

# (Postdoctoral) Research in **Singapore**

*What are the **challenges** in the daily  
life as researcher in Singapore?*

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# Disclaimer

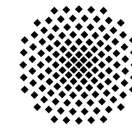
- What I present today are my experiences, opinions and anecdotes... I cannot claim generality
- I have spent around four years in Singapore (2020 – 2024), i.e., also some time during COVID
- Singapore is constantly adapting/changing, and my experiences might not hold anymore when we look a few years in the future

*Please interrupt me if you  
have any question!*

# Brief context about me

# Recent Career Milestones

- 2010 – 2016: Bachelor/Master in Software Engineering at **University of Stuttgart**
- 2016 – 2020: PhD student at **Humboldt-Universität zu Berlin**
- 2020 – 2023: **National University of Singapore** (PostDoc, Research Assist. Prof.)
- 2023 – 2024: **Singapore University of Technology and Design** (Assistant Professor)
- Now (since July 2024): Professor for Computer Science, **Ruhr University Bochum**



**Universität Stuttgart**

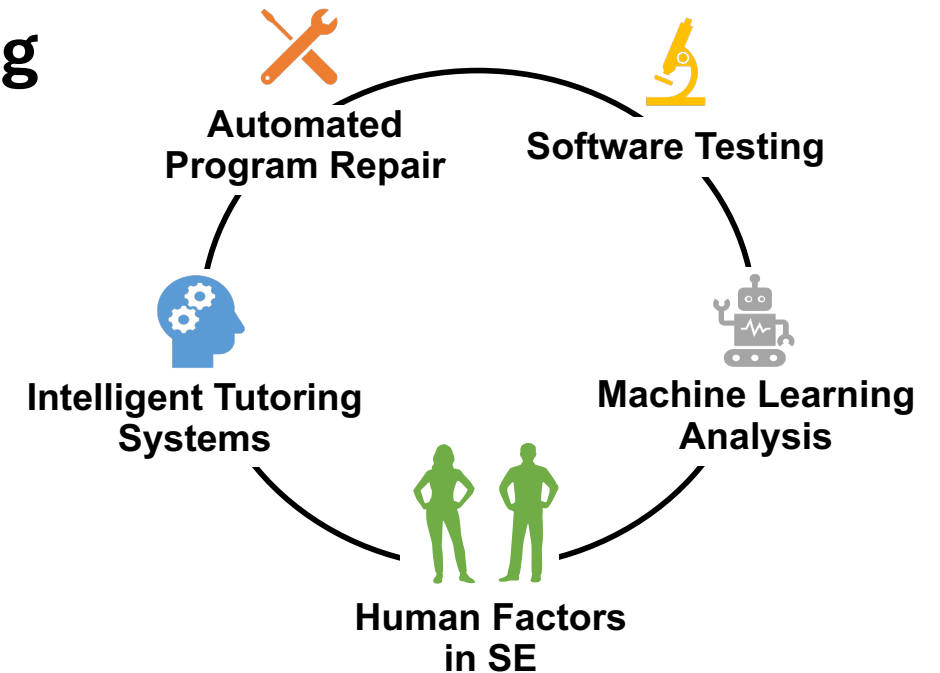


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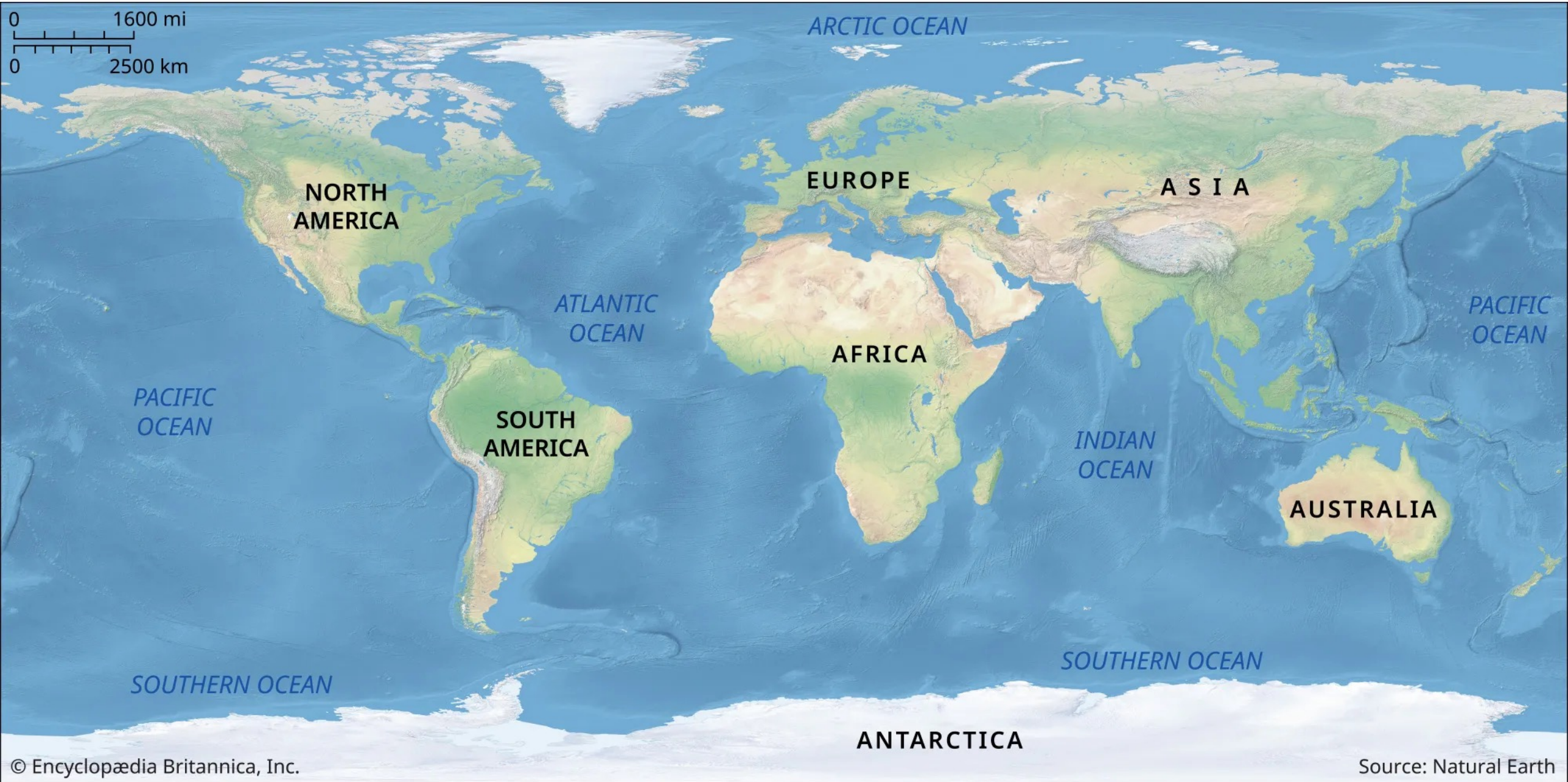
# Research Interests

- trusted automated **software engineering**
- software **testing & verification** (e.g., symbolic execution and fuzzing)
- software **repair** (e.g., semantic-based)
- explore the potential of **human involvement** in such process (incl. student education)



