

CURRICULUM VITÆ

Thomas Stephen Edward Maibaum

September 2011

CURRENT APPOINTMENT:

Canada Research Chair (Tier I) in the Foundations of
Software Engineering
Department of Computing and Software
McMaster University
1280 Main Street West
Hamilton ON
Canada L8S 4K1

PERSONAL DETAILS

Date of Birth: 18 August 1947

Nationality: British and Canadian

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Ancaster ON
Canada L9G 3Z6

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HIGHER EDUCATION

Degrees

1970: Honours Degree (First Class) in Pure Mathematics from the University of Toronto (New College).

1974: Doctor of Philosophy in Computer Science from the University of London (Queen Mary and Royal Holloway Colleges).

Scholarships and Awards

1966: Ontario Scholar

1966: New College (University of Toronto) Council Scholarship

1970: Wetmore Award (Outstanding Graduate of New College)

1971-1973: Tutorial Research Studentship, Royal Holloway College, University of London

1984-1985: Royal Society/SERC Industrial Fellow

1997-1998: Marie Curie Fellowship under the auspices of the European Union Training and Mobility of Researchers Programme

1998: Engineering Foresight Award from the Royal Academy of Engineering

1998: Senior Visiting Scientist Fellowship from the Conselho Nacional de Desenvolvimento Científico e Tecnológico of Brasil

1998: International Fellow in the Computer Science Laboratory, SRI International, Menlo Park, USA

PROFESSIONAL AFFILIATIONS

Chartered Engineer and Fellow of the Institution of Engineering Technology

Professional Engineer, Ontario

Fellow of the Royal Society of Arts

Member of IFIP WG2.1 since 1996 (observer since 1992), resigned 2005

Member of IFIP WG1.3 since 2002 (observer since 1996)

Canadian representative on IFIP Technical Committee 1

Member IEEE since 2000

Member CIPS since 2007

PRIZE

1988: From the Polish Minister of National Education, a “Prize of the first degree of the first rank in view of scientific achievements for the monograph entitled *The Specification of Computer Programs* (Turski and Maibaum)”.

APPOINTMENTS

1/1/06-30/6/06 Visiting Fellow, Department of Computing, Imperial College London

At McMaster University, Department of Computing and Software (Information Technology Building, 1280 Main Street West, Hamilton, ON Canada L8S 4K1)

1/6/04- Full Professor with tenure

1/9/04- Canada Research Chair (Tier I) in the Foundations of Software Engineering

At King's College London, Department of Computer Science (The Strand London WC2R 2LS, United Kingdom)

1/1/01-31/7/02 Head of Department

1/8/99-31/5/04 Professor of the Foundations of Software Engineering

At Imperial College London, Department of Computing (180 Queen's Gate, South Kensington Campus, Imperial College London, London SW7 2AZ, United Kingdom)

1/9/89-20/4/97 Head of Department, reappointed 1994

1/10/90-31/7/99 Professor of the Foundations of Software Engineering

1/9/85-1/8/89 Head of Computing Theory and Systems Technology Section

1/10/86-30/9/90 Reader in Computing Science

15/10/81-30/10/85 Lecturer

At University of Waterloo, Department of Computer Science (Waterloo, Ontario, Canada N2L 3G1)

1/9/73-31/8/74 Postdoctoral Fellow

1/9/74-31/8/77 Research Assistant professor

1/9/77-15/9/81 Assistant Professor

Concurrent and Previous Appointments

1/7/98-30/9/98 International Fellow, Computer Science Laboratory, SRI International, Menlo Park, CA, USA

1/1/98-30/6/98	Visiting Professor in the Laboratório de Métodos Formais of the Departamento de Informática of the Pontifícia Universidade Católica do Rio de Janeiro
1/4/95-30/4/95	Visiting Professor, Nanyang Technological University, School of Applied Science, Singapore
4/7/96-20/7/96	Visiting Professor, Nanyang Technological University, School of Applied Science, Singapore
7/92-	Honourary Professor, Departamento de Informática, Pontifícia Universidade Católica do Rio de Janeiro
1/10/84- 30/10/85	Royal Society/SERC Industrial Fellow
1/1/81-31/7/81	Visiting Professor in the Departamento de Informática of the Pontifícia Universidade Católica do Rio de Janeiro
15/2/77-30/6/77	Visiting Assistant Professor in the Departamento de Informática of the Pontifícia Universidade Católica do Rio de Janeiro under the ægis of the Canadian International Development Agency
1/10/71-31/8/73	Tutorial Assistant in the Department of Mathematics, Royal Holloway College
1/10/70-30/9/71	Tutorial Assistant in the Department of Computer Science and Statistics, Queen Mary College
68-70	Tutorial Assistant in the Department of Mathematics, University of Toronto

PROFESSIONAL ACTIVITIES

Editorial Positions

Former Editor of Revista Brasileira de Computacao (the Brazilian Computing Journal).

Editor, Formal Aspects of Computing, Springer International in Association with The British Computer Society.

Former Advisory Editor, Journal of Data and Knowledge Engineering, North Holland.

Executive Editor, Journal of Logic and Computation, OUP.

Executive Editor of Journal of Applied Logic, OUP

Former Associate Editor of Journal on Theory and Practice of Object Systems, John Wiley.

Former Associate Editor for IEEE Transactions on Software Engineering.

