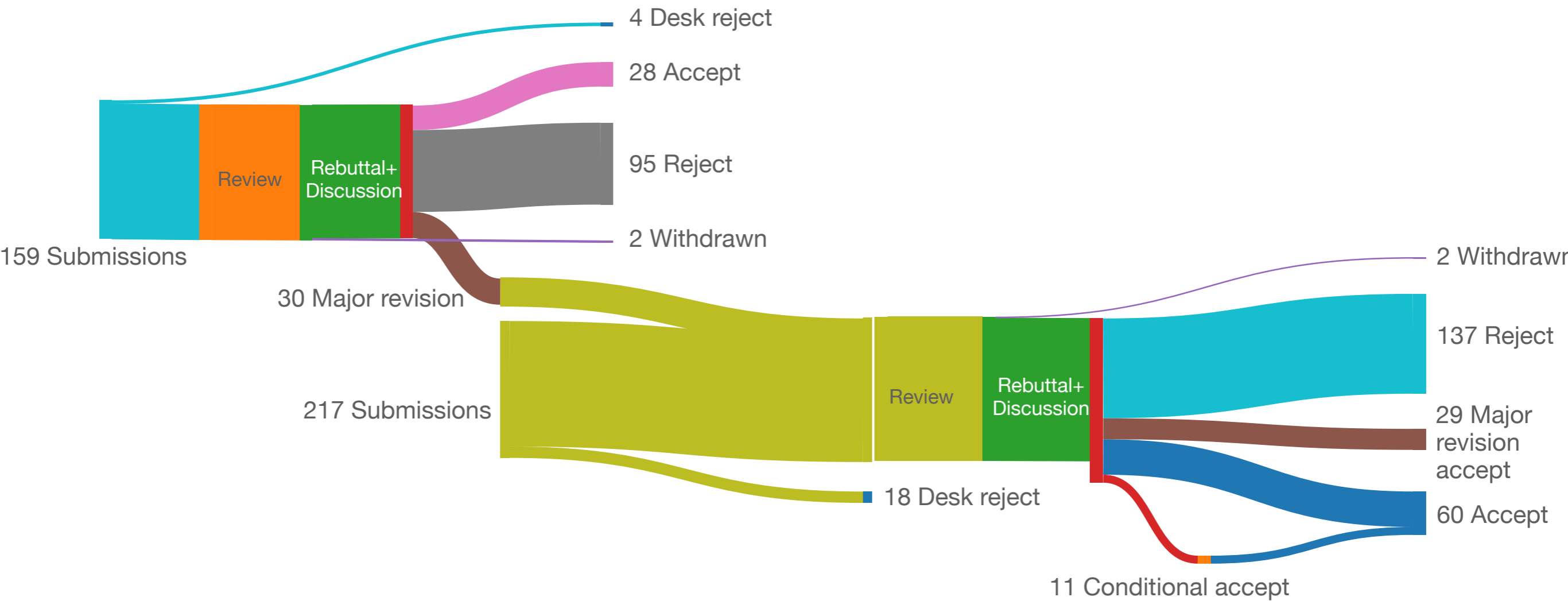


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