# Singapore?

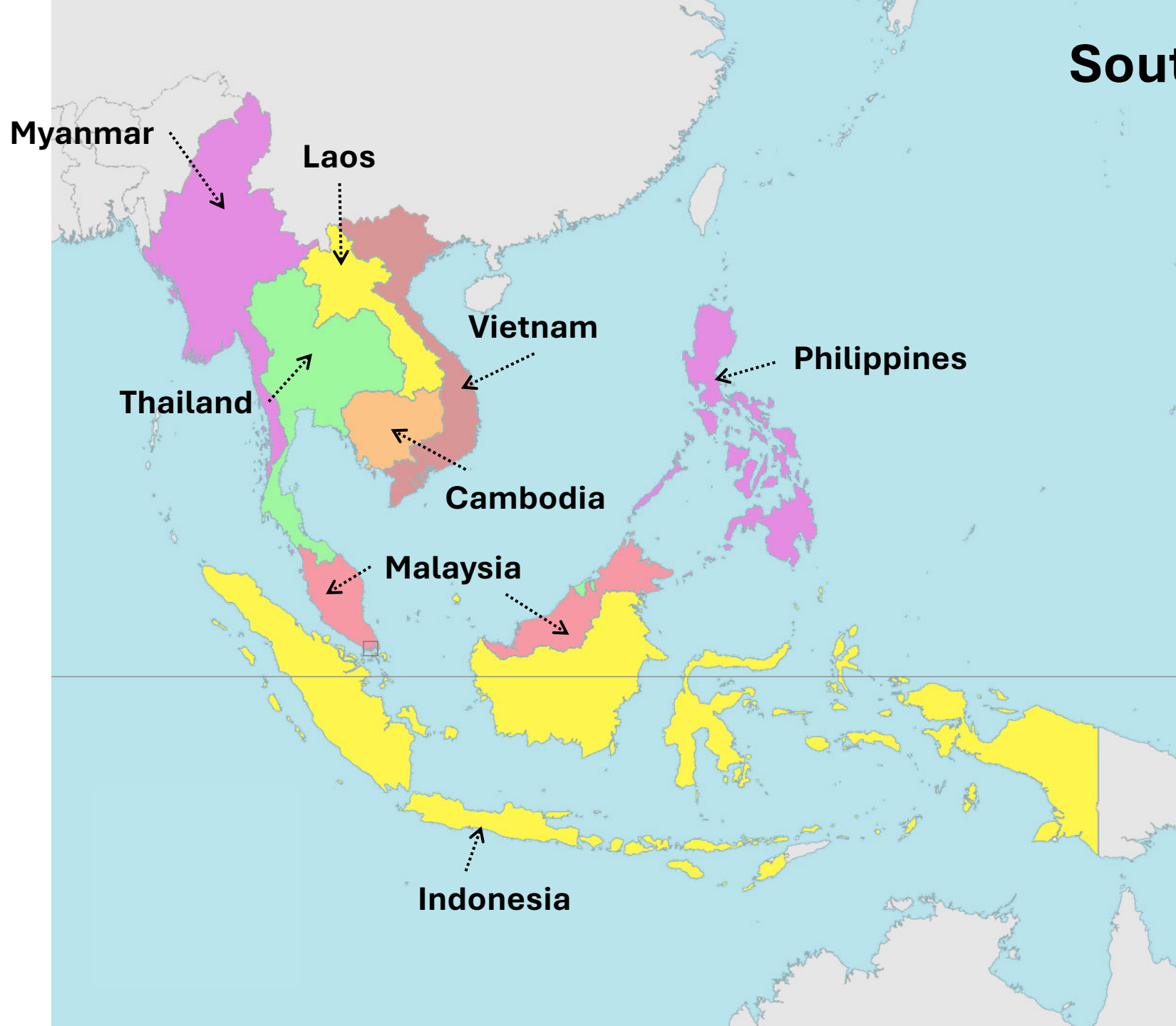
0 1600 mi  
0 2500 km





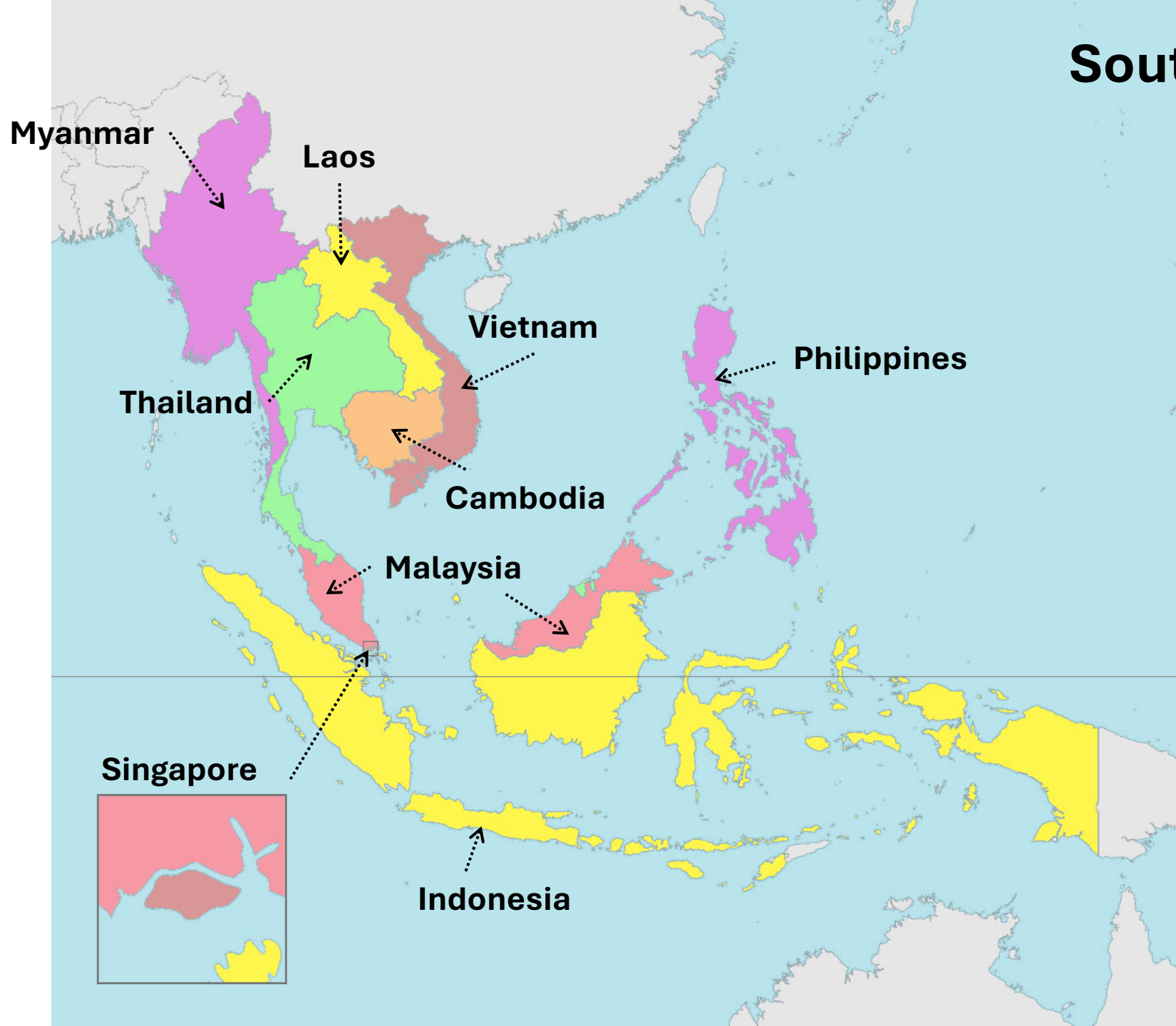