Associate Editor of The Journal on Software and Systems Modeling (SOSYM).

Invited/Keynote Lectures and Panels

Invitations to participate in panels at VLDB 83; Workshop on Data Types, Passau, West Germany), organised panels: TAPSOFT '89, TAPSOFT '85, FACS Workshop at FM'03..

Respondent at IEEE Conference on Software Engineering, 1985.

Invited speaker at IFIP Congress 86, Dublin.

Keynote speaker at VI Congresso da Sociedade Brasileira de Computação, Recife, Brazil, 1986.

Invited speaker at EEC sponsored meeting on Specification of Concurrent Systems, Brussels, April 1986.

Invited speaker at IEE Colloquium on Systems and Software Engineering: Their Inter-relationships and Commonalities.

Invited speaker at Workshop on Temporal Logic, Manchester, April 1987.

Invited speaker IBM Brasil Workshop on Novel Techniques in Software Engineering, 1988.

Invited speaker at the IMA Conference on The Mathematical Revolution Inspired by Computing, Brighton, April 1989.

Invited speaker at British Colloquium on Theoretical Computer Science, 1991.

Invited speaker at DEON '91, the first workshop on Deontic Logic and its applications in Law and Computer Science, Free University, Amsterdam, December 1991.

Invited speaker at IMA conference on Mathematics and Computer Science, Brighton, September 1993.

Member of IFIP WG2.1 since June 1996, observer since 1991.

Invited speaker at WOLLIC'94, Recife, Brazil

Founder member of new IFIP WG2.9 on Requirements Engineering.

Member of IFIP WG2.1 since 2002.

Keynote speaker at the 7th International Workshop on Software Specification and Design.

Invited speaker at TAPSOFT'97.

Invited speaker at ESEC/FSE 1997 on Software Engineering Education.

Invited speaker at AMAST'98.

Invited speaker at the FACS Workshop, held at FM'03.

Invited speaker at the Festschrift in honour of Zohar Manna's 64th birthday.

Invited speaker for the First Conference on the Principles of Software Engineering (in honour of Armando Martín Haeberer) to be held in Buenos Aires in September 2004.

Keynote Speaker at TESTCOM'05.

Invited speaker at the Festschrift for Joseph Goguen, UCSD, July 2006.

Keynote speaker, SOMET06.

Keynote speaker at ICFEM07.

Invited lecturer at the 15th Summer School on the Sciences of Informatics, Rio Cuarto Argentina, February 2008.

Keynote speaker at the Formal Methods Education and Training Workshop held as part of ICFEM08.

Invited speaker at the Monterey Workshop 2008.

Invited speaker at Logical Aspects of Fault Tolerance (LAFT), a LICS 2009 Workshop.

Advisory Panels

Member of the Formal Methods Advisory Panel of the Alvey Software Engineering Directorate December 1983 to August 1988. The Panel developed a strategy and plan for the Formal Methods aspect of the Alvey Programme; monitored progress against the plan; provided a panel of referees for prospective projects; developed workshop, training, education and club activities.

Member of the International Advisory Panel of Escuela Superior Latinoamericana de Informatica, Argentina, 1988-1990.

Member of IEATP Systems Engineering Subcommittee B (the joint DTI/SERC framework for IT), 1988-1991.

Member of the DTI/SERC Applied Formal Methods Feasibility and Scoping Study Advisory Panel 1994.

Member of EPSRC College in Computing, 1995-1997.

Member of EPSRC IT&CS Directorate advisory group on evaluation of outcomes of EPSRC programmes.

Chair of the Ontario Research Fund ICT review panel, November 2009.

Steering Committees

Member of the TAPSOFT Steering Committee 1989-1995.

Member of the ICSE Steering Committee 1994-1999.

Founder member of the ETAPS Steering Committee 1995-2000,.

Founder member of the EASDS Steering Committee since 1996.

Founder member for the First Conference on the Principles of Software Engineering (in honour of Armando Martín Haeberer) to be held in Buenos Aires in September 2004.

Programme Committees

Programme Committee member for 7th International Conference on Distributed Computing Systems, Berlin, September 1987.

Programme Committee member for TAPSOFT'89, Barcelona.

Convenor and acting Chairman of ESPRIT Working Group on Formal Methods for Concurrent Systems (now defunct).

Programme Committee member for European Symposium on Programming'90.

Programme Committee member for Conference on Software Development Environments and Factories, 1989.

Programme Committee member for 12th International Conference on Software Engineering. Area Chairman for 'Specification'.

Chairman of Organizing Committee and Chairman of Software Engineering Programme Subcommittee for TAPSOFT'91.

Programme Committee member for Object Orientated Data Bases: Analysis, Design and Construction, sponsored by IFIP WG 2.6 and Coopers & Lybrand (1990).

Programme Committee member for ESOP '92.

Programme Committee member for Requirements Engineering '93, Requirements Engineering '95.

Programme Committee member for 14th, 15th, 16th, 17th and 19th International Conferences on Software Engineering.

Programme Committee member for ICALP '93, ICALP'97.

Programme Committee member for DEON'94, DEON'96, DEON'98, DEON'2002, DEON'2004.

Programme Committee member for ECOOP'94, ECOOP'96.

Programme Co-chair for 18th International Conference on Software Engineering.

Programme Committee member for 8th, 9th and 10th International Workshop on Software Specification and Design.

