

---

---

# CURRICULUM VITAE: J. PAUL GIBSON, BSc., PhD., HDR

LAST UPDATE: 28TH NOVEMBER 2011

CURRENT POST: MAÎTRE DE CONFÉRENCES, T&M SUDPARIS

---

---

## CONTACT INFORMATION

22A rue de la Brulée  
Villers-les-Nancy  
54600  
France

*Tel:* +33 (0)6 22292500  
*Fax:* +33 (0)1 60764711  
*E-mail:* [gibson.paul@neuf.fr](mailto:gibson.paul@neuf.fr)  
*Web:* [www-public.it-sudparis.eu/~gibson](http://www-public.it-sudparis.eu/~gibson)

---

---

## PERSONAL INFORMATION

DATE OF BIRTH: 19 APRIL 1967.

NATIONALITY: BRITISH AND IRISH.

LANGUAGES: ENGLISH AND FRENCH.

FAMILY STATUS: MARRIED WITH 2 CHILDREN.

---

---

## HIGHER EDUCATION

UHP, NANCY I, Nancy, France

**H.D.R Informatique: (awarded November 2011)**

*Génie Logiciel Formel: Théorie, Pratique et Pédagogie.*

STIRLING UNIVERSITY, Stirling, Scotland

**Ph.D. (Computing Science): completed 1993 (awarded 1994)**

*Formal Object Oriented Development of Software Systems Using LOTOS.*

**B.Sc. (Computing Science and Mathematics 2.1 Hons): 1989**

My undergraduate dissertation was titled: *Chaos, Randomness and Natural Patterns.*

---

---

## ACADEMIC EXPERIENCE: EMPLOYMENT RECORD (SINCE 1992)

LE DÉPARTEMENT LOGICIELS-RÉSEAUX (LOR), TELECOM & MANAGEMENT SUDPARIS, Evry, France.  
*Maitre de Conferences* **October, 2006 - present**

DEPARTMENT OF COMPUTER SCIENCE, NUI MAYNOOTH, Co. Kildare, Ireland.  
*Senior Lecturer* **October, 2003 - October, 2006**  
*Sabbatical Leave (MOSEL research group, Nancy, France),* **September 05 - August 06**  
*Acting Head of Department,* **January 05 - June 05**

*Lecturer* **September, 1998 - September, 2003**

UNIVERSITY NANCY I (UHP), France.  
*Assistant temp. d'enseignement et de recherche* **September 97 - September 98**

CNRS AT LORIA (NANCY), France.  
*Research Fellow working with France Telecom (CNET)* **July 95 - July 97**

INRIA AT LORIA, (NANCY), France.  
*European research fellowship (HCM)* **September 94 - May 95**

COMPUTING SCIENCE DEPARTMENT, UNIVERSITY OF STIRLING, Scotland.  
*Research Assistant* **September 92 - February 94**

---

---

---

---

## RESEARCH INTERESTS: A BRIEF HISTORY (SINCE 1989)

My undergraduate degree was in Maths and Computing Science where I developed my interest in the theory of computing: **computability**, **complexity** and **correctness**. In the final year of my undergraduate degree, I worked on a student placement with British Telecom (Research Laboratories) where I researched in the area of **formal methods and object oriented programming**. This led to my first publication[GL89]. After working at BT, I decided to do a PhD on formal methods and OO development[Gib93c, Gib93a, Gib93b].

My first postdoctorate post was in France working with Dominique Méry on the **specification and design of complex systems**[MGR95, GM96]. At this point I got interested in the **feature interaction problem**[GM97, GMM97, Gib97, Gib98b, GM98c, GCMM98, GM99b, GHM99, Gib99, GMM99, GHM00].

My work in feature interactions led to research in the area of **unified semantic models for compositional (OO) reasoning about safety and liveness** (at different levels of abstraction)[GM98a, Gib98a, GHS<sup>+</sup>99, GM99a, Gib99, SPG<sup>+</sup>00, HGM00].

This led to the realisation that formal methods should lead to a more **rigorous software engineering** discipline in all parts of the development life cycle[GDM00, SG00, Gib01a, RPG02, CMG03, DMG03, CEB<sup>+</sup>05], with particular importance during requirements engineering.

Throughout my academic career, I emphasise the symbiosis between teaching and research. I have most interest in the **teaching of formal methods**, the problem of **technology transfer** and the adoption of **innovative learning techniques** such as **problem based learning (PBL)**[GM98b, Gib00, Gib03a, Gib03b, TG04a, TG04b, HG05, OG05b, OMGB05, OG05a, TG05a, TBG06, OG06a, OG06b, Gib11, Gib08a, Gib08b, GLR08b, Gib09b, Gib09c, GLR09b, Gib09a, CG10, GLR11b, GR11].

Most recently I have supervised PhD students in the areas of **models of computation**[WG05b, WG05a, Gib01b] and **E-voting**[GLR08a, GM08, CGM07a, Gib07, CGM07b, CGM06, MG06, Gib05, MG03, MCS<sup>+</sup>10, MSG<sup>+</sup>11, MSC<sup>+</sup>11, GMO11], where I focus on the complex boundary between (computer science) theory and (software engineering) practice.

I am currently collaborating in an ANR research project SAVE (Sécurité et Audit du Vote Electronique) where I am researching compositional verification of e-voting architectures[GLR08a, GLR10, GLR11a] against different types of requirements (including security, anonymity, performance, usability, etc...). My future research plans include extending the theory of Software Product Lines (SPLs) to incorporate previous research on feature interactions, formal methods and object oriented modelling; with practical application in the development of an e-voting SPL[GLR09a].

The references to my published papers, ordered by theme above, can be found at the end of this CV. In total, I have **11 journal publications** [PG11a, GLR11a, MSC<sup>+</sup>11, GLR11b, Gib11, Gib09c, WG08, CGM07b, OG06b, TG05b, GL89], **more than 40 peer-reviewed publications at international conferences**[GR11, GMO11, MSG<sup>+</sup>11, GLR10, CG10, MCS<sup>+</sup>10, Gib09a, Gib08b, GLR08a, GM08, GLR08b, Gib07, CGM07a, CGM06, MG06, OG06a, TBG06, OG05b, WG05b, CEB<sup>+</sup>05, WG05a, OG05a, HG05, TG05a, TG04a, TG04b, Gib03a, DMG03, CMG03, Gib00, SPG<sup>+</sup>00, GHM00, HGM00, GDM00, GM99b, Gib99, GMM99, GHM99, GM99a, GHS<sup>+</sup>99, Gib98b, GM98b, GM98a, GM97, Gib97, GMM97, GM96], and **numerous technical reports** [OMGB05, Gib05, Gib03b, MG03, Gib01a, Gib01b, WNG01, Gib98a, GM98c, GCMM98, MGR95, Gib93c, Gib93a, Gib93b].

I have also **co-edited 5 conference/workshop proceedings** — *UML&FM2011*[PG11b], *REVOTE09*[GJ09], *PPPJ04*[GPW04], *SAC02*[RPG02] and *IWFM00*[SG00].

