

## Albert COHEN – Curriculum Vitæ

Research Scientist at Google,  
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### Professional Preparation and Education

Habilitation Thesis in Computer Science. Paris Sud 11 University, 03/2007.  
PhD in Computer Science. University of Versailles, 12/1999. Advisors: Jean-François Collard and Paul Feautrier.  
Received two national awards: SPECIF (now Gilles Kahn) 2nd prize, and AFIT.  
Agrégation in Mathematics (national competitive examination, MSc level), 07/1997.  
MSc in Computer Science. Graduated from École Normale Supérieure de Lyon, 06/1996, with honors.

### Academic and Industry Appointments

Research Scientist. Google Brain, Paris. 10/2018–.  
Visiting Scientist. Facebook Artificial Intelligence Research, Paris. 6 months, 07/2017–01/2018.  
Visiting Professor. Ohio State University. 1 month, 04–05/2015.  
Senior Research Scientist. PARKAS group, INRIA Paris and École Normale Supérieure. 04/2011–09/2018.  
Visiting Professor. Philips/NXP Research Eindhoven. 6 months, 08–09/2006, 08–09/2007 and 01–02/2009.  
Senior Research Scientist. ALCHEMY group, INRIA Saclay and Paris-Sud University. 09/2008–03/2011.  
Associate Professor. École Polytechnique, part-time teaching position. 09/2006–08/2015.  
Assistant Professor. École Polytechnique, part-time teaching position. 09/2002–08/2006.  
Research Scientist. A3 group, INRIA Rocquencourt; then ALCHEMY group, INRIA Saclay. 09/2000–08/2007.  
Visiting Scholar. University of Illinois at Urbana-Champaign. 6 months, 01/2000–04/2000 and 01/2001–04/2001.

### Research

Interests in high-performance and embedded computing systems: program optimization, parallel programming, domain-specific compilation, data-flow and synchronous programming, automatic parallelization, adaptive compilation and static analysis. Coauthored more than 180 peer-reviewed articles.

Google scholar: [https://scholar.google.com/citations?hl=fr&user=\\_KMsPngAAAAJ](https://scholar.google.com/citations?hl=fr&user=_KMsPngAAAAJ)

LinkedIn: <https://www.linkedin.com/in/yendor>

Nominated GCC for the ACM SIGPLAN 2014 Programming Language Software Award, \$2500 donation to the FSF.

### Funding (2004–2018)

Total: 9M€.

23 European research grants: network of excellence *HiPEAC 1–5* 2004–2020, research projects *SARC*, *ACOTES*, *MilePost*, *OMP*, *TERAFLUX*, *PHARAON*, *CARP*, coordination actions *TETRACOM*, *TETRAMAX*, *Eurolab-4-HPC 1,2* and *MNEMOSENE*, CHIST-ERA *DIVIDEND* and *SUCCESS*, ITEA *GGCC*, *MANY* and *ASSUME*, ARTEMIS *COPCAMS* and *EMC2*, Marie Curie transfer of knowledge *PSYCHES*. 8 French national projects: *PARA*, *COP*, *Ter@ops*, *OpenGPU*, “Investments for the future” *ManycoreLabs*, Nano 2012 and 2017 projects *Mediacom* and *DEMA*, INRIA large scale action *Synchronics*. Bilateral Polly Labs contract with ARM. Google European Doctoral Fellowship (2011), 4 PhD scholarships from CEA, 5 from the French ministry of research. 5 international collaboration grants with India, China, USA, Germany.

## Selected Synergistic Activities

*Teaching.* Lecture at the ARTIST summer school on synchronous and stream programming for embedded multicore computing, main international school in the area, gathering 120 attendees and 10 lecturers.

Lecture in program optimization with GCC at the 2006 ACACES summer school of the HiPEAC network; main international school in the area, gathering 200 attendees and 12 lecturers (including 5 ACM/IEEE Eckert-Mauchly award recipients in 2005 and 2006).

At École Polytechnique: created a first-of-a-kind undergraduate course on Computing System design based on the Android platform in 2008.

*Software Projects.* Initiating and managing several R&D projects in polyhedral compilation platforms, first within the Open64 compiler (WRAP-IT project), then within GCC (Graphite project, part of GCC 4.5) together with AMD and IBM Research. Continuing with the Polly Labs initiative in LLVM and isl, funded by ARM, Qualcomm, Xilinx, Facebook.