Programme Committee member for AMAST'96, AMAST'98, AMAST'00, AMAST'02.

Programme Committee member for ASE 1999, 2000, 2001, 2002.

Programme Chair for FASE'98, FASE'99, FASE'00, FASE'01, FASE'02, FASE'07, FASE'08, FASE'09, FASE'11.

Programme Committee member for FM'03, FM'09.

Programme Committee co-chair for FM'08.

Programme Committee member for QSIC 2003.

Programme Committee member for SEHAS 2003 (workshop at ICSE 2003).

Programme Committee member for SELMAS 2003 (workshop at ICSE 2003).

Programme Chair for the First Conference on the Principles of Software Engineering (in honour of Armando Martín Haeberer) to be held in Buenos Aires in September 2004.

Programme Committee member for FACS'05 Formal Aspects of Component Software.

Programme Committee member for First International Workshop on Philosophical Foundations of Information Systems Engineering (PHISE'05).

Programme Committee member for Third IEEE International Conference on Software Engineering and Formal Methods (SEFM'05), SEFM'07, SEFM'08, SEFM'09.

Programme Committee member for EFTS 2006 International Workshop on Engineering of Fault-Tolerant Systems.

Member of Organising Committee and Workshop Chair for FM 2006 Formal Methods.

Programme Committee member for FLOSS-FM & OpenCert 2008 Workshops.

Programme Committee member for SERENE'08, SERENE'10 Workshops.

Programme Committee member for TASE'09.

Programme Committee member for MODELS'09, MODELS'10 Conferences.

Programme Committee member for ICFEM'09.

Programme Committee co-chair for ICFEM'08.

Programme Committee member for CASCON'08.

Miscellaneous

Director of forMAL Ltd, a company established in the UK to supply services applying Formal Methods. (No longer trading.)

Formerly Partner in Kaposi Associates, a consulting group in quality aspects of IT.

Presenter of Formal Methods Tutorial at IEEE International Conference on Software Engineering, 1986.

Seminars presented at Universities of Bath, Surrey, Kent, Newcastle, Essex, Warwick, East Anglia, Queen Mary College, Royal Holloway & Bedford New College, Oxford, Swansea, Victoria (Canada), Dortmund, Lisbon, Sao Paulo, Sao Paulo at Sao Carlos, Toronto, Surrey; SRI International (Menlo Park), COPPE (Rio de Janeiro), Catholic University of Rio de Janeiro, Federal University of Pernambuco, IBM Brazil, University of Braunschweig (West Germany), Manchester University,

GEC Hirst Research Centre, HP Research Laboratories, Kestrel Institute (Palo Alto), MCC (Austin), University of Leicester, McMaster University, Imperial College London, University College London, King's College London, Queen Mary University London.

Regularly involved in project assessment and proposal refereeing for the EU.

PhD Examinations: Essex University, Oxford University, Queen Mary College, Pontificia Universidade Catolica do Rio de Janeiro, University of Waterloo, York University (UK), Imperial College, Manchester University.

Retained by Hewlett-Packard Laboratories, Bristol to advise on Formal Methods for Software engineering from 1984 to 1990. Added responsibilities for Knowledge Based Systems in 1986.

Occasional consulting on ESPRIT project for GEC Marconi Research Centre.

Occasional consultant to BT on Formal Methods Standards.

Presented courses on formal methods to the Brazilian research community on behalf of IBM Brazil; December 1985, December 1986, January 1989, February 1991.

Organised several courses on Formal Methods for Hewlett Packard Laboratories.

Participant in cooperation agreement with SZAMALK (Applied Logic Laboratory) and South Bank Polytechnic, 1988-91.

Referee for research grant applications to the Swedish National Board for Technical Development.

Referee for research grant applications to several Dutch agencies.

Referee for research grant applications to several Canadian agencies.

Referee and reviewer for Alvey Software Engineering proposals.

Referee for several journals.

Reviewer for several publishers.

Received several British Council awards to visit T. Gergely and L.Ury in Hungary and to bring them to Imperial College.

Received several British Council awards to visit Jose Fiadeiro in Portugal and to bring him to Imperial College.

Occasional expert witness in software related legal proceedings (both civil and criminal).

Presented (jointly) a course on Design for Testing, to Racal Avionics, 1992. (Two repeats of one week course.)

Expert assessor for UN Development Program of proposed Brazilian Software Project, 1992.

Foreign expert on World Bank Supported Programme in China, Teaching at Northwest University, Xi'an, 1991.

Presented one day tutorial (highly rated by participants) at the Conference on Object-Oriented Programming Systems, Languages, and Applications (one of the largest professional meetings in the area), 1994. The tutorial was repeated at Object World UK, 1995.

External Assessor for the University of Sao Paulo to examine the Department of Computer Sciences and Statistics, Sao Carlos, 1995.

Consultant on software quality to Equitel (Siemens Brasil) in June 1996.

External Examiner for MEng/BEng at York University (1994-1997), BSc in Mathematics and Computing at Essex University (1992-1995), Diploma and MSc (part time) at Oxford University (1995-1998), MSc in Computer Science at the University of the West Indies (1996-2000), BSc in Computer Science at the University of Birmingham (2000-2004), MSc at Leicester University (2003-2004).

Member of the Evaluation of Outcomes advisory panel for EPSRC (IT & CS), 1996/7.