---

---

## RESEARCH EXPERIENCE

---

### DIRECTOR TASS RESEARCH GROUP

From 2002-2005, I was director of the TASS (Theoretical Aspects of Software Systems) research group at NUI Maynooth. In total, TASS raised more than 600k euro in research funding, and supported more than 10 postgraduate researchers.

---

### RESEARCH SUPERVISION/DIRECTION

#### PHD STUDENTS: COMPLETED

**McGaley, Margaret**, *E-voting: an immature technology in a critical context*, 2008.

**Neary, Turlough**, *Small Universal Turing Machines*, 2007.

**Woods, Damien**, *Computational Complexity of an optical model of computation*, 2005.

#### PHD STUDENTS: IN PROGRESS

**Mac Namara, Damien**, *Electronic Voting: a Dual Vote Architecture* (submission 2011).

#### MSc STUDENTS: COMPLETED

**Walsh, Eamonn**, *A secure electronic voting system for academic council elections*, 2006.

**Kirk, Mark**, *A Client Simulator - And Benchmark Suite - To Test Performance of Multithreaded Architectures in Web Services*, 2004.

**Phelan, Pat**, *Rapid prototyping an educational online game: experimenting with sorting*, 2004

**Hallinan, Stephen**, *An Examination of the Use of UML in a Spiral Process with Evolving Requirements and the Subsequent Evaluation of the Design Quality*, 2004.

**Laird, Gary**, *Globalisation, Localisation and Testing of Visual Studio.NET*, 2004.

**Galvin, Valerie**, *Evolutionary Prototyping and its application in real-world case study*, 2004.

**Shanley, Ray**, *Design By Contract In Java*, 2003.

**Weir, David**, *Simulation and Modelling of Traffic Control Flow*, 2003.

**Feraille, Matthieu**, *Software Engineering Practices At DATA CEP (ALTRAN)*, 2002.

**Touzery, Emmanuel**, *PCSOFT: managing success*, awarded in 2002.

**Honan, Dermot**, *Peer to Peer Computing: An evaluation of the benefits when applied to Content Distribution*, 2002.

**Perez, Fran**, *The Sequence Pattern*, 2002.

**Zou, Jianming**, *Improving the Software Development Process at Ericsson*, 2002.

**Meagher, Anne**, *Automated Student Profiling: A Software Engineering Study of Automated Student Profiling for Teaching Programming*, 2001.

**Leacy, Helen**, *Animating formal specifications: a JAVA GUI*, 1999.

## UNDERGRADUATE PLACEMENTS

I have also supervised more than 20 final year projects, and more than 10 student placements (in Ireland and in France).

---

## THESES EXAMINATION

### PHD

**Dubravka Ilic:** *Formal reasoning about Dependability in Model-Driven Development*, awarded by Turku Center for Computer Science, 2007.

**Mark Hennesy:** *A test-driven development strategy for the construction of grammar-based software*, awarded by NUI Maynooth, 2007.

### MPHIL

**Paul Stacey** *Peer-to-peer Searching and Sharing of Electronic Documents*, awarded by DIT, Ireland, 2005.

### MSc

**David Tunney:** *var-pi: A language based on the pi-calculus*, awarded by DCU, Ireland, 2004.

**Aidan Haran:** *Collaborative Computer Personalities in the Game of Chess*, awarded DCU, Ireland, 2002.

---

## JOURNALS: REVIEWING AND EDITORIAL COMMITTEES

Since 2008, Paul is on the editorial committee (comité de rédaction) of the *Annals of Telecommunications* (ISSN: **0003-4347**), published by Springer. Furthermore, Paul has acted as reviewer for the following journals:

*ACM Transactions on Computing Education* ISSN: **1946-6226** .

*Annals of Telecommunications* ISSN: **0003-4347**.

*Automated Software Engineering* ISSN: **0928-8910**.

*Computer Networks (and ISDN Systems)* ISSN: **0169-7552**.

*Formal Aspects of Computing* ISSN: **0934-5043**.

*International Journal of Foundations of Computer Science (IJFCS)* ISSN: **0129-0541**.

*International Journal of Modelling and Simulation* ISSN: **0228-6203**.

*Journal of Cultural Heritage*, ISSN: **1296-2074**.

*Journal of Systems and Software*, ISSN: **0164-1212**.

*Requirements Engineering Journal* ISSN: **0947-3602**.

*Science of Computer Programming* ISSN: **0167-6423**.

*Software:Practice and Experience*, ISSN: **0038-0644**.

---

## CONFERENCES AND WORKSHOPS: COMMITTEES AND REVIEWING

**C:** (co)chair, **SC:** Session (co)chair, **OC:** organisation committee, **PC:** programme committee, **R:** reviewer.

*2012:*

Business Modelling and Software Design (BMSD 2012) (**PC, R**)  
International Conference on Engineering of Complex Computer Systems (ICECCS 2012) (**PC, R**)  
International Conference on Software and Data Technologies (ICSOFT12) (**PC,R**)  
International Conference on Intensive Applications and Services (INTENSIVE 2012) (**PC,R**)  
Requirements Engineering for E-voting Systems (RE-Vote11) (**PC,R**)  
Special Interest Group in Computer Science Education (SIGCSE 2012) (**R**)  
UML and Formal Methods International workshop (UML&FM 2012) (**PC,R**)

*2011:*

Business Modelling and Software Design (BMSD 2011) (**PC, R**)  
Conference on e-democracy, e-participation and e-voting (CeDEM 2011) (**R**)  
Workshop on Governance of Technology, Information, and Policies (GTIP 2011) (**PC,R**)  
International Conference on Software Engineering Advances (ICSEA11) (**PC, R**)  
International Conference on Software and Data Technologies (ICSOFT11) (**PC,R**)  
International Conference on Intensive Applications and Services (INTENSIVE 2011) (**PC,R**)  
Requirements Engineering for E-voting Systems (RE-Vote11) (**PC,R**)  
Special Interest Group in Computer Science Education (SIGCSE 2011) (**R**)  
Telecommunications, Networks and Systems (TNS 2011) (**PC,R**)  
UML and Formal Methods International workshop (UML&FM 2011) (**PC,R**)

*2010:*

International Conference on Formal Engineering Methods (ICFEM10) (**R**)  
International Conference on Software Engineering Advances (ICSEA10) (**PC, R**)  
International Conference on Software and Data Technologies (ICSOFT10) (**PC,R**)  
International Conference on Intensive Applications and Services (INTENSIVE 2010) (**PC,R**)  
Special Interest Group in Computer Science Education (SIGCSE 2010) (**R**)  
From Research to Teaching Formal Methods - The B Method (TFM-B 2010) (**PC,R**)  
Telecommunications, Networks and Systems (TNS 2010) (**PC,R**)

*2009:*

International Conference on Software Engineering Advances (ICSEA09) (**PC, R**)  
International Conference on Software and Data Technologies (ICSOFT09) (**PC,R**)  
International Conference on Intensive Applications and Services (INTENSIVE 09) (**PC,R**)  
Innovation and Technology in Computer Science Education (ITiCSE 2009) (**R**)  
Requirements Engineering for E-voting Systems (RE-Vote09) (**C,PC**)  
Special Interest Group in Computer Science Education (SIGCSE 09) (**R**)  
Telecommunications, Networks and Systems (TNS 2009) (**PC,R**)