# Southeast Asia

Where is  
Singapore?





# Southeast Asia





- size: 736.7 km<sup>2</sup>
- population: ~ 6M

*Berlin:*

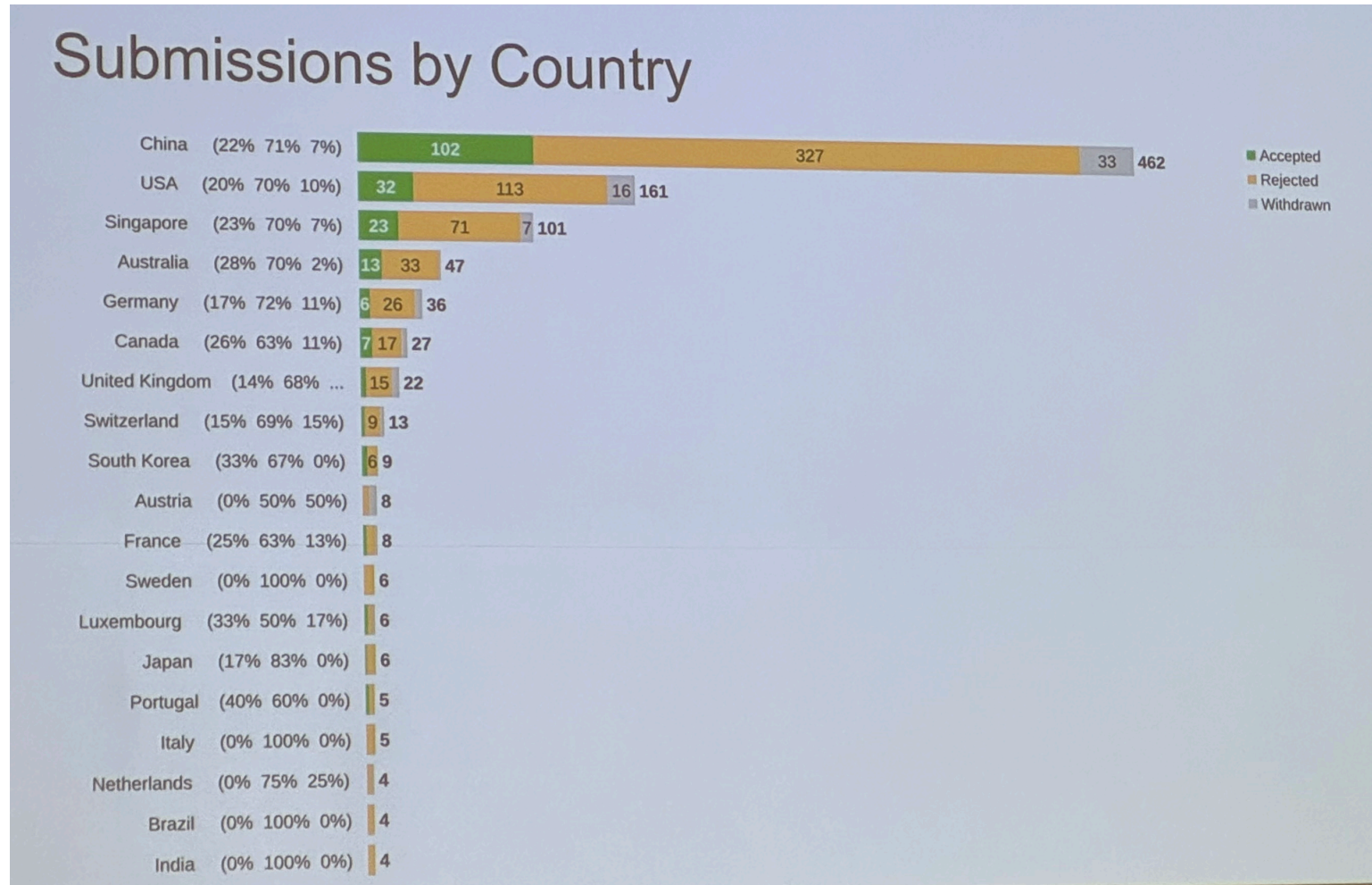
- size: 891.8 km<sup>2</sup>
- population: ~ 3.9M

