U. Ottawa, School of Electrical Engineering and Computer Science October, 2011

*COMPLETE LIFETIME CURRICULUM VITAE*

a) NAME: EMPLOYEE NO.

**LETHBRIDGE, Timothy C.**, Full Professor, P.Eng, I.S.P 080354
Tenured July 2001
Member of Faculty of Graduate and Postdoctoral Studies

b) DEGREES:

Ph.D. Computer Science, University of Ottawa, 1994
M.Sc.(CS), University of New Brunswick, 1987
B.Sc.(CS), University of New Brunswick, 1985

c) EMPLOYMENT HISTORY:

| | |
|---|---|
| 2010- | Faculty Secretary, Faculty of Engineering, University of Ottawa |
| 2005- | Full Professor, School of Electrical Engineering and Computer Science, University of Ottawa |
| 2005 | Acting Associate Dean (Academic Affairs), Faculty of Engineering, University of Ottawa (12 month appointment) |
| 2001-05 | Associate Professor, School of Information Technology and Engineering, University of Ottawa |
| 1997-01 | Assistant Professor (tenure track), *ibid*. |
| 1994-97 | Assistant Professor (non tenure-track) Department of Computer Science, University of Ottawa |
| 1990-95 | Consultant: Various research contracts |
| 1987-89 | Member of Scientific Staff, Bell-Northern Research |
| 1986 | Sessional Lecturer, Computer Science, University of New Brunswick |
| 1984-87 | Consultant: Various contracts performing software development and writing |
| 1982-85 | Province of New Brunswick, Data Processing Division, Programmer and Programmer-analyst (full-time co-op and part-time) |

d) HONOURS:

| | |
|---|---|
| 2010 | Gary Hadford Professional Achievement Award, Canadian Information Processing Society, "[to] CIPS members … recognized by their peers for their integrity, high degree of competence, and outstanding achievements in fields related to information technology." |
| 2010 | Cascon High Impact Paper Award for one of best 14 out of 425 papers published in the first decade of Cascon, for C16. Singer, J., Lethbridge, T.C., Vinson, N, and Anquetil, N (1997) "An Examination of Software Engineering Work Practices", |

| | |
|---|---|
| 2009 | WCRE Award for Best Paper from 10 years before for C22. Anquetil, N., and Lethbridge, T.C. (1999), "Experiments with Clustering as a Software Remodularization Method", Working Conference on Reverse Engineering, pp 235-255 |
| 2006 | Outstanding Contribution Award, IEEE, For contributions to the development of SE-2004 |
| 2004 | The Mather Premium: £500 prize given once a year for a paper published in an IEE Journal on computing. For J11. Anquetil, N., and Lethbridge, T.C. (2003), "A Comparative Study of Clustering Algorithms and Abstract Representations for Software Remodularization", IEE Proceedings - Software, pp. 185-201 |
| 2001 | Senior member IEEE. |

e) SCHOLARLY AND PROFESSIONAL ACTIVITIES:

| | |
|---|---|
| Ongoing | Regular reviewer of papers for IEEE Transactions on Software Engineering, IEE/IET Proceedings Software, Empirical Methods in Software Engineering, Journal of Software Maintenance and other journals |
| Ongoing | Senior Member of IEEE, Member of IEEE Computer Society, Member of ACM, Member of CIPS |
| 2010- | Member, Senate, University of Ottawa |
| 2009- | Member, Council on Undergraduate Studies, University of Ottawa |
| 2008- | Professional Engineer, Ontario (Software Engineering) |
| 2008- | Chair, Computer Science Accreditation Council (CSAC) , Canadian Information Processing Society (CIPS) |
| 2008-09 | Chair, Collective Bargaining Committee, APUO |
| 2008- | Teaching Evaluator for formal Teaching Evaluations, University of Ottawa |
| 2007-10 | Program coordinator, Software Engineering Program, University of Ottawa |
| 2007- | Member of the program committee, International Conference on Program Comprehension |
| 2007- | Member, FTPC, Faculty of Engineering, University of Ottawa |
| 2006- | Information Systems Professional (ISP) |
| 2006-07 | Software Engineering Education program co-chair, ICSE 2007 |
| 2005- | Member of the Board, Computer Science Accreditation Council |
| 2005- | Member of the Committee for the CSDP (Certified Software Development Professional) and the CSDA (Certified Software Development Associate) designations; IEEE Computer Society |
| 2005- | Program visitor, Computer Science Accreditation Council (CSAC), Canadian Information Processing Society (CIPS). |
| 2005-09 | Member of the Collective bargaining Committee, APUO |
| 2005-07 | Chair, CACS/AIC Committee on Software Engineering, Accreditation and Professionalism |
| 2004-05 | Program coordinator, Computer Science Program, University of Ottawa. |