*2008:*

Innovation and Technology in Computer Science Education (ITiCSE 2008) (**R**)  
Special Interest Group in Computer Science Education (SIGCSE 08) (**R**)  
Int. Symposium on Leveraging Applications of Formal Methods, Verification & Validation (ISoLA2008) (**PC**)

- International Conference on Software Engineering Advances (ICSEA08) (**PC, R**)  
 Telecommunications, Networks and Systems (TNS 2008) (**PC, R**)  
 International Conference on Software and Data Technologies (ICSOFT08) (**PC,R**)  
 African Conference on Research in Computer Science & Applied Mathematics (CARI'08) (**R**)  
 Workshop on Formal Methods Education and Training (FMET 2008) (**PC**)
- 2007:*
- Special Interest Group in Computer Science Education (SIGCSE 07) (**R**)  
 Innovation and Technology in Computer Science Education (ITiCSE 2007) (**R**)  
 International Conference on Software Engineering Advances (ICSEA07) (**PC, R**)  
 International Conference on Software and Data Technologies (ICSOFT07) (**PC,R**)
- 2006:*
- Formal Methods Europe (FM(E)06) (**R**)  
 International Conference on Software Engineering Advances (ICSEA06) (**PC, R**)  
 International Conference on Software and Data Technologies (ICSOFT06) (**PC,R**)  
 Information Technology and Telecommunications Doctoral Symposium (IT&T 2006) (**R**)
- 2004:*
- Principles and Practice of Programming in Java (PPPJ04) (**C**)  
 Foundations : Validation & Verification Workshop (Found04(V&V)) (**PC**)
- 2003:*
- Feature Interaction Workshop (FIW03) (**PC,R**)  
 Principles and Practice of Programming in Java (PPPJ03) (**OC,R**)
- 2002:*
- Forum on Specification and Design Languages (FDL02: SFP track) (**R**)  
 Principles and Practice of Programming in Java (PPPJ02) (**R**)  
 Symposium on Applied Computing (SAC02 (Soft.Eng. Track)) (**SC**)  
 Artificial Intelligence and Cognitive Science (AICS02) (**R**)
- 2001:*
- Irish Workshops in Formal Methods (IWFM01) (**PC,R**)  
 Intermediate Representation Engineering for the Java Virtual Machine (IRE2001) (**PC,R**)  
 Formal Methods for Parallel Programming: Theory & Applications (FMPPTA01) (**R**)
- 2000:*
- Irish Workshops in Formal Methods (IWFM00) (**C,OC,PC,R**)  
 Formal Methods for Parallel Programming: Theory & Applications (FMPPTA00) (**R**)
- 1999:*
- Formal Methods Europe (FME 1999) (**R**)  
 Irish Workshops in Formal Methods (IWFM99) (**PC,R**)  
 Formal Methods for Parallel Programming: Theory & Applications (FMPPTA99) (**R**)
- 1998:*
- Formal Methods for Parallel Programming: Theory & Applications (FMPPTA98) (**R**)

---

## (INTER)NATIONAL PROJECTS: EVALUATION AND REVIEWING

### IRELAND

Computer science **panellist** for the Enterprise Ireland Basic Research Grant Programme (2003)

### EUROPEAN UNION

**Evaluator** for European FP6, IST priority 2:

Call 2 — IST-2002-2.3.2.3 — *Open development platforms for software and services*

Call 5 — IST-2005-2.5.5 — *Software and Services*

**Portfolio Analysis** for European FP6, IST priority 2:

Call 5 — IST-2005-2.5.5 — *Software and Services*

**Reviewer** for RODIN project (European Union, FP6, IST priority 2).

**Evaluator/Rapporteur** European Union FP7:

ICT objective 1.2 — *Service and Software Architectures, Infrastructures and Engineering*

FET Proactive, FP7 Call 3 — *ICT Forever Yours*

FET Proactive, FP7 Call 4 — *CO-PI: Co-ordinating Communities, Plans and Actions*

FET Proactive, FP7 Call 4 — *TERACOMP: Concurrent Tera-Device Computing*

FP7 ICT Call 5, Objective 1.2 — *Internet of Services, Software and Virtualisation*

FP7 Marie Curie Action Calls (Mathematics and Engineering)

FP7 Marie Curie Action Call 8, Objective 1.2 — *Internet Cloud computing, Internet of Services and Advanced Software Engineering*

---

## GRANTS RECEIVED

CNRS Chercheur Associé 2005 — with Dominique Méry, MOSEL research group, INRIA/LORIA, Vanduvre-lès-Nancy, *Les méthodes formelles et le problème du transfert de technologie : la nécessité d'une recherche fondamentale dans la pédagogie du génie logiciel* (**salary from 1st Sept 2005 to 31st August 2006**)

Enterprise Ireland International Collaboration Research Grant (2005) EI/IC/2005/49 — with Rosemary Monahan and Jackie O'Kelly — between Clemson University and NUIM. *Problem-Based-Learning (PBL) - from theory to practice* (**4500 euro**)

IRCSET Embark Initiative (2004-2007) — Turlough Neary, J. Paul Gibson. *The boundaries of complexity hierarchies: maximising problem solving potential by using different models of computation* (**57,150 euro**).

IRCSET Embark Initiative (2003-2006) — Margaret McGaley, J. Paul Gibson. *Electronic voting: An analysis of the safety critical issues* (**57,150 euro**).

IRCSET Embark Initiative (2003-2006) — Des Traynor, J. Paul Gibson. *The synthesis and analysis of student profile models in adaptive learning environments for teaching computer programming.* (**57,150 euro**)

IRCSET Embark Initiative (2003-2006) — Ciaran O’Floinn, J. Paul Gibson. *Formalisation of Cryptographic Metrics and its application to emerging techniques*. **(57,150 euro)**

IRCSET Embark Initiative (2002-2005) — Aidan Delaney, J. Paul Gibson, Thomas J. Naughton. *Specification of an abstract operating system running on a single stack push down automaton* **(57,150 euro)**

IRCSET Embark Initiative (2002-2004) — Damien Woods, J. Paul Gibson. *Computational Models and the Turing Limit: An Investigation of the Boundary Between Discrete and Continuous Systems* **(38,100 euro)**

NUI, Maynooth New Researcher Award (2001) — for supporting the costs incurred by my PhD students when attending conferences and workshops, and visiting overseas research laboratories. **(4,000 Irish pounds)**

Enterprise Ireland International Collaboration Research Grant IC/2201/061 (2001) — with Rosemary Monahan and James Power — for the establishment of a formal methods alliance between Clemson University and NUIM. **(6,000 Irish pounds)**

Universite de Metz, Visiting Fellowship (2000) - for collaboration with Dominique Cansell in the application of theorem proving techniques in real world software engineering. **(2,000 Irish pounds)**

Enterprise Ireland Strategic Research Grant SRG/2000/94 (2000-2003) — NUIM-DCU formal methods group collaboration on the *IMPROVE (IMplementing PROtocol Verification for E-commerce) project* — concerned with security protocol specification and verification (working with Baltimore Technologies Ltd). **(70,500 Irish Pounds)**

Enterprise Ireland French Collaboration Grant — with Geoff Hamilton (DCU) (1998 — 2000) — to investigate the formal specification of telephone systems, in collaboration with the Model Group at Loria in Nancy, France. **(1,200 Irish pounds \* 3)**

## INVITED TALKS

*“The human factor cannot be safely neglected in planning machinery” - should e-voting machine development be driven by Murphy’s Law?.* Presented at: Dagstuhl on Verifiable Elections and the Public (July 2011).