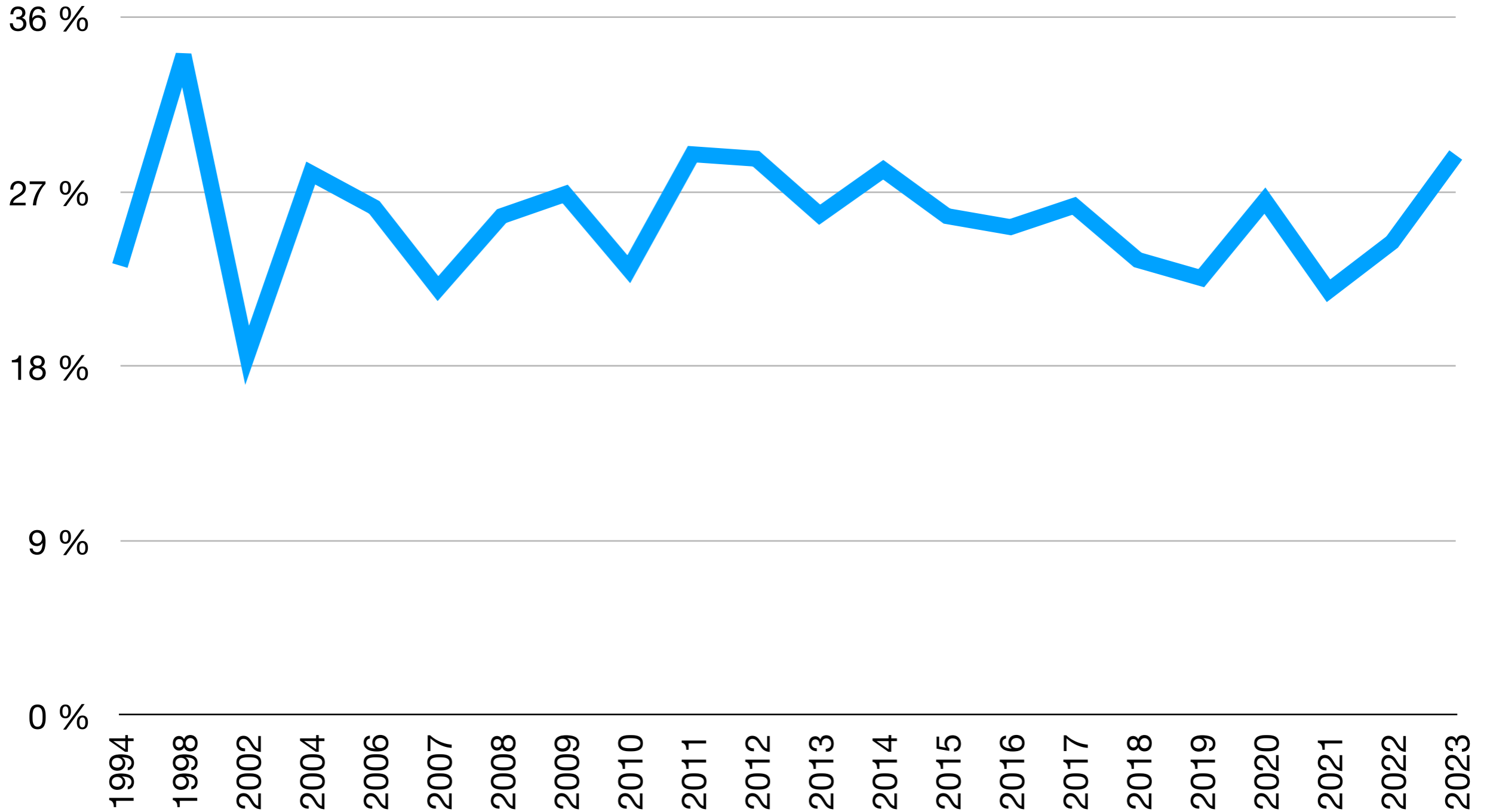
Submission Statistics