Member of the judging panel of the BCS Distinguished Dissertation Prize, 1996-1998.

ADMINISTRATIVE ACTIVITIES

At University of Waterloo

Course co-ordinator in multi-section courses. Duties involved co-ordinating the activities of various lecturers and teaching assistants in preparation of assignments, tests, examinations and the marking thereof plus the ancillary administrative duties (setting up computing accounts, recording and submission of marks, etc).

Departmental representative on Mathematics Faculty Undergraduate Admissions Committee. The Committee sets admission policies for the Faculty and members review applications for advanced standing from students enrolled in other post-secondary institutions.

High School advisor. Duties were to advise high school students who visit the University about the mathematics faculty and its programmes.

Comprehensive Examination Committee Member (two occasions).

At Imperial College

Secretary of Working Party on Retraining of Teachers in Information Technology, January 1982 to September 1983. The working party drafted a report and my responsibilities were to co-ordinate the activities of the working party and the preparation of a draft report.

Research student admissions tutor and member of Departmental Research Committee, September 1983 to September 1986.

Co-ordinator of first year undergraduate programming course, October 1983 to September 1984.

Participated in the design of the new MEng degree in Software Engineering, perhaps the first such undergraduate degree in the world. 1984 to 1986.

Involved in the planning and development of the new advanced MSc in Foundations of Advanced Information Technology. Member of Steering Committee until 1989.

Head of Computing Theory and Systems Technology Section, September 1985 to September 1989. The Section had 12 teaching staff, 19 Research Assistants, 5 clerical staff and 31 research students in December 1988.

Elected member of Appointments Panel October 1985 to September 1989.

Member of Resources and Budget Committee October 1985 to September 1989.

Member of 1988 Course Committee (charged with replanning undergraduate curriculum), 1987-1988.

Head of Department (and various ex officio roles), September 1989-April 1997.
The Department had a staff of over 125 (faculty, clerical/administrative, technical, and full time research staff (not students)) and an annual budget of C\$10M, for which I had complete responsibility. I had legal responsibility for personnel and health and safety matters. I was completely responsible for all teaching and curriculum matters. I saw the department through 3 successful engineering accreditation exercises with the Institute of Electrical Engineers and the British Computer Society. I managed the Department's submissions to the UK's Research Assessment exercise on 2 occasions and we achieved the highest score available. I also managed the Department's accreditation in the UK's national Teaching Assessment exercises, again achieving the highest grade, excellent. During this period, the Department was acknowledged internationally as one of the leading Computing departments in the world, both for its research and its innovative teaching of software engineering.

At King's College London

Computer Science representative on the School of Physical Sciences and Engineering Research Committee (1999-2000).

Chair of the School of Physical Sciences and Engineering Research Committee (2000-2002).

School of Physical Sciences and Engineering representative on the College Research Committee (2000-2002).

School of Physical Sciences and Engineering representative on the College Postgraduate Research Students Sub-Committee (2000-2001).

College Research Committee representative on the College Data Protection Compliance Steering Group (2000-2003).

Member of the Principal's Research Management Advisory Group (2002-2004).

Head of Department (01/2002-07/2003).

I was hired to revitalise a poor Department and oversaw its expansion from 12 faculty to almost 30 in a 2 year period. There were large increases in research funding and postgraduate student numbers. I procured very large budget increases for teaching assistants and equipment. The department improved significantly its ranking by the Research Assessment Exercise and became highly rated for its teaching programmes.

Director of Research, PhD Admissions Tutor and Senior Tutor for Research Students (2003-2004).

At McMaster University

Member of the Undergraduate Computer Science Curriculum Committee (10/2004-12/2005).

Chair of the Undergraduate Computer Science Curriculum Committee (01/2005-04/2005).

Member of the Undergraduate Software Engineering Curriculum Committee (07/2005-12/2005, 07/2009-06/2011).

Member of the Postgraduate Computer Science Committee (10/2004-06/2009).

Member of the *ad hoc* committee designing the new joint Health Sciences and Engineering Bachelors degree (2005).

Member of the *ad hoc* committee designing the new BTech degree in Information Technology (2006).

Chair of departmental Prizes and Scholarships Committee (2008-2011).

Chair of *ad hoc* Committee to Review the Software Engineering Undergraduate Curriculum (2009-2010).

Member of Departmental Tenure and Promotion Committee (2006-2012)

Member, Graduate Council (2010-2013)

TEACHING

At Imperial College

- 1986-87 i Course 140 - Discrete Mathematics
22 hours of lectures + 11 hours of tutorials in
BScI/MEngI.
- ii Course 2.4 - Theories of Specification and Verification
20 hours of lectures + 10 hours of tutorials in (MSc)
FAIT.
- iii Course 321 - 22 hours of lectures + 11 hours of tutorials in
BScIII/MEngIII (with Dr C Hankin)
- iv Personal Mathematics Tutorials
1 hour per week during Term
- 1987-88 i Course 2.4 - Theories of Specification and Verification
20 hours of lectures + 10 hours of tutorials in (MSc)
FAIT.
- ii Course 321 - Language Definition and Design
22 hours of lectures + 11 hours of tutorials in
BScIII/MEngIII (with Dr C Hankin)
- iii Personal Mathematics Tutorials
1 hour per week during Term
- 1988-89 i Course 2.4 - Theories of Specification and Verification
20 hours of lectures + 10 hours of tutorials in (MSc)
FAIT
- ii Course 140 - Recursion, Induction and Data Types
20 hours of lectures + 10 hours of tutorials in
BScI/MEngI
- iii Personal Mathematics Tutorials
1 hour per week during Term
- 1989-90 i Course 2.4 - Theories of Specification and Verification 20 hours of
lectures + 10 hours of tutorials in (MSc) FAIT
- ii Several lectures on BScIII/MEngIII courses on
Software Engineering and Management
- 1990-94 i Course 2.4 - Theories of Specification and Verification 20 hours of
lectures + 10 hours of tutorials in (MSc) FAIT (shared
with Mr RJ Cunningham.)