*Research In Context: A talk in images.* Presented at: Postgraduate Research Symposium, Limerick Insitute of Technology (April 2011).

*A compositional approach to modelling and formal verification of e-voting systems.* Presented at: Department of Information Technology, Limerick Insitute of Technology (April 2010).

*A compositional approach to modelling and formal verification of e-voting systems.* Presented at: The Computer science department, Namur, Belgium; to the Precise research group (February 2010).

*Feature Interactions in a Software Product Line for E-voting.* Presented at: The Computer science department, Clemson Univ., SC, USA, to the RSRG research group (September 2009). Co-presenter: Jean-Luc Raffy.

*E-voting verification problems across the world.* Presented at: VETO08 (Workshop sur La sécurité Informatique et le Vote ElecTrOnique), CIRM, Marseille Luminy, Université de la Méditerranée (March 2008). Co-presenters: Jean-Luc Raffy and Eric Lallet.

*Formal methods — never too young to start.* Presented at: “To B or in any Event To B” Seminar/Workshop, Nancy, France (December 2007).

*E-voting and the need for rigorous software engineering — the past, present and future.* Presented at: B2007, Besancon, France (January 2007).

*Trust and security in e-voting systems: the verification problem.* Presented at: Workshop on Trustworthy Software, Saarland University, Saarbrcken, Germany (May 2006).

*Problem-based learning: the Pablo Picasso Approach.* Presented for: The Office of Teaching Effectiveness and Innovation, Clemson Univ., SC, USA (May 2006).

*E-voting: software engineering and formal methods.* Presented at: The Computer science department, Clemson Univ., SC, USA, to the RSRG research group (May 2006).

*Le vote électronique, les methodes formelles et les problèmes complexes dus à la sécurité.* Presented to: The MOSEL research group, Nancy, France. (March 2006).

*PBL — A computer science viewpoint.* Presented at: Project and Problem Based Learning in Higher Education, Galway (June 2003). Co-presenters: Jackie O’Kelly and George Mitchell.

*The Hunt For Software Engineers - i’ll provide the (silver) bullets if you provide the guns to fire them.* Presented at: NUI Maynooth CS Department, Seminar Series (October 2002).

*The Complexity of Beauty or the Beauty of Complexity.* Presented for: The NUIM Astro-2 (student society) (April 2002).

*Fair Objects: Infinity and Beyond.* Presented at: Formal Methods Alliance (Clemson University) (January 2002).

*An Introduction To Formal Methods.* Presented at: Formal Methods Alliance (Clemson University) (January 2002).

*Computability, complexity, correctness, and common-sense.* Presented at: NUIM Mathematics Seminar (February 2001).

*The fractal-like nature of complexity boundaries.* Presented at: NUIM-DCU Formal Methods and Security Seminar Series (March 2001).

*Software Engineering and Ethics: when code goes bad.* Presented for: The NUIM Astro-2 (student society) (March 2001).

*The role of computer science in software engineering.* Presented at: NUI Maynooth CS Department, Seminar Series (8th May 2000).

*Three interesting problems in computer science.* Presented at: NUI Maynooth CS Department, Seminar Series (20th November 2000).

*Correctness Preserving Transformations for software maintenance (in C++).* Presented at: NUI Maynooth CS Department, Seminar Series (25th September 2000). Co-presenters: Prof. Brian Malloy and Dr T Dowling.

*Stability issues in formal OO requirements models.* Presented at: NUI Maynooth CS Department, Seminar Series (1st November 1999).

---

---

## TEACHING EXPERIENCE

---

T&M SUDPARIS(EX. INT EVRY), EVRY, FRANCE (2006 - )

MSc IT (SOFTWARE ENGINEERING)

*UML and OOD* (2006-2007)

*Formal Methods (B)* (2006-2007)

*Tools for software engineering* (2006-2007)

*Testing* (2006-2007)

MSc SOFTWARE ENGINEERING & AMBIENT INTELLIGENCE

*Advanced Software Engineering for Smart Devices* (2011)

*Software Dependability* (2011)

*Software Testing and Metrics* (2011)

*Object oriented development* (2010,2011)

*Mathematical Foundations* (2009,2010)

*Software Engineering Foundations* (2009,2010)

TELECOM PREMIÈRE ANNÉE

*Algorithmique et Programmation* (2006-2010)

*Introduction à la conception objet illustré avec UML et Java* (2006-2011)

*Introduction à la Programmation* (2008-2010)

*Architecture matérielle et logicielle d'un ordinateur* (2008-2010)

TELECOM DEUXIÈME ANNÉE

*Langages formels et applications (Event-B)* (2007-2010)

*Projet Informatique (Genie Logiciel)* (2008-2011)

*Projet système d'information : Réalisation et déploiement (Patrons de conception)* (2008-2011)

FORMATION CONTINUE

*Filière Architecte technique — Concepts et technologies de développement* ((2010)

SUMMER SCHOOL

*Designing games : an interactive team project* (2007-2011)

---

---

NATIONAL UNIVERSITY OF IRELAND, MAYNOOTH, IRELAND (1998 - 2005)

MSc IN SOFTWARE ENGINEERING

*Rigorous Software Process* (2001-02, 2002-03, 2003-04, 2004-05).

*Software Process Improvement* (2002-03, 2003-04).

*Object Oriented Programming in C++* (2001-02).

BSC IN COMPUTER SCIENCE (& SOFTWARE ENGINEERING)

[4th year]: *Parallel Processing* (1998-99, 2000-01, 2002-03, 2003-04, 2004-05).

[1st and 2nd year]: *Algorithms & Data Structures I & II* (1998-99, 1999-00, 2003-04, 2004-05).

[2nd year]: *Object Oriented Development (I & II)* (2000-01, 2001-02).

[1st and 2nd year]: *Programming Languages (I & II)* (1998-99, 1999-00).