2004-05 & 09- Member of faculty executive, Faculty of Engineering, University of Ottawa
2004-05 Member, Committee on Special Cases, Faculty of Graduate and Postdoctoral Studies, University of Ottawa
2004-10 Chair, Steering Committee, Conference on Software Engineering Education and Training, IEEE Computer Society
2004 Co-Chair, Workshop on Predictive Software Models, in conjunction with International Conference on Software Maintenance, Chicago
2004 Co-Chair, Workshop on Knowledge-Oriented Maintenance, in conjunction with, the Conference on Software Engineering and Knowledge Engineering, Banff
2003- Member of the program committee, MoDELS/UML Conference
2002-05 General Chair, Conference on Software Engineering Education and Training, Ottawa, 2005 (Sponsored by the IEEE Computer Society)
2002-05 Curriculum co-chair SE-2004: IEEE-CS/ACM Computing Curriculum / Software Engineering Volume (effort to create an international standard for software engineering curricula)
2002- Member of the program and steering committees, Conference on Software Engineering Education and Training
2002 Member of the program committee, WSE 2002 (Web Site Evolution conference)
2001- Certified Software Development Professional (CSDP), IEEE Computer Society
2001-02 Program Chair, Conference on Software Engineering Education and Training (Sponsored by the IEEE Computer Society)
2000-01 Member of the case studies program committee, ICSE 2001
1999-2010 Member of the board, Association of Professors of the University of Ottawa
1999-03 Member of the Health Science and Science Research Ethics Committee, University of Ottawa.
1997-02, 1993-05 and 2007- Member, Faculty Council, Faculty of Engineering, University of Ottawa
1997, 2000, 2002-05, 2007- Member of the program committee, CASCON, IBM Toronto.
1997-00 Supervisor of Students, Ovitesse Program
1996-2005, 2007- Member of Software Engineering Program Committee (School of Information Technology and Engineering, University of Ottawa
1996 Consulted by PEO at round-table session about Software Engineering as an Engineering subdiscipline
1993-96 Member of Software Engineering Curriculum Council (Developer of courses), Institute for Government Informatics Professionals, Federal Government of Canada
1992-94 Member, Council, School of Graduate Studies and Research, University of Ottawa
1989-91 Member, Board of Governors, University of Ottawa
1985-87 Member, Board of Governors, University of New Brunswick

1982-86 Member, Senate, University of New Brunswick

f) GRADUATE SUPERVISIONS:

Completed: 4 Ph.D, 1, Ph.D. co-supervision,
11 M.Sc. thesis, 4 M.Sc. co-supervision, 3 M.Sc. Projects
In progress: 3 Ph.D, 2 Ph.D. co-supervision, 1 M.Sc thesis

NAMES OF STUDENTS:

PhD Theses (OCICS)

- Miguel Garzon, "Evaluating the Effectiveness of the Umple Programming Language", Direct transfer from Masters, Sept 2010-
- Hamoud Aljamaan, "Model-Driven Tracing", Jan 2010-
- Mahmoud Orabi, "Reverse Engineering of State Models from Traces", Jan 2010-
- Ahmed Orabi, "Model-Directed Tracing: Generating Code for Tracing, and Debugging at the Model Level", Jan 2010-
- Omar Bahy Badreldin, "Incorporating State Diagrams into Umple", Dec 2007-
- Andrew Forward, "Text-Diagram Duality: How Code-Centric and Model-Centric Languages, Models, and Programming can Co-Exist", Direct transfer from Masters , Sept 2006- **October 2010**
- Adam Murray, "Cognitive Patterns for Program Comprehension", Sept 2000 - **Sept 2006**
- Abdelwahab Hamou-Lhadj, "Techniques to Simplify the Analysis of Execution Traces for Program Comprehension", Direct transfer from Masters , January 2000 – **Oct 2005**
- Iyad Zayour, "Reverse Engineering: A Cognitive Approach, a Case Study and a Tool", January 1999 - **March 2002**

PhD Thesis Co-supervisions (OCICS)

- Ali Fatolahi, co-supervised with Stéphane Somé, "Towards a Semi-Automated Model-Driven Methodology for the Generation of Code from Requirements", May 2006 - Expected Aug 2010
- Edna Braun, co-supervised with Daniel Amyot, "Software Engineering from Use Case Maps", Sept 2002 –
- Jelber Sayyad-Shirabad, co-supervised with Stan Matwin, "Learning Usage Patterns to Assist Source Code Browsing", Sept 1994 –**2003**