- ii Course ISE 3.10 - 10 hours of lectures on History of Computing and Professional Responsibility, to 3rd year Computing and Electronics students
- ii Personal Mathematics Tutorials 1 hour per week in term time.
- 1994-95 i Course 2.4 - Theories of Specification and Verification 20 hours of lectures + 10 hours of tutorials in (MSc) FAIT.
- ii Personal Mathematics Tutorials 1 hour per week in term time.
- 1995-96 i Course 2.4 - Theories of Specification and Verification 20 hours of lectures + 10 hours of tutorials in (MSc) FAIT.
- ii Course 3.02 - Software Engineering: Methods 20 hours of lectures + 10 hours of tutorials, compulsory MEng/BEng course.
- iii Personal Mathematics Tutorials 1 hour per week in term time.
- 1996-97 i Course 3.02 - Software Engineering: Methods 20 hours of lectures + 10 hours of tutorials, compulsory MEng/BEng course.
- ii Personal Mathematics Tutorials 1 hour per week in term time.

Continuing Education: During 1986-87 a course on Formal Methods was organised for Hewlett-Packard Laboratories. It consisted of two units, each of 4 days duration. The course was given in full once and the first unit was given again later in the year.

During 1992 a course on Design for testing was presented twice at Racal Avionics. The course was of 4 days duration and was formulated in co-operation with Professor A Kaposi and Dr J Magee.

Some involvement in an EPSRC sponsored MSc level module on Safety Critical Systems which has been presented three times since September 1996.

- 1998-99 i Course 3.02 - Software Engineering: Methods: 20 hours of lectures + 10 hours of tutorials, compulsory MEng/BEng course.
- ii Personal Mathematics Tutorials 1 hour per week in term time.

Continuing Education: During 1995-99 a course on Safety Critical Systems was organised for the professional education market. It consisted of lectures and laboratories over one week. The course was presented once or twice a year and was well attended (15-30 attendees each instance).

At King's College London

- 1999-00 i Course CS3ASE Advanced Software Engineering: 20 hours of lectures + 10 hours of tutorials, compulsory MSci/BSc course.
- ii Personal Mathematics Tutorials 1 hour per week in term time.
- 2000-01 i Course CS3ASE Advanced Software Engineering: 20 hours of lectures + 10 hours of tutorials, compulsory MSci/BSc course.
- ii Personal Mathematics Tutorials 1 hour per week in term time.
- 2001-02 i CS2CAN/CS3ASE/CSMASE Advanced Software Engineering: 20 hours of lectures + 10 hours of tutorials, compulsory MSci/BSc course.
- ii CSMART Advanced Research Topics: 20 seminars.
- 2002-03 i CS3SAD/CSMDAS Software Architecture and Design: 20 hours of lectures + 10 hours of tutorials, compulsory MSci/BSc/MSc course.
- ii CSMART Advanced Research Topics: 20 seminars.

At McMaster University

- 2004-05 i SE 3A04 Software design II – Large System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- ii SE 3BB4 Software design III – Concurrent System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- 2005-06 i SE 3A04 Software design II – Large System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- ii CS 1MA3 Supervised the design and teaching of this new first course in Computer Science for the common first Science year at McMaster University.
- 2006-07 i SE 3A04 Software design II – Large System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- ii CAS 703 Software Design: 36 hours of lectures; core graduate course.
- iii SE 3S03 Software testing and Management: 36 hours of

- lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- 2007-08 i SE 3A04 Software design II – Large System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- ii CAS 703 Software Design: 36 hours of lectures; core graduate course.
- iii SE3S03 Software testing and Management: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- 2008-09 i SE 3BB4 Software design III – Concurrent System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- ii SE3S03 Software testing and Management: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- iii CAS 753 Formal Specification: 36 hours of lectures; advanced graduate course.
- 2009-10 i SE 3BB4 Software design III – Concurrent System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- ii CAS 703 Software Design: 36 hours of lectures; core graduate course.
- 2010-11 i CAS 703 Software Design: 36 hours of lectures; core graduate course.
- 2011-12 i SE 3BB4 Software Design III – Concurrent System Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students.
- ii SE 2AA4/CS 2ME3 Software Design I – Software Component Design: 36 hours of lectures + 24 hours of tutorials, compulsory for Software Engineering BEng students/Computer Science BSc students.

SUPERVISION OF RESEARCH STUDENTS

At University of Waterloo

I advised a number of Master Degree students in their studies and preparation of Masters essays.

I supervised three research students - M R Levy (Data Types with Sharing and Circularity) completed his studies in April 1978 and P R F Cunha (Design and Analysis of Message Oriented Programs) finished his studies in September 1981. The third left to work in industry before completing his research. I have also aided in the supervision of two students of E A Ashcroft and substituted for two other colleagues in the supervision of three further PhD students while these colleagues were on leave. I was also co-supervisor of a student at the Pontificia Universidade Catolica do Rio de Janeiro.