---

UNIVERSITÉ HENRI POINCARÉ, NANCY I, FRANCE (1995-1998)

At UHP, I lectured in the following subjects:

MASTERS CHIMIE INFORMATIQUE ET THÉORIQUE

*Algorithmique, Structures de Données et Programmation (Les objets et classes avec C++).*

DESS INGENIERIE MATHMATIQUES ET OUTILS INFORMATIQUES

*Génie Logiciel: L'application des méthodes formelles.*

INFORMATIQUE CYCLE A

*Graphes et Algorithmes.*

At UHP, as a teaching assistant, I taught tutorials and practical laboratory sessions in the following subjects:

MALG ESIAL

*Calculabilité ; la Théorie du Point Fixe ; Spécifications Algébriques ; Entiers, Combinatoire et Divination.*

DEUG INFORMATIQUE SM2

*Programmation fonctionnelle (avec CaML).*

---

UNIVERSITY OF STIRLING, STIRLING, SCOTLAND (1989-1993)

As a postgraduate I was involved in teaching tutorials and practical laboratory sessions in the following subjects as part of the BSc in Computer Science:

[1st year]: *Introduction to Computer Science.*

[1st year]: *Introduction to Programming (with Pascal).*

[2nd year]: *Structured Programming (with Modula-2).*

[4th year]: *Functional Programming (with ML).*

[4th year]: *Parallel Systems and Programming (with CSP).*

[4th year]: *Telecommunications and Formal Methods (with LOTOS).*

---

---

## ADMINISTRATION EXPERIENCE

---

### T&M SUDPARIS(EX. INT EVRY), EVRY

Co-developer of the Master of Science programme *Software Engineering For Smart Devices*

Co-director of the Master of Science programme *Software Engineering And Ambient Intelligence*

Director of the summer school programme *Designing Games: an interactive team project*

Membre du comité de pilotage - Compétences et la Formation en ingénierie Système (Complexe) SYSTEM@TIC  
Paris Region

---

### NATIONAL UNIVERSITY OF IRELAND, MAYNOOTH

Acting Head Of Computer Science Department (2005)

Director of Strategic Plan for Research and Teaching - Computer Science Department (2005)

Member of NUIM Academic Council (Sept 2004 - Sept 2005)

NUIM Summer Science Camp Director (2002, 2003, 2004)

Member of NUIM Appeals Board (Sept 2004 - Sept 2005)

Member of NUIM Resources Committee (Sept 2004 - Sept 2005)

Science Faculty Representative on the Engineering Faculty (Sept 2004 - Sept 2005)

MSc Software Engineering Programme Director, Computer Science Department (Sept 1999 - Sept 2003)

Director of International Exchange Students ERASMUS/SOCRATES, Computer Science Department (Sept 1999 - Sept 2003)

Research Seminar Co-ordinator, Computer Science Department (Sept 1999 - Sept 2001)

Technical Report Co-ordinator, Computer Science Department (Sept 2001 - Sept 2003)

Library Departmental Co-ordinator, Computer Science Department (Jan 2001 - Dec 2004).

Programming Contest Organiser, Computer Science Department (2001 - 2004)

(Computer) Science School Visits For Children Aged 5 - 18 (1999 - 2004)

Irish Robocode Contest Co-Organiser (2003 - 2004)

---

---

---

---

## OTHER PROFESSIONAL INFORMATION

### PROFESSIONAL MEMBERSHIP

I am a member of the ACM since 2001.

### EXPERT ADVISER

I was an expert adviser to the Irish Government's Independent *Commission on Electronic Voting* (see: <http://www.cev.ie/>).

I am on the advisory board for the *Computer Science Unplugged* International Teaching Project (see: <http://csunplugged.com/>)

### RESEARCH GROUP MEMBERSHIP

**AVERSE (Administration, Validation et sEcurité des Réseaux et SErVICES)** as part of L'Unité Mixte de Recherche SAMOVAR (Services répartis, Architectures, MOdélisation, Validation, Administration des Réseaux) UMR 5157 INT CNRS Research Laboratory.

(see: <http://samovar.it-sudparis.eu/equipes/eq-averse.php>)

**MOSEL**, INRIA/LORIA, Nancy, France.

(see: <http://www.loria.fr/equipes/model/>)

**FMA (Formal Methods Alliance)**, Clemson, USA.

(see: <http://www.cs.clemson.edu/~fmgroup/>)

### EXTERNAL EXAMINER

**Dublin City University**, *BSc in Computer Applications*, (2004 - 2010)

**Waterford Institute of Technology** (2001 - 2002)

*BSc: Applied Computing (Commercial & Industrial)*, and

*BSc: Computing in Commercial Software Development*

---

---

## ACADEMIC REFERENCES: CONTACT DETAILS

The following should be contacted if you require a reference to my teaching or research experience:

- Prof. Dominique Méry, Université Henri Poincaré Nancy 1, Nancy, France. ([mery@loria.fr](mailto:mery@loria.fr))
  - Prof. Ronan Reilly, NUI Maynooth, Ireland ([ronan@cs.nuim.ie](mailto:ronan@cs.nuim.ie))
  - Prof. Steve Stevenson, Clemson University, SC, USA ([steve@cs.clemson.edu](mailto:steve@cs.clemson.edu))
  - Prof. Ken Turner, Stirling University, Scotland ([kjt@cs.stir.ac.uk](mailto:kjt@cs.stir.ac.uk))
- 
-

---

---

## Publications

- [CEB<sup>+</sup>05] Deirdre Carew, Chris Exton, Jim Buckley, Margaret McGaley, and J.Paul Gibson. Preliminary study to empirically investigate the comprehensibility of requirements specifications. In *Psychology of Programming Interest Group 17th annual workshop (PPIG 2005)*, pages 182–202, University of Sussex, Brighton, UK, 2005.
- [CG10] Kevin Casey and J. Paul Gibson. (m)Oodles of Data Mining Moodle to understand Student Behaviour. In Fiona O’Riordan, Fergus Toolan, Rosario Hernandez, Robbie Smyth, Brett Becker, Kevin Casey, David Lillis, Geraldine McGing, Majella Mulhall, and Kay O’Sullivan, editors, *ICEP 10 Conference Papers: Engaging Pedagogy*, pages 61–71, Maynooth, Ireland, December 2010. Griffith College Dublin.
- [CGM06] Dominique Cansell, J. Paul Gibson, and Dominique Méry. Refinement: A constructive approach to formal software design for a secure e-voting interface. In A. Cerone and P. Curzon, editors, *Formal Methods for Interactive Systems (FMIS 2006)*, Macau SAR China, October 2006.
- [CGM07a] Dominique Cansell, J. Paul Gibson, and Dominique Méry. Formal verification of tamper-evident storage for e-voting. In Mike Hinchey and Tiziana Margaria, editors, *Fifth IEEE International Conference on Software Engineering and Formal Methods (SEFM 2007)*, pages 329–338, London, England, UK, 2007. IEEE Computer Society.
- [CGM07b] Dominique Cansell, J. Paul Gibson, and Dominique Méry. Refinement: A constructive approach to formal software design for a secure e-voting interface. *Electronic Notes in Theoretical Computer Science*, 183:39–55, 2007.
- [CMG03] Peter J. Clarke, Brian A. Malloy, and J. Paul Gibson. Using a taxonomy tool to identify changes in OO software. In Gerardo Canfora, Mark van den Brand, and Tibor Gyimothy, editors, *7th European Conference on Software Maintenance and Reengineering CSMR 2003*, pages 213–222, Benevento, Italy, 2003. IEEE Computer Society.
- [DMG03] Edward B. Duffy, Brian A. Malloy, and J. Paul Gibson. Applying the decorator pattern for profiling object-oriented software. In *11th International Workshop on Program Comprehension (IWPC 2003)*, pages 84–93, Portland, Oregon, USA, 2003. IEEE Computer Society.
- [GCMM98] J. Paul Gibson, Dominique Cansell, Bruno Mermet, and Dominique Méry. Spcification de services dans une logique temporelle compositionnelle: Rapport de fin du lot1 du march. Technical Report no961B 1B CNET-CNRS-CRIN, Centre de Recherche en Informatique de Nancy (CRIN), 1998.
- [GDM00] J. Paul Gibson, Thomas F. Dowling, and Brian A. Malloy. The application of correctness preserving transformations to software maintenance. In *ICSM ’00: Proceedings of the International Conference on Software Maintenance (ICSM’00)*, pages 108–119, Washington, DC, USA, 2000. IEEE Computer Society.

