

Mounir ASSAF

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Education

- 2015 **Phd in Computer Science** from the [University of Rennes 1](#)
“[From Qualitative to Quantitative Program Analysis: Permissive Enforcement of Secure Information Flow](#)”. Advised by Éric Totel, Frédéric Tronel ([CentraleSupélec](#)) and Julien Signoles ([CEA](#))
- 2011 **Master of Science in General Engineering**, with a specialisation in **Secure Information Systems**
[CentraleSupélec](#)
- 2011 **Master of Science**, with a specialisation in **Research in Computer Science**
[CentraleSupélec](#) & jointly accredited by [University of Rennes 1](#)

Experience

- Since Sep. 15 **Postdoctoral Fellow.** [Stevens Institute of Technology.](#) Hoboken, NJ
- Dec. 14 - Feb. 15 **Research Engineer.** [CentraleSupélec.](#) Rennes, France
- Nov. 11 - Oct. 14 **Research Assistant.** [CEA.](#) Saclay, France
- Oct. 11 **Security Consultant.** [Weplib startup.](#) Paris, France
- Apr. 11 - Sep. 11 **Research Internship.** [CentraleSupélec.](#) Rennes, France
- Feb. 10 - Jul. 10 **Security Expert.** [Intrinsec.](#) Nanterre, France
- Jul. 09 - Jan. 10 **Network Administrator.** [Weplib startup.](#) Paris, France
- Sep. 07 - Jun. 09 **System Administrator.** [SEE.](#) Paris, France

Teaching

- Spring 2013 & 14 **Secure Information Systems:** Laboratory assistant, [Polytech Paris-Sud](#), senior level. I was Responsible for supervising the laboratory sessions, providing support for students, evaluating and grading their reports after each session. I also provided feedback on the final exams.
- Fall 2013 **Networks:** Recitation leader, [University of Paris-Sud](#), senior level. I was responsible for supervising exercise sessions and engaging students on the course. I provided feedback on the final exam and organised it.
- Fall 2013 **Unix and Web Development:** Laboratory assistant, [University of Paris-Sud](#), sophomore level. I supervised laboratory sessions and provided support for students. I provided feedback on laboratory assignments, final exam and participated in exam oversight.
- Spring 2013 **Software Development in Java:** Recitation leader and laboratory assistant, [University of Paris-Sud](#), sophomore level. I supervised both exercise sessions and laboratory assignments. I made one laboratory assignment and provided feedback on others. I was responsible for advising students on their software project, organising mid-term presentations and evaluations, and grading the final project. I participated in organising the final exam and grading it.

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Summer 2013 **Internship:** I was responsible for following up with a student's internship, and evaluating the final internship report. [Polytech Paris-Sud](#), senior level.

Skills

Languages

- French (native)
- English (fluent)
- Arabic (native)

Programming Languages

Java, C, OCaml, Python, Shell Scripting, L^AT_EX, C#, Javascript, Matlab, Maple, HTML/CSS, PHP, SQL

Research Prototypes / Software tools

- 2014 - 2015 **Fhamator:** A prototype of an abstract interpreter for quantitative information flow
- 2011 - 2015 **SecureFlow:** program transformation of C programs for inlining security monitors (closed source Frama-C plug-in in OCaml, development continues at CEA)
- 2011 **JBlare:** policy-based intrusion detection in Java Virtual machine through dynamic and static analyses (using JamVM in C and Soot framework in Java)
- 2010 **IPv6test:** a collection of python scripts aiding penetration tests of IPv6 networks (initially relying on Scapy library, revamped since then at [Intrinsec](#))

Honours & Awards


- 2016 Contributions to an “Early-concept Grant for Exploratory Research” (EAGER), awarded by the National Science Foundation ([NSF 1649894](#)) and fully funding my postdoctoral appointment
- 2016 Best 2015 Phd Award by the [French Research Group on Programming and Software Engineering](#)
- 2013 Best student paper award at SARSSI conference
- 2013 Best student paper award at IFIP SEC conference
- 2011 Phd Fellowship awarded by [CEA](#) – the French Alternative Energies and Atomic Energy Commission

Communication

Talks

Multiple scientific talks to broad audiences in research institutions, universities and conferences: ACM POPL'17, IEEE CSF'16 & FCS'16, ENS Paris'16, Cornell University'16, New York University'16, [SoSySec Seminar](#)'16, [NJPLS](#)'16. . . I maintain a non-exhaustive list on my [personal webpage](#).

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Refereed Publications

- M. Assaf and D. Naumann. Computational design of information flow monitors. In *IEEE Computer Security Foundations Symposium*, pages 210–224, 2016. URL <https://arxiv.org/abs/1605.02778>. Acceptation rate of 31/87=36%.
- M. Assaf, J. Signoles, F. Tronel, and E. Total. Moniteur hybride de flux d’information pour un langage supportant des pointeurs. In *SARSSI - 8ème Conférence sur la Sécurité des Architectures Réseaux et des Systèmes d’Information*, 2013a. URL <http://hal.inria.fr/hal-00909293>. *Best student paper award*.
- M. Assaf, J. Signoles, F. Tronel, and É. Total. Program transformation for non-interference verification on programs with pointers. In *Security and Privacy Protection in Information Processing Systems*, pages 231–244. 2013b. *Best student paper award*, acceptance rate of approximately 40%.
- M. Assaf, J. Signoles, É. Total, and F. Tronel. The cardinal abstraction for quantitative information flow. In *Workshop on Foundations of Computer Security (FCS)*, June 2016. URL <https://hal.inria.fr/hal-01334604>.
- M. Assaf, D. Naumann, J. Signoles, É. Total, and F. Tronel. Hypercollecting semantics and its application to static analysis of information flow. In *ACM Symposium on Principles of Programming Languages*, Jan. 2017. URL <https://arxiv.org/abs/1608.01654>. To appear, acceptance rate of 64/279=23%.

Thesis Work

- M. Assaf. Utilisation de méthodes hybrides pour la détection d’intrusion paramétrée par la politique de sécurité reposant sur le suivi des flux d’information. Master’s thesis, Université de Rennes 1, June 2011. <http://dumas.ccsd.cnrs.fr/dumas-00636135>.
- M. Assaf. *From Qualitative to Quantitative Program Analysis : Permissive Enforcement of Secure Information Flow*. PhD thesis, Université de Rennes 1, May 2015. *2015 Phd award by GDR GPL*. <http://hal.inria.fr/IRISA/tel-01184857v1>.