

## Hassan Aït-Kaci

Born June 14, 1954

Citizen of Canada, France, Algeria

Fluent in French and English

<https://fr.linkedin.com/in/hak2007>

<http://hassan-ait-kaci.net>

[HassanAitKaci@gmail.com](mailto:HassanAitKaci@gmail.com)

## Area of Expertise

Cutting-edge research in artificial intelligence software and transfer of technology exploiting such research in the specification and implementation of intelligent systems and applications.

## Education

- 03/1990 **Habilitation à diriger des recherches en Informatique**, Université de Paris 7, Paris. « *Contribution à la Conception de Langages de Programmation Symbolique* ». President of committee: Maurice Nivat. Referees: Jean Gallier, Jean-Jacques Lévy, Maurice Nivat. Defense committee: Patrick Baudelaire, Guy Cousineau, Irène Guessarian, Gérard Huet, Gert Smolka.
- 09/1984 **Doctorate in Computer and Information Science** (PhD), University of Pennsylvania, Philadelphia, PA. “A Lattice-Theoretic Approach to Computation Based on a Calculus of Partially-Ordered Type Structures.” Supervisor: Prof. Peter Buneman. Defense committee: Alex Borgida, Timothy Finin, Jean Gallier, David MacQueen, Fernando Pereira.
- 05/1982 **Master of Science and Engineering in Computer and Information Science** (MSE), University of Pennsylvania, Philadelphia, PA.
- 06/1976 **Maîtrise d’Informatique**, Institut de Mathématique Appliquée de Grenoble, Université de Grenoble, France. Computer science and operations research.
- 06/1974 **Diplôme d’Etudes Universitaires Générales**, Université de Paris-Sud, Orsay, France. Mathematics and physics.
- 06/1971 **Baccalauréat, Série C**, Paris, France. High School Diploma, Major: Mathematics.

## Professional Experience

- 01/2015–01/2016 **Contractual Professor**, Université Claude Bernard Lyon 1 (UCBL). Head of the *LiveMUSIC* Project (Living Environment Monitoring Use Scenario with Intelligent Control), at the LIRIS under a grant from the Programme Avenir Lyon Saint-Etienne (PALSE). Developed a use scenario in intelligent living-environment monitoring using actual data from [Data Grand Lyon](#).
- 01/2013–01/2015 **ANR Chair of Excellence**, Université Claude Bernard Lyon 1. Head of the *CEDAR* Project (Constraint Event-Driven Automated Reasoning), at the LIRIS under a grant from the Agence Nationale pour la Recherche (ANR) as part of its Chair of Excellence program (CHEX 2012). Carried out a systematic experimentation of state-of-the-art Knowledge Representation technology addressing two essential challenges: scalability and distribution in Knowledge Base Management Systems.
- 02/2009–12/2012 **Senior Technical Staff Member**, IBM Canada Ltd., IBM Application and Integration Middleware (AIM). In charge of knowledge-based processing to endow AIM applications with advanced ontological reasoning capabilities for the rapid and effective integration of Semantic Web technology into software product, and IBM France’s mediator to the W3C’s “RIF” Working Group on the “Rule Interchange Format;” responsible for IBM’s participation in the 01/2009–12/2011 European project *ONTORULE*—“Combining Ontologies and Rules.”
- 05/2003–01/2009 **Distinguished Scientist**, ILOG, Inc., Sunnyvale, CA (USA). In charge of research and development (Rule-based and Constraint-based Programming, Semantic Web formalisms, Probabilistic Reasoning and Learning, and Software Verification). ILOG Principal representative in the W3C Working Group on the “Rule Interchange Format.”
- 05/2000–05/2003 **Sabbatical Visitor**, ILOG, Gentilly (France), on leave from Simon Fraser University. Designed and implemented the first Java-based compiler for OPL, ILOG’s Optimization Programming Language.