- [GHM99] J. Paul Gibson, Geoff Hamilton, and Dominique Méry. Integration problems in telephone feature requirements. In Keijiro Araki, Andy Galloway, and Kenji Taguchi, editors, *Integrated Formal Methods, Proceedings of the 1st International Conference on Integrated Formal Methods (IFM 99)*, pages 129–148, York, UK, June 1999. Springer.
- [GHM00] J. Paul Gibson, Geoff Hamilton, and Dominique Méry. A taxonomy for triggered interactions using fair object semantics. In Muffy Calder and Evan H. Magill, editors, *Feature Interactions in Telecommunications and Software Systems VI (FIW 2000)*, pages 193–209, Glasgow, Scotland, UK, 2000. IOS Press.
- [GHS<sup>+</sup>99] David Gray, Geoff Hamilton, David Sinclair, J. Paul Gibson, and James F. Power. Four logics and a protocol. In Andrew Butterfield and Klemens Haegele, editors, *3rd Irish Workshop on Formal Methods (IWF 1999)*, Electronic Workshops in Computing, Galway, Ireland, 1999. BCS.
- [Gib93a] J. Paul Gibson. Formal Object Based Design in LOTOS. Technical Report Computer Science: TR-113, University of Stirling, 1993.
- [Gib93b] J. Paul Gibson. A LOTOS-Based Approach to Neural Network Specification. Technical Report Computer Science: TR-112, University of Stirling, 1993.
- [Gib93c] J. Paul Gibson. *Formal Object Oriented Development of Software Systems Using LOTOS*. Thesis CSM-114, Stirling University, August 1993.
- [Gib97] J. Paul Gibson. Feature requirements models: Understanding interactions. In Petre Dini, Raouf Boutaba, and Luigi Logrippo, editors, *Feature Interactions in Telecommunications Networks IV, (FIW 1997)*, pages 46–60, Montréal, Canada, June 1997. IOS Press.
- [Gib98a] J. Paul Gibson. An OO requirements capture and analysis environment. Technical Report CRIN-98-R-010, Centre de Recherche en Informatique de Nancy (CRIN), January 1998.
- [Gib98b] J. Paul Gibson. Towards a feature interaction algebra. In Kristofer Kimbler and Wiet Bouma, editors, *Feature Interactions in Telecommunications and Software Systems V (FIW 1998)*, pages 217–231, Malmö, Sweden, 1998. IOS Press.
- [Gib99] J. Paul Gibson. Formal object oriented requirements: simulation, validation and verification. In Helena Szczerbicka, editor, *Modelling and Simulation: A tool for the next millenium ESM99*, volume II, pages 103–111, Warsaw, Poland, June 1999. Society for Computer Simulation International (SCS).
- [Gib00] J. Paul Gibson. Formal requirements engineering: Learning from the students. In Doug Grant, editor, *12th Australian Software Engineering Conference (ASWEC 2000)*, pages 171–180, Canberra, Australia, 2000. IEEE Computer Society.
- [Gib01a] J. Paul Gibson. Formal requirements models: simulation, validation and verification. Report NUIM-CS-TR-2001-2, Department of Computer Science, National University of Ireland, Maynooth., 2001.

- [Gib01b] J. Paul Gibson. On the relationship between computational models and scientific theories. Report NUIM-CS-TR-2001-5, Department of Computer Science, National University of Ireland, Maynooth., 2001.
- [Gib03a] J. Paul Gibson. A noughts and crosses Java applet to teach programming to primary school children. In James F. Power and John Waldron, editors, *Proceedings of the 2nd International Symposium on Principles and Practice of Programming in Java (PPPJ 2003)*, volume 42 of *ACM International Conference Proceeding Series*, pages 85–88, Kilkenny City, Ireland, 2003. ACM.
- [Gib03b] J. Paul Gibson. Software reuse in final year projects: A code of practice. Report NUIM-CS-TR-2003-12, Department of Computer Science, National University of Ireland, Maynooth., 2003.
- [Gib05] J. Paul Gibson. E-voting requirements modelling: An algebraic specification approach (with cafeobj). Report NUIM-CS-TR-2005-14, Department of Computer Science, National University of Ireland, Maynooth., 2005.
- [Gib07] J. Paul Gibson. E-voting and the need for rigorous software engineering — the past, present and future. In Jacques Julliand and Olga Kouchnarenko, editors, *B 2007: Formal Specification and Development in B, 7th International Conference of B Users*, volume 4355 of *Lecture Notes in Computer Science*, page 1, Besançon, France, 2007. Springer.
- [Gib08a] J. Paul Gibson. Formal methods — never too young to start. In Zoltan Istenes, editor, *Formal Methods in Computer Science Education (FORMED 2008)*, pages 151–160, Budapest, Hungary, March 2008. Accepted for publication in ENTCS.
- [Gib08b] J. Paul Gibson. Weaving a formal methods education with problem-based learning. In T. Margaria and B. Steffen, editors, *3rd International Symposium on Leveraging Applications of Formal Methods, Verification and Validation*, volume 17 of *Communications in Computer and Information Science (CCIS)*, pages 460–472, Porto Sani, Greece, October 2008. Springer-Verlag, Berlin Heidelberg.
- [Gib09a] J. Paul Gibson. Challenging the lecturer: Learning from the teacher’s mistakes. In Fiona O’Riordan, Fergus Toolan, Rosario Hernandez, Robbie Smyth, Brett Becker, Kevin Casey, David Lillis, Geraldine McGing, Majella Mulhall, and Kay O’Sullivan, editors, *ICEP 09 Conference Papers: Engaging Pedagogy*, pages 61–71, Dublin, Ireland, November 2009. Griffith College Dublin.
- [Gib09b] J. Paul Gibson. Software reuse and plagiarism: A code of practice. In *14th ACM SIGCSE Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2009)*, pages 55–59, Paris, France, July 2009. ACM.
- [Gib09c] J. Paul Gibson. Software reuse and plagiarism: A code of practice. *SIGCSE Bull.*, 41(3):55–59, 2009.
- [Gib11] J. Paul Gibson. Formal methods - never too young to start. *Electronic Notes in Theoretical Computer Science (ENTCS)*, 2011. To appear.
- [GJ09] J. Paul Gibson and Doug Jones, editors. *First International Workshop on Requirements Engineering for e-Voting Systems (RE-VOTE09)*, Atlanta,GA,USA, August 2009. IEEE.

