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# PLAS: The 18th Workshop on Programming Languages and Analysis for Security

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## 1 INTRODUCTION

PLAS provides a forum for exploring and evaluating the use of programming language and program analysis techniques for promoting security in the complete range of software systems, from compilers to machine-learned models and smart contracts. The workshop encourages proposals of new, speculative ideas, evaluations of new or known techniques in practical settings, and discussions of emerging threats and problems. We also host position papers that are radical, forward-looking, and lead to lively and insightful discussions influential to the future research at the intersection of programming languages and security.

The scope of PLAS includes, but is not limited to:

- Language-based techniques for detecting and eliminating side-channel vulnerabilities
- Programming language techniques and verification applied to security in other domains (e.g. adversarial learning and smart contracts)
- Software isolation techniques (e.g., SFI and sandboxing) and compiler-based hardening techniques (e.g, secure compilation).
- Compiler-based security mechanisms (e.g. security type systems) or runtime-based security mechanisms (e.g. inline reference monitors)
- Techniques for discovering and detecting security vulnerabilities, including program (binary) analysis and fuzzing
- Automated introduction and/or verification of security enforcement mechanisms Language-based verification of security properties in software, including verification of cryptographic protocols
- Specifying and enforcing security policies for information flow and access control
- Model-driven approaches to security Security concerns for Web programming languages Language design for security in new domains such as cloud computing and IoT Applications, case studies, and implementations of these techniques

## 2 FORMAT

We invite both short papers and long papers. For short papers, we especially encourage the submission of position papers that are likely to generate lively discussion as well as short papers covering ongoing and future work.

- Full papers: There is no page limit on long papers. Papers in this category are expected to have relatively mature content. Papers that present promising preliminary and exploratory work, or recently published work are particularly welcome in this category. Long papers may receive longer talk slots at the workshop than short papers, depending on the number of accepted submissions.
- Short papers: should be at most 2 pages long, plus as many pages as needed for references. Papers that present radical, open-ended and forward-looking ideas are particularly welcome in this category. Authors submitting papers in this category must prepend the phrase "Short Paper:" to the title of the submitted paper.

The workshop has no published workshop proceedings and there is no restriction on paper format other than the page limits stated above. Presenting a paper (either short or long) at the workshop does not preclude submission to or publication in other venues that are before, concurrent, or after the workshop. Papers presented at the workshop will be made available to workshop participants only.

## 3 WORKSHOP ORGANIZERS

*Fraser Brown.* Fraser is an assistant professor at CMU, and received her BA in English and PhD in Computer Science from Stanford. She works at the intersection of systems, security, and programming languages, with a recent focus on compiler correctness.

*Klaus v. Gleissenthall.* Klaus is currently an assistant professor at VU Amsterdam. Previously, he held a post-doctoral researcher position at the University of California, San Diego, and received his PhD from Technische Universität München. Klaus works at the intersection of programming languages, formal verification, security, and systems.

## 4 SUMMARY

PLAS provides a forum for exploring and evaluating the use of programming language and program analysis techniques for promoting security in the complete range of software systems, from compilers to machine-learned models and smart contracts. The workshop encourages proposals of new, speculative ideas, evaluations of new or known techniques in practical settings, and discussions of emerging threats and problems. We also host position papers that are radical, forward-looking, and lead to lively and insightful discussions influential to future research at the intersection of programming languages and security. This year will mark the 18th iteration of PLAS, which was first held in 2007 in San Diego. We expect an exciting program and many interesting discussions.

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