- languages:
  - Malay
  - Tamil
  - (Singaporean) Mandarin
  - **English**
- Independence from the UK and Malaysia
  - Self-governance: 1959
  - Malaysia Agreement: 1963
  - Proclamation of Singapore: 1965

*RUB founded in 1962  
(first lecture in 1965)*

# Why should we care about Singapore?

# ISSTA'24



**462** submissions by **China** with acceptance rate of 102/462 ~ 22%


**36** submissions by **Germany** with acceptance rate of 6/36 ~ 17%

**101** submissions by **Singapore** with acceptance rate of 23/101 ~ 23%



# Universities in Singapore

NUS ranks 8th in QS World  
University Ranking



- National University of Singapore (since 1905, ~40,000 students)
- Nanyang Technological University (since 1981, ~40,000 students)
- Singapore Management University (since 2000, ~13,000 students)
- Singapore University of Technology and Design (since 2009, ~2000 students)
- University of the Arts Singapore (since 2023, ?)

# Other Research Institutes

- A\*STAR - Agency for Science, Technology and Research
- DSO National Laboratories
- Temasek Laboratories



What are the **challenges** in the daily life as researcher in Singapore?

# Singapore as Foreigner

- + one of the safest countries
- + digital government
- + great travel hub
  
- +/- most western country in Asia?
- +/- Privacy concerns?
- +/- Climate condition
  
- Long distance to home (Germany)
- Unclear chances for permanent resident (PR) status
- High property taxes

# Benefits as Researcher in Singapore

- **good research environment**
  - resources (PhD students, colleagues, computing power etc.)
  - focus on work/research, i.e., “convenient” work environment
  - world-class researchers
- **PhD programs**
  - allow to change advisor
  - many stipends available
  - “graceful” exit with Master
- **low income tax** with competitive salaries
  - but high property taxes (as foreigner)

# Issues as Researcher in Singapore

- **competitive** environment?
  - high working hours
  - focus on publication metrics?
  - are there differences wrt science culture? more pressure?
- **Visa** issue (S-Pass vs. E-Pass)
  - Two-body problem
- Long **traveling** to conferences in Europe/North America

# Singapore as (Assistant) Professor

- Tenure-Track System (similar to US)
- Many centrally organized services (admin support, teaching, exams, etc.)
  - more teaching personnel (teaching track as Lecturer)
- Hiring/Visa quotas
  - Foreigner / Singaporean
  - Limited amount of S-Pass/E-Pass
  - Quota for Research Groups (Graduate Studies) by MoE
- Limited number of Singaporean PhD students

# Conclusion: **Singapore** as Research Location

- as **researcher** good working environment
  - PhD, PostDoc, Research Visit, etc.
- as **research group leader** mixed situation
  - funding is usually okay, but could be difficult to hire people
  - generally excellent institutions
- as **foreigner**
  - great place to be (for short-term, or mid-term stays)
  - you want to get PR status if you want to stay long-term in Singapore