- [GL89] J. Paul Gibson and J.A. Lynch. Applying formal object oriented design principles to Smalltalk-80. *British Telecom Technology Journal*, 7(3):1224, July 1989.
- [GLR08a] J. Paul Gibson, Eric Lallet, and Jean-Luc Raffy. Analysis of a distributed e-voting system architecture against quality of service requirements. In Herwig Mannaert, Tadashi Ohta, Cosmin Dini, and Robert Pellerin, editors, *The Third International Conference on Software Engineering Advances (ICSEA 2008)*, pages 58–64, Sliema, Malta, October 2008. IEEE Computer Society.
- [GLR08b] J. Paul Gibson, Eric Lallet, and Jean-Luc Raffy. How do I know if my design is correct? In Zoltan Istenes, editor, *Formal Methods in Computer Science Education (FORMED 2008)*, pages 61–70, Budapest, Hungary, March 2008. Accepted for publication in ENTCS.
- [GLR09a] J. Paul Gibson, Eric Lallet, and Jean-Luc Raffy. Feature interactions in a software product line for e-voting. In Nakamura and Reiff-Marganiec, editors, *Feature Interactions in Software and Communication Systems X*, pages 91–106, Lisbon, Portugal, June 2009. IOS Press.
- [GLR09b] J. Paul Gibson, Eric Lallet, and Jean-Luc Raffy. Sculpturing Event-B models with Rodin: “holes and lumps” in teaching refinement through problem-based learning. In *From Research to Teaching Formal Methods - The B Method (TFM B’2009)*, pages 7–21, Nantes, France, 2009. APCB.
- [GLR10] J. Paul Gibson, Eric Lallet, and Jean-Luc Raffy. Engineering a distributed e-voting system architecture: Meeting critical requirements. In Holger Giese, editor, *Architecting Critical Systems, First International Symposium, ISARCS 2010, Prague, Czech Republic, June 23-25, 2010, Proceedings*, volume 6150 of *Lecture Notes in Computer Science*, pages 89–108. Springer, 2010.
- [GLR11a] J. Paul Gibson, Eric Lallet, and Jean-Luc Raffy. Formal object oriented development of a voting system test oracle. *Innovations in Systems and Software Engineering (Special issue UML-FM11)*, 7(4):237–245, September 2011.
- [GLR11b] J. Paul Gibson, Eric Lallet, and Jean-Luc Raffy. How do I know if my design is correct? *Electronic Notes in Theoretical Computer Science (ENTCS)*, 2011. To appear.
- [GM96] J. Paul Gibson and Dominique Méry. A unifying model for specification and design. In Galmiche, Bashoun, Fiadero, and Yonezawa, editors, *Proceedings of the Workshop on Proof Theory of Concurrent Object Oriented Programming*, Linz (Austria), July 1996.
- [GM97] J. Paul Gibson and Dominique Méry. Telephone feature verification: Translating SDL to TLA+. In Ana R. Cavalli and Amardeo Sarma, editors, *SDL ’97 Time for Testing, SDL, MSC and Trends — 8th International SDL Forum*, pages 103–118, Evry, France, September 1997. Elsevier.
- [GM98a] J. Paul Gibson and Dominique Méry. Always and eventually in object requirements. In A.S Evans, editor, *Second Workshop on Rigorous Object Oriented Methods (ROOM 2)*, Bradford, West Yorkshire, UK, May 1998.
- [GM98b] J. Paul Gibson and Dominique Méry. Teaching formal methods: Lessons to learn. In Sharon Flynn and Andrew Butterfield, editors, *2nd Irish Workshop on Formal Methods (IWFm 1998)*, Electronic Workshops in Computing, Cork, Ireland, July 1998. BCS.

- [GM98c] J. Paul Gibson and Yassine Mokhtari. POTS: An OO LOTOS specification. Technical Report CRIN-98-R-013, Centre de Recherche en Informatique de Nancy (CRIN), January 1998.
- [GM99a] J. Paul Gibson and Dominique Méry. Fair objects. In H.S.M. Zedan and Antonio Cau, editors, *Object-oriented technology and computing systems re-engineering*, pages 122–140, Chichester, USA, 1999. Horwood Publishing, Ltd.
- [GM99b] J. Paul Gibson and Dominique Méry. Formal modelling of services for getting a better understanding of the feature interaction problem. In Dines Bjørner, Manfred Broy, and Alexandre V. Zamulin, editors, *PSI '99: Proceedings of the Third International Andrei Ershov Memorial Conference on Perspectives of System Informatics*, volume 1755 of *Lecture Notes in Computer Science*, pages 155–179, Akademgorodok, Novosibirsk, Russia, 1999. Springer.
- [GM08] J. Paul Gibson and Margaret McGaley. Verification and maintenance of e-voting systems and standards. In Dan Remenyi, editor, *8th European Conference on e-Government*, pages 283–289, Lausanne, Switzerland, July 2008. Academic Publishing International.
- [GMM97] J. Paul Gibson, Bruno Mermet, and Dominique Méry. Feature interactions: A mixed semantic model approach. In Henry McGloughlin and Gerard O'Regan, editors, *1st Irish Workshop on Formal Methods (IWFEM 1997)*, Electronic Workshops in Computing, Dublin, Ireland, July 1997. BCS.
- [GMM99] J. Paul Gibson, Dominique Méry, and Yassine Mokhtari. Animating formal specifications - a telephone simulation case study. In Helena Szczerbicka, editor, *Modelling and Simulation: A tool for the next millenium ESM99*, volume II, pages 139–146, Warsaw, Poland, June 1999. Society for Computer Simulation International (SCS).
- [GMO11] J. Paul Gibson, Damien MacNamara, and Ken Oakley. Just like paper and the 3-colour protocol: a voting interface requirements engineering case study. In *Proceedings of 2011 International Workshop on Requirements Engineering for Electronic RE-Vote 2011*, pages 66–75, Trento, Italy, august 2011. IEEE.
- [GPW04] J. Paul Gibson, James Power, and John Waldron, editors. *PPPJ '04: Proceedings of the 3rd international symposium on Principles and practice of programming in Java*, Las Vegas, Nevada, 2004. Trinity College Dublin. General Chair-John Waldron.
- [GR11] J. Paul Gibson and Jean-Luc Raffy. A future-proof postgraduate software engineering programme: Maintainability issues. In *The Sixth International Conference on Software Engineering Advances(ICSEA 11)*, pages 471–476, Barcelona, Spain, October 2011.
- [HG05] Stephen Hallinan and J. Paul Gibson. A graduate's role in technology transfer: From requirements to design with UML. In Peter Kokol, editor, *IASTED International Conference on Software Engineering, part of the 23rd Multi-Conference on Applied Informatics*, pages 94–99, Innsbruck, Austria, 2005. IASTED/ACTA Press.