- 01/1994–09/2001 **Professor of Computing Science**, Simon Fraser University, School of Computing Science, Burnaby, BC, Canada. Full professorship appointment with tenure and director of the Intelligent Software Group as holder of NSERC Industrial Chair in Intelligent Software Systems. Constraints for Intelligent Internet Resource Processing. Courses taught: CMPT117 (*Introduction to Internet Programming in Java and its Friends*), CMPT-212 (*WIN95 Application Programming with C++*), CMPT-383 (*Principles of Programming Languages*), CMPT-384 (*Symbolic Computing*), CMPT-883 (*Internet Application Design*).
- 09/1988–12/1993 **Senior Member of Research Staff**, Digital Equipment Corporation, Paris Research Laboratory, Rueil-Malmaison, France. Set up and led a research project (the Paradise Project) on executable constraint specifications.
- 01/1991–06/1992 **Adjunct Professor**, Université de Paris 7 and École Normale Supérieure, Paris, France. Taught graduate-level seminar on multi-paradigm and constraint-based programming, and supervised MSc and PhD theses.
- 09/1984–09/1988 **Member of Research Staff**, Advanced Computer Architecture Program, Microelectronics and Computer Technology Corporation, Austin, Texas. Conducted research project in “new generation” programming languages and architectures (*CLFE* Project). Logic, functional and object-oriented programming, type theory, symbolic computation, abstract machine compilers.
- 09/1984–09/1988 **Adjunct Assistant Professor**, Department of Computer Sciences, University of Texas, Austin, TX. Courses taught: Discrete Mathematics for Computer Science (undergraduate), Principles of Programming Languages (undergraduate), Introduction to Artificial Intelligence (graduate), Seminar on Symbolic Computation (graduate).
- 01/1982–09/1983 **Teaching Assistant**, Department of Computer and Information Science, University of Pennsylvania, Philadelphia, PA. Database Theory, Compiler Design, Theory of Computation.
- 06/1981–09/1981 **Research Assistant**, Department of Computer and Information Science, University of Pennsylvania, Philadelphia, PA. Contributed to an automatic translation system from InterLisp to FranzLisp for the installation of the KI-One knowledge representation language.
- 06/1980–12/1980 **Research Assistant**, Department of Decision Sciences, the Wharton School of Business, University of Pennsylvania, Philadelphia, PA. Contributed to the integration of a semantic network knowledge base into a decision support system: the Decision Aiding Information System (DAISY).
- 11/1979–01/1980 **Operations Research Consultant**, Information for Investment Decisions, Inc. (I.I.D.), Washington, DC. Conceived and implemented a general model of production optimization in a multiple line production plant.

## Research Grants

- 01/2015–01/2016 **Programme Avenir Lyon Saint-Etienne: *LivEMUSIC*** Project (Living Environment Monitoring Use Scenarios with Intelligent Control); *Université Claude Bernard Lyon 1* (LIRIS), Villeurbanne, France. Total awarded funds: 150K €.
- 01/2013–01/2015 **Agence National de la Recherche, Chair of Excellence: *CEDAR*** Project (Constraint Event-Driven Automated Reasoning); *Université Claude Bernard Lyon 1* (LIRIS), Villeurbanne, France. Total awarded funds: 500K €.
- 2004–2006 **Réseau National sur la Technologie des Langages: MANIFICO** Project (*Métacompilation Non-Intrusive du Filtrage par Contraintes*); ILOG joint industrial research project with LORIA (Nancy, France) and INRIA (Rocquencourt, France). Total awarded funds: 2M €.
- 1998–2001 **National Science and Engineering Research Council of Canada**: Investigation of a Formalism for Indefinite Computation and Approximation; Simon Fraser University. Total awarded funds: (CND) \$24K per year, for 3 years.
- 1994–1999 **National Science and Engineering Research Council of Canada**: MPR Teltech Industrial Chair in Intelligent Software Systems; Simon Fraser University. Total awarded funds: (CND) \$400K per year, for 5 years.
- 1993–1996 **ESPRIT Basic Research Action**: ILOG participation in *CONTESSA* Working Group (Constraint Database Systems) Consortium gathering eight European academic and industrial research centers. Awarded funds for ILOG: travel and workshop attendance for the working group meetings over three years.
- 1992–1994 **ESPRIT Basic Research Action**: ILOG participation in *ACCLAIM* Project (Advancing Concurrent Constraint Languages Implementation and Methodology). Awarded funds for ILOG: 100K ECU (approx. US \$150K) 3 person×years over three years (1992–1995).