Proposal – GFSS2020 in Singapore.

Singapore Management University to act as the venue host for the Grammatical Framework Summer School 2020, some time in June–Aug 2020.

Past summer schools have been held at the University of Latvia; Stellenbosch University, South Africa; Gothenburg University, Sweden; University of Malta; and in Bavaria, Germany.

Please Note

This proposal is contingent on a grant application which is currently in progress; if the grant is not approved, or other bureaucratic complications arise, we may need to withdraw this proposal.

Organisers

People involved in organising GFSS2020 will include:

- Meng Weng Wong (PI at SMU; previously attended GFSS18 in Latvia),
- Alexis Chun (co-founder, Legalese.com), and, we hope,
- Inari Listenmaa (GF specialist who may be in Singapore at the time).

Location

[Singapore Management University](#) – School of Law / School of Information Systems

Dates

Any two weeks in June, July, or August 2020; assuming SMU has a classroom free, specific dates should be flexible and can be chosen to suit the primary speakers.

Sponsorship

For 5 international speakers, travel (S$1200 economy) and lodging (S$2000 for two weeks) should cost approximately S$22,000.

A conference dinner for 50 people should cost $50 per head = S$2,500.

This sum can be made up partly from industry sponsorships and partly from available SMU budget, conditional on various approvals.

Individual Accommodation Costs for Attendees

Accommodation costs €400–800 per week; options include
https://hmlet.com/rooms/singapore

Travel Costs for Attendees

SIngapore is a major travel hub. From Gothenburg to Singapore, typically €500–700. flights.google.com. Data-only roaming SIMs are available: 100GB over 7 days for $12

Excursions

Singapore is a vibrant tourist destination … we can do nightly excursions to Little India, Chinatown, the Malay neighbourhoods of Kampong Glam and Geylang Serai; the Peranakan district of Katong; the pleasure island of Sentosa; local hawker centres; Google's office; etc.

Proposed Theme

By the time the summer school happens, SMU hopes to be conducting a research programme at the intersection of four disciplines of computer science:

1. Logical formalisation of legal rules and contract specifications
   (prior art includes MIREL, CoSoDIS, FLACOS, SBVR, LegalRuleML, Schneider & Camilleri, et al)
2. Formal verification, specification languages, and model checking
   (prior art includes Z3, Alloy, TLA+, PAT, UPPAAL)
3. Computational linguistics and multilingual natural language generation
   (prior art includes GF)
4. Knowledge Representation and Reasoning
   (prior art includes Prolog, Datalog, F-Logic, Flora-2, RDF, RIF, N3, Sparql)

The research programme intends to develop a tutorial for a syncretist language family for legal specification, consisting of:

- an underlying logic and calculus;
- GF-compatible abstract EBNF grammar;
- GF-hosted concrete grammars for multiple CNLs;
- tools to export and import from formats like LegalRuleML;
- transpiler toolchain to integrate with formal-verification tools; and
- transpiler toolchain to automatically extract an expert system web app.

For GFSS2020, the organisers will prepare use cases and challenges to introduce classic problems in computational semantics (following van Eijck & Unger) as GF exercises in building grammars for specifying rules and contracts, developing proof-carrying statements, and using dependent types. Work product could be presented subsequently at conferences such as SIGCNL.

Revision History

20191104 – summer school to last 2 weeks instead of 1 week