- [HGM00] Geoff Hamilton, J. Paul Gibson, and Dominique Méry. Composing fair objects. In Fouchal and Lee, editors, *International Conference on Software Engineering Applied to Networking and Parallel/Distributed Computing (SNPD '00)*, pages 225–233, Reims, France, May 2000.
- [MCS<sup>+</sup>10] Damien MacNamara, Francis Carmody, Ted Scully, Ken Oakley, Elizabeth Quane, and J. Paul Gibson. Dual vote: A novel user interface for e-voting systems. In *IADIS International Conference on Interfaces and Human Computer Interaction 2010*, Freiburg, Germany, 28 - 30 July 2010, 2010. IADIS.
- [MG03] Margaret McGaley and J. Paul Gibson. E-voting: a safety critical system. Report NUIM-CS-TR-2003-2, Department of Computer Science, National University of Ireland, Maynooth., 2003.
- [MG06] Margaret McGaley and J. Paul Gibson. A critical analysis of the council of europe recommendations on e-voting. In *EVT'06: Proceedings of the USENIX/Accurate Electronic Voting Technology Workshop 2006 on Electronic Voting Technology Workshop*, pages 9–22, Berkeley, CA, USA, 2006. USENIX Association.
- [MGR95] Dominique Méry, J. Paul Gibson, and Denis Roegel. Formal methods for concurrency parallelism and distribution. Rapport Interne CRIN-96-R-378, Centre de Recherche en Informatique de Nancy (CRIN), 1995. Published in ERCIM News *Software Quality* (23).
- [MSC<sup>+</sup>11] Damien MacNamara, Ted Scully, Francis Carmody, Ken Oakley, Elizabeth Quane, and J. Paul Gibson. Dual vote: A non-intrusive evoting interface. *International Journal of Computer Information Systems and Industrial Management Applications(IJCISIM)*, 2011. To appear.
- [MSG<sup>+</sup>11] Damien MacNamara, Ted Scully, J. Paul Gibson, Francis Carmody, Ken Oakley, and Elizabeth Quane. Dualvote: Addressing usability and verifiability issues in electronic voting systems. In *2011 Conference for E-Democracy and Open Government (CeDEM11)*, pages 313–322, Danube University, Krems, May 2011. Edition Donau-Universitt Krems.
- [OG05a] Jackie O’Kelly and J. Paul Gibson. PBL: Year one analysis — interpretation and validation. In *PBL In Context — Bridging work and Education*, Lahti, Finland, 2005.
- [OG05b] Jackie O’Kelly and J. Paul Gibson. Software engineering as a model of understanding for learning and problem solving. In *ICER '05: Proceedings of the 2005 international workshop on Computing education research*, pages 87–97, New York, NY, USA, 2005. ACM.
- [OG06a] Jackie O’Kelly and J. Paul Gibson. Robocode & problem-based learning: a non-prescriptive approach to teaching programming. In Renzo Davoli, Michael Goldweber, and Paola Salomoni, editors, *Proceedings of the 11th Annual SIGCSE Conference on Innovation and Technology in Computer Science Education, ITiCSE 2006*, pages 217–221, Bologna, Italy, 2006. ACM. Also published in ACM SIGCSE Bulletin.
- [OG06b] Jackie O’Kelly and J. Paul Gibson. Robocode & problem-based learning: a non-prescriptive approach to teaching programming. *SIGCSE Bull.*, 38(3):217–221, 2006.

- [OMGB05] Jackie O’Kelly, Rosemary Monahan, J. Paul Gibson, and Stephen Brown. Enhancing skills transfer through problem-based learning. Report NUIM-CS-TR-2005-13, Department of Computer Science, National University of Ireland, Maynooth., 2005.
- [PG11a] I. Perseil and J. Gibson. Introduction to special issue: papers from umlform2011. *Innovations in Systems and Software Engineering*, 7:225–226, 2011.
- [PG11b] Isabelle Perseil and J. Paul Gibson, editors. *Fourth IEEE International workshop UML and Formal Methods (UML&FM2011)*, Limerick, Ireland, June 2011. IEEE.
- [RPG02] David C. Rine, James F. Power, and J. Paul Gibson. ACM SAC2002 software engineering: theory and applications (SETA) track description. In *ACM Symposium on Applied Computing (SAC 2002)*, pages 969–970, Madrid, Spain, 2002. ACM.
- [SG00] David Sinclair and J. Paul Gibson, editors. *4th Irish Workshop on Formal Methods (IWFMM 2000)*, Electronic Workshops in Computing, Maynooth, Ireland, July 2000. BCS.
- [SPG<sup>+</sup>00] David Sinclair, James F. Power, J. Paul Gibson, David Gray, and Geoff Hamilton. Specifying and verifying IP with linear logic. In Ten-Hwang Lai, editor, *ICDCS Workshop on Distributed System Validation and Verification*, pages E104–E110, Taiwan, ROC, 2000.
- [TBG06] Des Traynor, Susan Bergin, and J. Paul Gibson. Automated assessment in CS1. In *ACE ’06: Proceedings of the 8th Australian conference on computing education*, pages 223–228, Darlinghurst, Australia, 2006. Australian Computer Society, Inc.
- [TG04a] Des Traynor and J. Paul Gibson. Implementing cognitive modelling in CS education: Aligning theory and practice of learning to program. In Kinshuk, Demetrios G. Sampson, and Pedro T. Isaías, editors, *Cognition and Exploratory Learning in Digital Age CELDA 2004*, pages 533–536, Lisbon, Portugal, 2004. IADIS.
- [TG04b] Des Traynor and J. Paul Gibson. Towards the development of a cognitive model of programming: a software engineering proposal. In E. Dunican and T.R.G. Green, editors, *Psychology of Programming Interest Group 16th annual workshop (PPIG 2004)*, pages 79–85, 2004.
- [TG05a] Des Traynor and J. Paul Gibson. Synthesis and analysis of automatic assessment methods in CS1: generating intelligent MCQs. In Wanda Dann, Thomas L. Naps, Paul T. Tymann, and Doug Baldwin, editors, *Proceedings of the 36th SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2005)*, pages 495–499, St. Louis, Missouri, USA, 2005. ACM. Also published in ACM SIGCSE Bulletin.
- [TG05b] Des Traynor and J. Paul Gibson. Synthesis and analysis of automatic assessment methods in CS1: generating intelligent MCQs. *SIGCSE Bull.*, 37(1):495–499, 2005.
- [WG05a] Damien Woods and J. Paul Gibson. Complexity of continuous space machine operations. In S. Barry Cooper, Benedikt Löwe, and Leen Torenvliet, editors, *New Computational Paradigms, First Conference on Computability in Europe CiE2005*, volume 3526 of *Lecture Notes in Computer Science*, pages 540–551, Amsterdam, The Netherlands, 2005. Springer.

- [WG05b] Damien Woods and J. Paul Gibson. Lower bounds on the computational power of an optical model of computation. In Cristian Calude, Michael J. Dinneen, Gheorghe Paun, Mario J. Pérez-Jiménez, and Grzegorz Rozenberg, editors, *4th International Conference on Unconventional Computation (UC2005)*, volume 3699 of *Lecture Notes in Computer Science*, pages 237–250, Sevilla, Spain, 2005. Springer.
- [WG08] Damien Woods and J. Paul Gibson. Lower bounds on the computational power of an optical model of computation. *Natural Computing*, 7(1):95–108, 2008.
- [WNG01] Damien Woods, Thomas J. Naughton, and J. Paul Gibson. Analog recurrent neural network simulation,  $O(\log n)$  unordered search, and bitonic sort with an optically-inspired model of computation. Report NUIM-CS-TR-2001-6, Department of Computer Science, National University of Ireland, Maynooth, 2001.
- 
-