Submission+Reviewing Process



Acceptance Rates



Program Committee

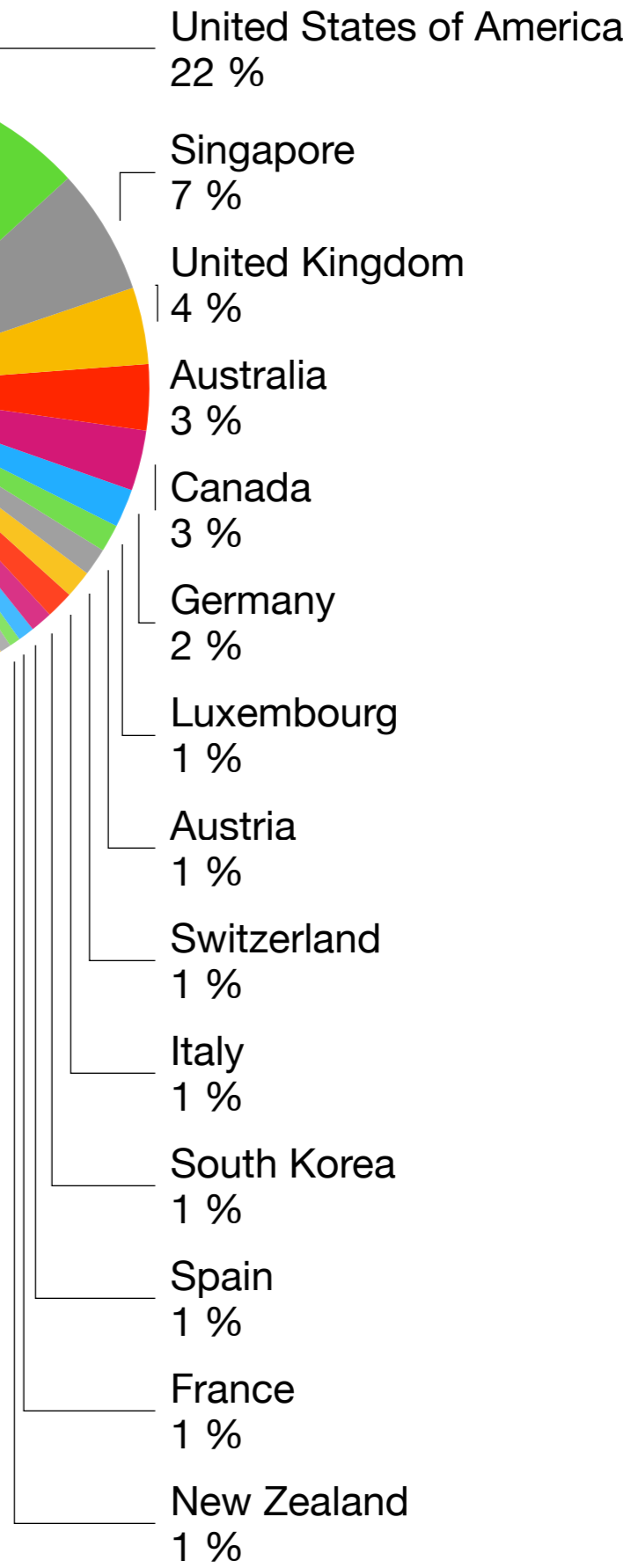
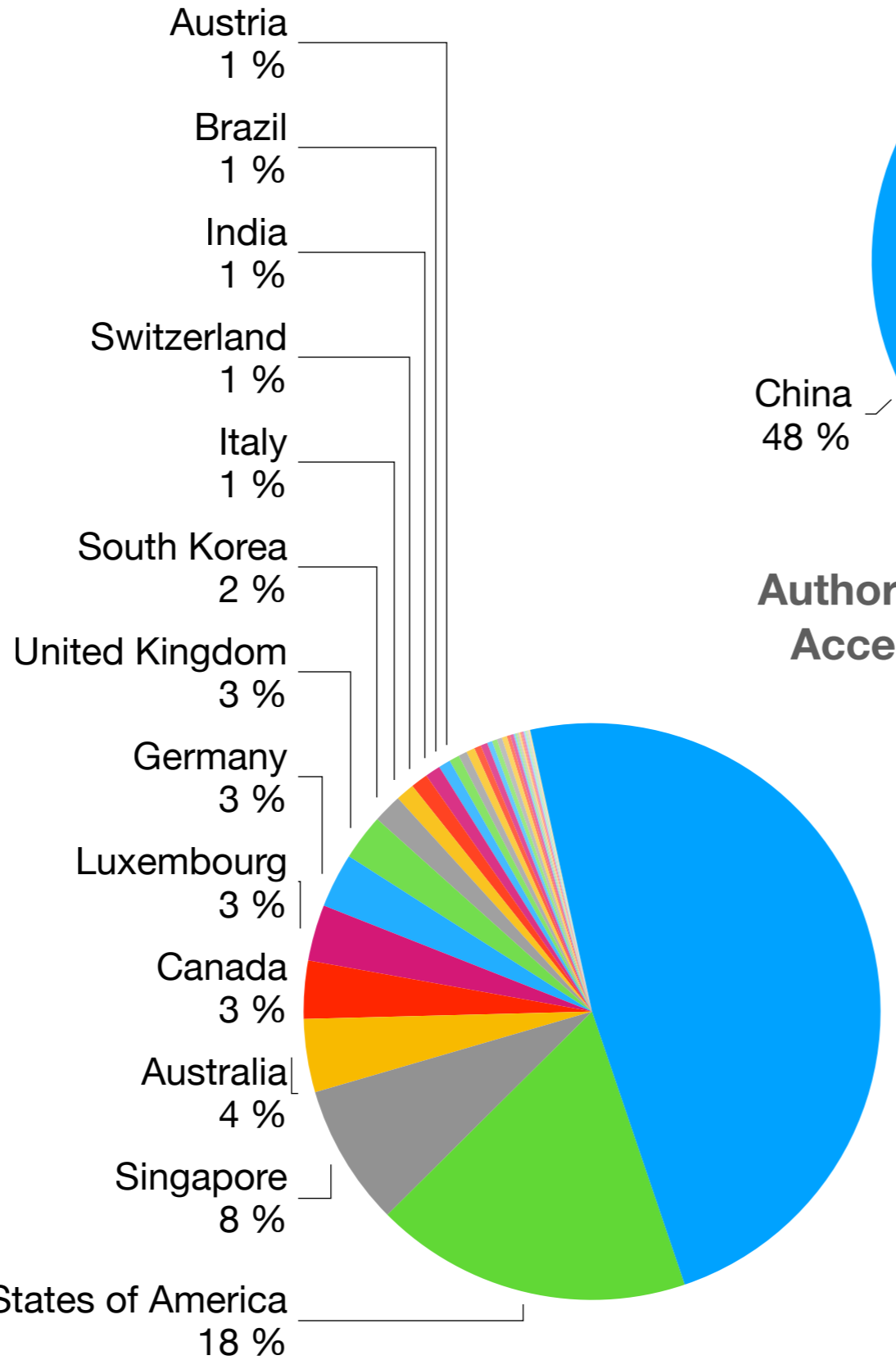
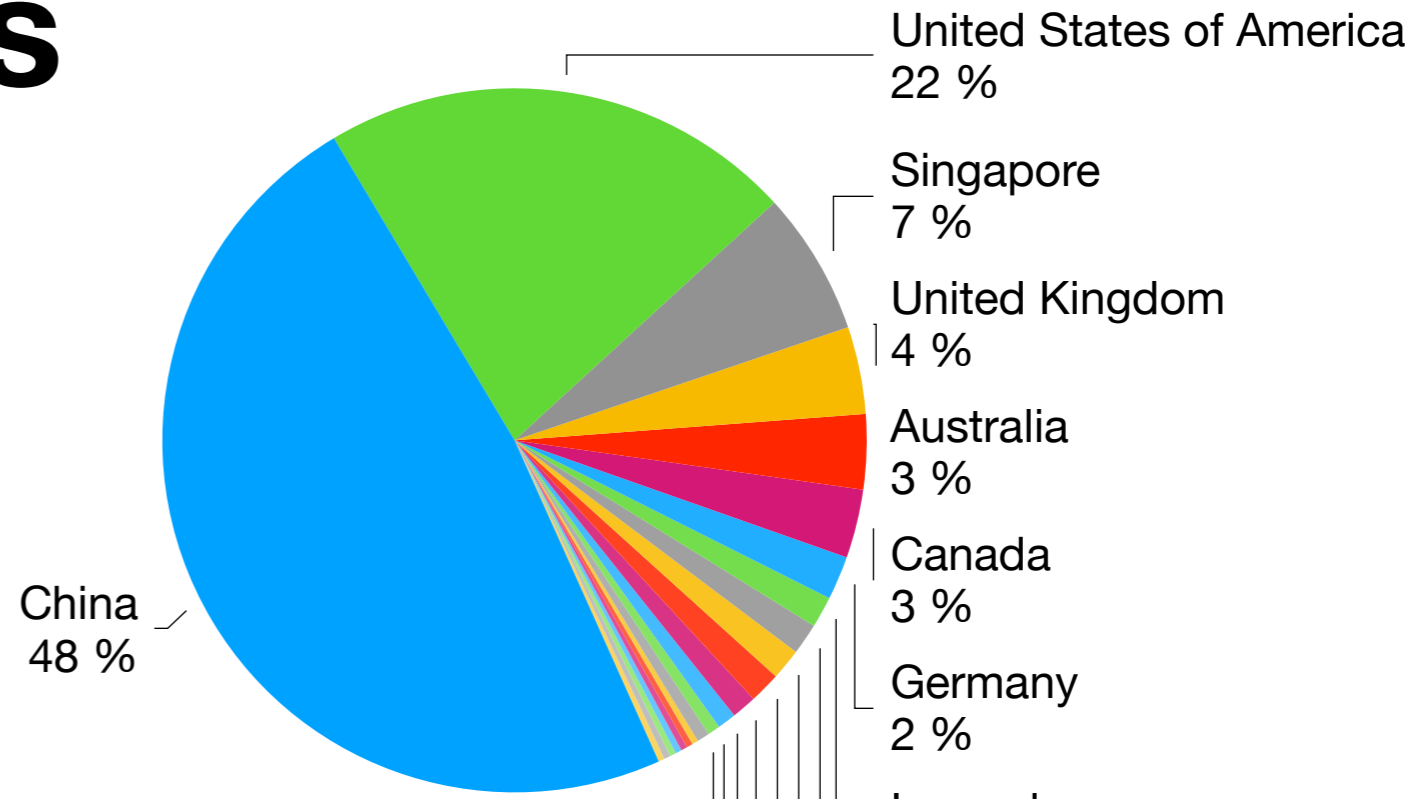
Nazareno Aguirre
Sébastien Bardin
Earl T. Barr
Jonathan Bell
Alexandre Bergel
Domenico Bianculli
Tegawendé F.
Bissyandé
Tegan Brennan
Marcel Böhme
Cristian Cadar
Junjie Chen
Shing-Chi Cheung
Myra Cohen
Marcelo d'Amorim
Arie van Deursen
Elisabetta Di Nitto
Julian Dolby
Alastair F. Donaldson
Yang Feng
Fabiano Ferrari
Bernd Fischer