At Imperial College

Each year I have advised several MSc students during preparation of Masters theses; I have also advised several undergraduates during preparation of individual final year projects.

Research Students

Cameron Burton Queen Mary College	<i>An Algebraic Approach to Program Transformation</i> completed April 1985 (Transferred from K Clark in 1982)
Li Da Hai	<i>Protocol Specification</i> completed March 1987
Pablo de la Quintana	<i>Automated Reasoning for Modal Logics: A Natural Deduction Based Approach</i> jointly with Professor Dov Gabbay, completed October 1988
Samit Khosla	<i>System Specification: a Deontic Approach</i> completed July 1989
Ruy Queiroz	<i>Proof Theory and Computer Programming</i> completed January 1990
Marcos Costa	<i>Characterisation of Modal [Action] Logic</i> completed August 1989
S. Simplicio Filho	<i>Software Engineering & Artificial Intelligence</i> since October 1988
Mario Benevides	<i>Planning and Proof Theory</i> completed September 1991

Pedro Savadovsky	<i>A Tableaux Based Procedure for Specification Refinement</i> since August 1989, did not complete
Mark Ryan	<i>Non-Monotonic Reasoning</i> jointly with Dr S Vickers, completed May 1992
Hugo Fuks	<i>Negotiation Using Commitment and Dialogue</i> completed February 1991
Joao Gondim	<i>Dialogue Logics</i> since March 1988 (transferred from M. Sadler), withdrew 1993
Dimitros Raptis	<i>Automating Refinement</i> jointly with K Broda, completed August 1996
Theodosis Dimitrakos	<i>Formalisation of Program Design</i> completed June 1998
Odinaldo Rodrigues	<i>Belief Revision and Database Updates</i> completed December 1997
Shi Xiangrong	<i>Environments for Object Oriented Programming</i> since November 1993 (ORS award holder), withdrew 1997
Carlos Duarte	<i>Specifying Actor Systems</i> since October 1994, completed September 1998
Ezra Mugisa	<i>Software Reuse</i> since October 1994, completed 2000

At King's College London

Each year I have advised several MSc students during preparation of Masters theses; I have also advised several undergraduates during preparation of individual final year projects.

Research Students

Islam el-Maddah	<i>The GOPCSD Tool: Goal Oriented Process Control System Design</i> completed 2004
Nazareno Aguirre	<i>Dynamic Reconfiguration in Software Architectures</i> completed 2003
Adam Wyner	<i>Formalising Contracts in e-Commerce</i> completed 2008

Huzam al-Subaie *Evaluating Goal Directed Requirements Methods*
completed 2008

Nadia Nicolson *Relational Calculi and Applications*
withdrew 2003

Roshan Sembacuttiarachy
Implementing Contracts and Policies in e-Commerce
withdrew 2005

Mark Cridge *Architectures for Real-time*
Part-time: withdrew 2007

At McMaster University

Huan Wang *Software Evolution*
MSc: completed August 2007

Pablo Castro *Deontic Action Logics for the Specification and Analysis of*
Fault-tolerance
PhD: completed September 2009

Jorge Santos *An Extensible Workbench for the CommUnity*
Architecture Description Language
MSc: completed October 2007

Rongshu Yi *High Availability and Software Architecture*
MSc: completed April 2007

Salvador Garcia *Towards the application of Software Architectures in Multi-*
Agent Systems
MSc: completed August 2007

Xiang Ling *DynaComm: the extension of CommUnity to support dynamic*
reconfiguration
MSc: completed February 2007

Zhe Li *An Approach of Integration Testing for Object-Oriented*
Programs
MSc: completed June 2007

Marwan Abdeen *A Model for the FDA General Principles of Software Validation*
MASc: completed July 2007
Jointly supervised with Dr Wolfram Kahl

Lucian Patcas *Type Checking Real-time Systems*
PhD: since May 2007
Jointly supervised with Dr Mark Lawford

German Régis *Workflow Modelling*

	PhD: since April 2007 Jointly supervised with Dr Nazareno Aguirre of the University of Rio Cuarto, Argentina
Valentin Cassano	Modelling Concurrency PhD since May 2008
Silvia Grigorova	<i>The Elusive Quest: Software Product Quality Evaluation</i> MSc: completed October 2009
Ramiro Demasi	<i>Distributed Real-time System Design</i> PhD: since May 2009
Akbar Abdrakhmanov	<i>Certifying Financial Software</i> MA Sc: completed April 2011 Jointly supervised with Dr Alan Wassying
Hao Xu	<i>Certifying Software</i> MA Sc: since September 2009 PhD: since September 2011
Silvia Grigorova	<i>Software Product Quality Evaluation</i> PhD: since September 2009
Wen Chen	<i>Software Certification</i> PhD: since September 2009 Jointly supervised with Dr Alan Wassying
Paul Joannou	<i>Design of Enterprise Architectures</i> PhD (part time): since September 2009
Hamid Gholizadeh	<i>Formal Specification Using Multiple Models</i> PhD: since September 2010
Jamil Ahmed Khan	<i>Software Certification</i> MA Sc: since September 2010
Jeffery Lei	<i>Mining Execution Logs to locate Errors in Source Code</i> MA Sc: since September 2010
Morteza Sanati	<i>Workflow Modelling</i> PhD: since September 2010
Nadya Zubova	<i>Fault Tolerant Workflow Models</i> PhD: since September 2010
Md. Nour Hossain	<i>Formalising Aspects as Architecture Transformations</i> PhD: since September 2011
Majeed Khan	<i>Certification of Legacy Migration</i>