Tuareg, Objective Caml programming environment for Emacs, from 1997 to 2009, packaged with most GNU/Linux distributions (GPL), used at thousands of production and education sites.

*Research Community Animation.* Founding member of the HiPEAC network of excellence on high performance and embedded compilation and architecture since 2004, steering committee member 2006–2018.

Elected member of ACM SIGPLAN and Treasurer, since July 2018.

Steering committee chair of the ACM PPOPP conference, since May 2018.

Steering committee member of the ACM PLDI conference, since June 2017.

Associate Editor of the ACM Transactions on Architecture and Code Optimization (TACO, 2010–). Editorial board of the Intl. Journal on Parallel Programming (IJPP, Springer, 2009-2014).

General Chair of the ACM PLDI'17 conference (Barcelona, June 18–23 2017), the highest impact scientific conference in the field (650 attendees). General Chair of the ACM PPOPP'15 conference (San Francisco) and coordination of the colocation with HPCA and CGO conferences (700 attendees). General Chair of the HiPEAC'12 conference (Paris, 518 attendees, 20 exhibition booths).

Guest Editor of the Transactions on HiPEAC special issue on software and hardware challenges of manycore platforms, Springer 2009. Guest Editor of the ACM Transactions on Embedded Systems (TECS) special issue on software and compilers, 2005.

Program committee Chair: ARCS'15, ETAPS CC'14, APPT'13. Program sub-committee Chair: IPDPS'18 (SysSoft), DAC'14–13 (ESS1); DAC'12 (ESS1&2); Euro-Par'05 (Topic 4).

Program committees: ASPLOS'20,'16,'14<sup>(ERC)</sup>; CC'13,'08; CGO'19–'17,'15,'08; DAC'11; DATE'09,'04; EM-SOFT'10; ICPP'15,'12; ISCA'16<sup>(ERC)</sup>; ICS'12; PLDI'21,'19<sup>(EPC)</sup>, '16,'15<sup>(ERC)</sup>, '14,'11; LCTES'11,'10; PACT'21,'19,'17–'14,'10–'07; HiPEAC'10,'09; PEPM'07; PPOPP'21,'20,'14,'13<sup>(ERC)</sup>, '11,'07; SC'17,'16.

Finance Chair and co-organizer of ACM/IEEE CGO'11. Sponsor Chair of HiPEAC'18–'13.

Co-organizer of Dagstuhl seminars 07361 and 13142.

Organization and of numerous workshops and tutorials.

Numerous habilitation (9) and PhD thesis committees (48, in Europe, USA, India, Australia, New Zealand).

*Evaluation.* NSF Research Grant Panelist (2011). Evaluator for 2 European FP7 projects (2011–2013, 2017), for 2 UK proposals (EPSRC, 2003 and 2007) and 2 NL proposals (2004 and 2007). Reviewer for a French ANR call (2005). Evaluation committee of 4 research departments in Greece (2014) and for the French HCERES (2015).

INRIA Research Scientists: president of the committee in 2007–2009 for INRIA Saclay, member of the committee in 2004, 2006, 2018. École Normale Supérieure: competitive undergraduate oral examination, 2004, 2005 and 2006. External member of recruiting committee for assistant professors (4) and associate professors (3) at U. Pierre et Marie Curie, U. Lyon, U. Grenoble, U. Lille, 2009–2012.

*Service.* Elected member of the INRIA Scientific Council, 2011–2015.

## Research Supervision

*Current.* 3 PhD students: B. Clément, T. Trevisan Jost, S. Tuan Vu.

*Past.* 26 graduated PhD students: C. Reddy, U. Beaunon, J. Proy, A. Naji, A. Susungi, J. Zhao, C. Gallet, N.-M. Lê, X. K. Do, I. Llopard, A. Guatto, R. Baghdadi, F. Li, J.-Y. Vet, T. Grosser, R. Upadrasta, C. Miranda, B. Diouf, K. Trifunovic, M. Fellahi, M. Bachir, L.-N. Pouchet, S. Pop, N. Vasilache, P. Carribault, S. Girbal, P. Amiranoff.