Juan Pablo Galeotti
Alessio Gambi
Rahul Gopinath
Alex Groce
William G.J. Halfond
Sylvain Hallé
Christian Hammer
Reyhaneh Jabbarvand
Gunel Jahangirova
James Jones
Gregory Kapfhammer
Martin Kellogg
Moonzoo Kim
Jacques Klein
Wing Lam
Owolabi Legunsen
Caroline Lemieux
Sherlock A. Licorish
Mario Linares-Vásquez
David Lo
Jian-Guang Lou
Linghui Luo

Leonardo Mariani
Anastasia Mavridou
Phil McMinn
Ali Mesbah
Chandrakana Nandi
ThanhVu Nguyen
Yannic Noller
Hakjoo Oh
Alex Orso
Hila Peleg
Mauro Pezze
Andy Podgurski
Michael Pradel
Han Qiu
Ajitha Rajan
Baishakhi Ray
José Miguel Rojas
Abhik Roychoudhury
Guido Salvaneschi
Sergio Segura
Koushik Sen
Elena Sherman

August Shi
Saurabh Sinha
Manu Sridharan
Jun Sun
Shin Hwei Tan
Valerio Terragni
Rachel Tzoref-Brill
Willem Visser
Neil Walkinshaw
Shuai Wang
Shiyi Wei
Stefan Winter
Shin Yoo
Michal Young
Tingting Yu
Andreas Zeller
Chao Zhang
Charles Zhang
Jie M. Zhang
Lingming Zhang
Lu Zhang

Submission Pies



Author Countries/Regions All Submissions

SIGSOFT Distinguished Paper Awards

- **Improving Bit-Blasting for Nonlinear Integer Constraints**
Fuqi Jia, Rui Han, Pei Huang, Minghao Liu, Feifei Ma, Jian Zhang
- **CONCORD: Clone-Aware Contrastive Learning for Source Code**
Yangruibo Ding, Saikat Chakraborty, Luca Buratti, Saurabh Pujar, Alessandro Morari, Gail Kaiser, Baishakhi Ray
- **Beware of the Unexpected: Bimodal Taint Analysis**
Yiu Wai Chow, Max Schäfer, Michael Pradel
- **Eunomia: Enabling User-Specified Fine-Grained Search in Symbolically Executing WebAssembly Binaries**
Ningyu He, Zhehao Zhao, Jikai Wang, Yubin Hu, Shengjian Guo, Haoyu Wang, Guangtai Liang, Ding Li, Xiangqun Chen, Yao Guo
- **More Precise Regression Test Selection via Reasoning about Semantics-Modifying Changes**
Yu Liu, Jiyang Zhang, Pengyu Nie, Milos Gligoric, Owolabi Legunsen

SIGSOFT Distinguished Paper Awards

- **Guiding Greybox Fuzzing with Mutation Testing**
Vasudev Vikram, Isabella Laybourn, Ao Li, Nicole Nair, Kelton OBrien, Raffaello Sanna, Rohan Padhye
- **GrayC: Greybox Fuzzing of Compilers and Analysers for C**
Karine Even-Mendoza, Arindam Sharma, Alastair Donaldson, Cristian Cadar
- **Automated Generation of Security-Centric Descriptions for Smart Contract Bytecode**
Yu Pan, Zhichao Xu, Levi Taiji Li, Yunhe Yang, Mu Zhang
- **An Empirical Study of Functional Bugs in Android Apps**
Yiheng Xiong, Mengqian Xu, Ting Su, Jingling Sun, Jue Wang, He Wen, Geguang Pu, Jifeng He, Zhendong Su

Artifact Evaluation

- Chairs: Alessio Gambi and Rahul Gopinath
- 45 artifacts submitted

- 10 available badges



- 16 functional badges



- 17 reusable badges



Distinguished Artifact Awards

- **That's a Tough Call: Studying the Challenges of Call Graph Construction for WebAssembly**
Daniel Lehmann, Michelle Thalakottur, Michael Pradel, and Frank Tip
- **GPUHarbor: Testing GPU Memory Consistency At Large**
Reese Levine, Mingun Cho, Devon McKee, Andrew Quinn, and Tyler Sorensen
- **AGORA: Automated Generation of Test Oracles for REST APIs**
Juan C. Alonso, Sergio Segura, and Antonio Ruiz-Cortés
- **Reducing the Memory Footprint of IFDS-based Data-Flow Analyses Using Fine-Grained Garbage Collection**
Dongjie He, Yujiang Gui, Yaoqing Gao, and Jingling Xue

Keynote: Baishakhi Ray