PhD: since September 2011-09-29
Jointly supervised with Dr Alan Wassyang

Reham Fadul

Feature Algebras
MAsc: since September 2011
Jointly supervised with Dr Ridha Khedri

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Semantics of Multimodelling
PhD: since January 2012

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- Reconfigurable Embedded Systems (APRES 2011), Chicago, April 11, 2011 (invited paper)
- 169 Castro P F & Maibaum T S E “Towards a First-Order Deontic Action Logic”, in postproceedings of WADT 2010, Springer LNCS #####, 2011
- 170 Hao X & Maibaum T “An Event-B Approach to Timing Issues Applied to the Generic Insulin Infusion Pump”, postproceedings of International Symposium on Foundations of Health Information Engineering and Systems (FHIES 2011), Springer, 2012

RESEARCH GRANTS AND CONTRACTS

Source of funds: ORF-RE

Title of Project: Model Based Software Engineering (Integrated with the APC grant below)

Start Date: January 2012

Duration (months): 60

Total value: \$4,500,000

Name(s) of other investigators: 12 at various Canadian Institutions

Partners GM Canada, IBM Canada, Malina Software, Waterloo, Toronto, Queen's, Ottawa

Source of funds: APC

Title of Project: Network for the Engineering of Complex Software-Intensive Systems for Automotive Systems

Start Date: January 2011

Duration (months): 60

Total value: \$16,500,000

Name(s) of other investigators: 19 at various Canadian Institutions

Partners GM Canada, IBM Canada, Malina Software, Victoria, UBC, Waterloo, Toronto, Queen's, McGill, CNAM

Source of funds: ORF-RE

Title of Project: Certification of Safety-Critical Software-Intensive Systems

Start Date: March 2009

Duration (months): 60

Total value: \$21,000,000

Name(s) of other investigators: WM Farmer, A Wassyng, Jonathan Ostroff, Krzysztof Czarnecki, Sebastian Fischmeister

Source of funds: CFI LOF
Title of Project: VIDALAB
Start Date: April 2008
Duration (months): 60
Total value: \$257,000
Name(s) of other investigators: WM Farmer, A Wassyng

Source of funds: EPSRC
Title of Project: Visiting Fellowship
Start Date: January 2006
Duration (months): 6
Total value: £30,000

Source of funds: NSERC
Title of Project: Strategic Grant
Start Date: January 2006
Duration (months): 36
Total value: C\$476,000
Name(s) of other investigators: P Alencar (Principal Investigator,
University of Waterloo), D Cowan
(University of Waterloo), C Lucena
(University of Waterloo)

Source of funds: NSERC
Title of Project: Discovery Grant
Start Date: April 2005
Duration (months): 60

Total value: C\$175,000

Source of funds: NSERC

Title of Project: Canada Research Chair (Tier I)

Start Date: September 2004

Duration (months): 84

Total value: C\$1,400,000

Source of funds: EU

Title of Project: The CUE Initiative

Start Date: July 2002

Duration (months): 36

Total value: €615,000

Source of funds: HP Laboratories Bristol

Title of Project: Representing Contracts in e-Commerce:

Start Date: July 2001

Duration (months): 48

Total value: £160,000

Source of funds: EPSRC

Title of Project: Engineering Modularised Specifications and Programs:
VF (José Fiadeiro)

Start Date: February 2000

Duration (months): 8

Total value: £28,650

Source of funds: EPSRC

Title of Project: Adding Refinements to the Product/process Modelling Logic:
VF (Marcelo Frias)

Start Date: February 2001

Duration (months): 1

Total value: £4,100

Source of funds: EPSRC

Title of Project: Objects, Associations and Subsystems: A Hierarchical Approach to Encapsulation (joint with CLRC)

Start Date: November 1999

Duration (months): 36 + 6 months extension

Total value: £156,000

Name(s) of other investigators: KC Lano

Source of funds: EPSRC

Title of Project: Epistemology and Software Engineering II:
VF (Armando Haeberer)

Start Date: June 1999

Duration (months): 6

Total value: £13,200

Source of funds: EPSRC

Title of Project: Epistemology and Software Engineering:
VF (Armando Haeberer)

Start Date: February 1999

Duration (months): 4

Total value: £7,750

Source of funds: EPSRC
Title of Project: The Integration of Two Industrially Relevant Formal Methods (VDM+B) (joint with CLRC)
Start Date: April 1998
Duration (months): 36
Total value: £140,000
Name(s) of other investigators: KC Lano

Source of funds: EPSRC
Title of Project: Abstract Interpretation of Safety Critical System Specifications
Start Date: January 1998
Duration (months): 36
Total value: £189,000

Source of funds: EPSRC
Title of Project: Case Study in Process Control Using Formal Methods: VF (Arturo Sanchez)
Start Date: June 1997
Duration (months): 1.5
Total value: £3,950

Source of funds: EPSRC
Title of Project: ARS Calculandis: VF (Armando Haeberer)
Start Date: February 1997
Duration (months): 2
Total value: £6,600

Source of funds: EPSRC

Title of Project: Object-oriented Specification of Real-time and Reactive Systems

Start Date: January 1996

Duration (months): 36

Total value: £214,340

Source of funds: EPSRC

Title of Project: Formal Underpinning for Object Technologies

Start Date: September 1995

Duration (months): 36

Total value: £253,082

Name(s) of other investigators: R Mitchell et al, Brighton University

Source of funds: ESPRIT

Title of Project: Medicis Network

Start Date: November 1993

Duration (months): 30

Total value: £55,300

Source of funds: ESPRIT

Title of Project: IS-CORE II

Start Date: November 1992

Duration (months): 36

Total value: £13,500

Source of funds: ESPRIT

Title of Project: Applying Formal Methods to Real Size Object-oriented Designs - AFRODITE

Start Date: July 1992

Duration (months): 41

Total value: £158,303

Source of funds: EPSRC

Title of Project: Partial Information and Types in Databases SVF for P Buneman)

Start Date: January 1991

Duration (months): 6

Total value: £14,340

Name(s) of other investigators: S Abramsky

Source of funds: SERC (Special Renewable Grant)

Title of Project: Foundational Structures for Computer Science

Start Date: July 1988 (renewed in 1990, 1992, 1994 - with Abbas Edalat and Paul Taylor added as PIs)

Duration (months): 48

Total value: £783,883

Name(s) of other investigators: S Abramsky, I Phillips, S Vickers, M. Smyth

Source of funds: SERC (Special Revisable Grant)

Title of Project: Foundational Models for Software Engineering

Start Date: July 1989

Duration: 48

Total value: £255,922

Name(s) of other investigators: S Abramsky, I Phillips, S Vickers, M. Smyth

Source of funds: EUREKA/DTI
Title of Project: Eureka Software Factory
Start Date: August 1991
Duration: 42
Total value: £1,486,921
Name(s) of other investigators: S Eisenbach, A Finkelstein, J Kramer, M
Lehman, J Magee, M Sloman

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Source of funds: IED
Title of Project: FOREST Research
Start Date: October 1989
Duration: 24
Total value: £156,483
Name(s) of other investigators: R Cunningham, A Finkelstein, S
Goldsack
Collaborators: Harwell Laboratory, British Aerospace Data Logic

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Source of funds: SERC
Title of Project: SVF for Paulo Veloso
Start Date: October 1990
Duration: 2
Total value: £4800

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Source of funds: ESPRIT Basic Research Action
Title of Project: IS-CORE
Start Date: March 1989

Duration (Months) 30
Total value: £16,662
Name(s) of other investigators: A Finkelstein

Source of funds: SERC
Title of Project: Software Engineering and Engineering Design
Start date: April 1989
Duration: 36
Total value: £56,274
Name(s) of other investigators: A Finkelstein

Source of funds: ESPRIT
Title of Project: A General Environment for Formal System
Development: GENESIS
Start date: March 1985
Duration: 42
Total value: £275623
Name(s) of other investigators: M Sadler
Collaborators: Imperial Software Technology Ltd, Phillips Research
Laboratories, Eindhoven

Source of funds: Hewlett-Packard Laboratories, Bristol
Title of Project: Training and research in formal methods
Duration: 72
Total value: 5 HP9000/350 colour workstations (including 1 with
including graphics accelerator), 1 laser printer, 1 line
printer, software to value £200000

Other comments: Equipment donation to support training of research

Source of funds: Hewlett-Packard Laboratories, Bristol

Title of Project: Laboratory support for MSc in Foundations of
Advanced Information Technology

Duration: 72

Total value: 10 HP9000/319 colour workstations and HP9000/370
file server, 1 laser printer, software to value £ 250000

Other comments Equipment donation to support FAIT laboratory and
individual project work.

Source of funds: SERC/Alvey Software Engineering and IKBS

Title of Project: Handbook of Logic in Computer Science

Start date: March 1986

Duration (Months) 36

Total value: £50000

Name(s) of other investigators: S Abramsky, D Gabbay

Other comments: The award matched funds of £15,000 for equipment and
staff salaries over a period of five years for a senior
editorial assistant from OUP.

Source of funds: SERC/Alvey

Title of Project: Formal Requirements Specification Techniques

Start date: January 1985

Duration: 46

Total value: £199,878

Name(s) of other investigators S Goldsack, R Cunningham

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Source of funds:	Alvey/IKBS
Title of Project:	SVF for Paulo Veloso
Start date:	September 1985
Duration:	2
Total value:	£3700

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Source of funds:	SERC
Title of Project:	Foundations of Abstract Specification
Start date:	1984
Duration:	7
Total value:	£12,960

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Source of funds	SERC
Title of Project:	Foundations of Abstract Specification
Start date:	1982
Duration:	18
Total value:	£26,980
Source of funds	SERC

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Source of funds:	SERC
Title of Project:	Foundations of Parallelism and Non Determinism in Declarative Programming
Duration:	38
Total value:	£95,376

Name(s) of other investigators: S Abramsky

Source of funds: SERC

Title of Project: Modal Framework for Specification of Information Systems

Duration: 25

Total value: £20,843

Source of funds: DTI

Title of Project: Alvey Lecures

Duration: 36

Total value: £17,250