Masters Theses (OCICS)

- Sultan Eid Almagthawi, "Model-Directed Tracing", Sept 2010-
- Jenya Levin, "Time Management Abstractions in Umple" (tentative title), Dept 2008-**Dec 2009**

- Dusan Brestovansky, "Exploring Textual Modeling Using the Umple Language", Sept 2007-**Oct 2008**
- Mehrdad Nojoumian, "Document Engineering of Complex Software Specifications", Oct 2005-**June 2007.**
- Max Nozin, "A Privacy Framework to Provide Users with Control, Accuracy and Audit", co-supervised with Liam Peyton, April 2004 - **Jul 2005**
- Rana Khartabil, "User-Centered Design and Evaluation of a Dynamic Biochemical Pathway Visualization Tool", Jan 2003 – **Apr 2005**
- Eric Fu, "Exploration and Visualization of Large Execution Traces", Jan 2003 – **April 2005**.
- Xuyen On, "Interactive Web Charts for Visualizing Large Data Sets", co-supervised with Liam Peyton, Sept 2002 - **Mar 2005**
- Andrew Forward, "Software Documentation: Building and Maintaining Artefacts of Communication", Sept 2001 – **Oct 2002**
- Huixiang Liu, "Intelligent Search Techniques for Large Software Systems", January 2000 - **Nov 2001**
- Francisco Herrera, "A Usability Study of the "TkSee" Software Exploration Tool", Sept 1997 - **Sept 1999**

Masters Theses (OCIECE)

- Hanna Farah, "Tools Development from Cognitive Patterns", Sept 2005 - **Dec 2006**

Masters Theses (Systems Science)

- Julian Solano (M.Sc. Systems Science), "Generating User Interfaces for Multiple Frameworks from the Umple Model-Oriented Programming Language", Jan 2008- **March 2010**
- Bo Zhao (M.Sc. Systems Science), "An Enriched Web Services Client Architecture for Management and Sharing of Context", co-supervised with Liam Peyton, Jan 2004-**May 2005**.
- LiQun Wang (M.Sc. Systems Science), "Animated Exploring of Huge Software Systems", Sept 1998 – **Jan 2003**

Masters Projects (Computer Science)

- Priya Ramalingom, "Adding A Generic Debugger to a Source Code Exploration Environment", Sept 1995 - **Dec 1997**
- Lisa Borgia, "Performance Comparison of Memory-Mapped C++ Objects with a Commercial Database", Sept 1996 - **Dec 1998**
- Mohammad Mtairek, "Object-Oriented Abstractions of Non Object-Oriented Software", Sept 1998 – **April 2002**

g) GRADUATE COURSES TAUGHT: number of students in parentheses

CSI 5112, W 1999 (10): "Software Engineering Topics: Usability Engineering"
CSI 5122, W 2000 (9), 2001 (12), 2003 (27), 2004 (19), F2008 (12), F2010 (16): "Software Usability"

ALL COURSES TAUGHT

| Course Taught | Yr | Times Taught |
|---|---|---|
| Software Evolution & Re-engineering | 4 | 5 (W/S93, F94, W/F96) |
| User Interface Analysis & Design | 3/4 | 8 (S95, W96, S/F97, W/S00, W/S01) |
| Software Usability | G | 6 (W99, W00, W01, W03, W04, F08) |
| OO Anal & Des/Advanced SW Design | 3/4 | 16 (S/F94,W95,F95*2,F96,W/F97,F98,F99, W04, W05, W07, W08, W09, W10) |
| Software Design II, Intro to SE | 2 | 15 (F98, F99, F00, F01*2, F02*2, F03*2, F04*2, W07, W08, F09, F10) |
| Analyse et Conception Orientées Objet | 4 | 1 (W96 in French) |
| Software Engineering | 3 | 8 (W91, F93, W/F94, W/F95, W98, W99) |
| Professional Practice in Computer Science | 2 | 1 (W10) |
| Data Structures | 2 | 1 (W96) |
| Smalltalk Programming Lab | 2 | 1 (W90) |
| Interactive Programming in APL | 2 | 1 (S86) |
| Computer Science Concepts in Fortran | 1 | 1 (S86) |

h) EXTERNAL RESEARCH FUNDING:

| *Year* | *Source* | *Type* | *Amount per year* | *Purpose* |
|---|---|---|---|---|
| 11-16 | ORF and IBM and GM | C | $50,000 per yr | Research |
| 11-16 | NSERC | C | $29,000 | Research |
| 5 yrs | Discovery grant | Principal investigator: self | | |
| 09-11 | NSERC and Ericsson (CRD) | C/O | $26450 per yr | Research |
| | | Principal investigator: Michel Dagenais<br>The above is my portion; total is $215104 | | |
| 07-10 | IBM | O | $30,000 | Research |
| 06-11 | NSERC | C | $27,800 | Research |
| 5 yrs | Discovery grant | Principal investigator: self | | |
| 05-06 | NSERC | C | $36,000 | Research |
| 1 yr | Matching the following | Principal investigator: self | | |
| 04-07 | IBM/CSER | O | $28,000 (2004-05) | Research |
| 3 yrs | | | $36,000 (2005-07) | |
| | | Principal investigator: self | | |
| 03-04 | NCIT/QNX | G/O | $42,000 | Research |

| | | | | |
|---|---|---|---|---|
| 18 months | | Principal investigator: self | | |
| 02-06<br>4 yrs | NSERC<br>Discovery grant | C<br>Principal investigator: self | $29,500/yr | Research |
| 99<br>1 yr | SSHRC | C<br>Principal investigator:<br>Gail Crombie, School of Psychology | $5,000 | Research |
| 99-02<br>3 yrs | CSER with Mitel and NSERC<br>Continuation of below | C<br>Principal investigator: self | $180,000/yr | Research |
| 98-01<br>4 yrs | NSERC | C<br>Principal investigator: self | $11,000 | Research |
| 96-98<br>3 yrs | Consortium for Software Engineering Research (CSER) with Mitel and NSERC | C/O<br>Principal investigator: self | $183,678 (1998)<br>$170,970 (1997)<br>$169,650 (1996) | Research |

These funds are my portion of the total CSER spending of $2,660,590 granted to Universities of Waterloo, Acadia, Toronto, Montreal, Victoria and Ottawa.

| | | | | |
|---|---|---|---|---|
| 96 | Mitel | O<br>Principal investigator: self | $60,000 | Research |

i) INTERNAL RESEARCH FUNDING:

| | | | | |
|---|---|---|---|---|
| 95-97 | From professional fees | O | $14,105 total | Research |

j) PUBLICATIONS:

Life-time summary

| | |
|---|---|
| Papers in refereed journals | 20 |
| Papers in refereed conference proceedings | 74 |
| Refereed chapters in books | 7 |
| Books authored | 2 |
| Books edited | 2 |
| Major invited contributions | 1 |
| Technical Reports | 10 |
| Papers in non-refereed conference proceedings | 7 |
| Patents pending | 1 |

*Papers in refereed journals (Grad student co-authors highlighted)*

J20 **Forward, A., Badreddin, O.,** Lethbridge, T.C., **Solano, J.,** (2011) "Model-Driven Rapid Prototyping with Umple", *Software Practice and Experience*, to appear.

J19 **Fatolahi, A**. Somé S. and Lethbridge, T.C. (2011) "A Meta-Model for Model-Driven Web Development", *Int. J. Software and Informatics*, to appear.

J18 **Nojoumian, M**. and Lethbridge T.C. (2011) "Automatic Conversion of Complex PDF Documents into Multilayer Hypertexts", *Int. J Knowledge and Web Intelligence, to appear*

J17 **Fatolahi, A**. Somé S. and Lethbridge, T.C. (2011) "Model-Driven Web Development for Multiple Platforms", *J. Web Engineering*, Vol 10, No. 2, pp. 109-152.

J16. **Hamou-Lhadj, A**., Lethbridge, T.C., (2010), "A Metamodel for the Compact but Lossless Exchange of Execution Traces:, *Software and Systems Modeling*, Springer, DOI 10.1007/s10270-010-0180-x, 22pp.

J15. **Hamou-Lhadj, A**., Lethbridge, T.C., (2010), "Understanding the Complexity Embedded in Large Routine Call Traces with a Focus on Program Comprehension Tasks", *IET Software*, 4 (2), pp. 161-177.

J14. Lethbridge, T.C., LeBlanc, R., Sobel, A., Hilburn, T and Díaz-Herrera, J. (2006), "SE 2004: Recommendations for Undergraduate Software Engineering Curricula", *IEEE Software*, Nov-Dec 2006, pp. 19-25.

J13. Lethbridge, T.C., Sim, S., and Singer, J. (2005), "Studying Software Engineers: Data Collection Methods for Software Field Studies", *Empirical Software Engineering*, 10 (3), July 2005, pp. 311-341.

J12. Lethbridge, T.C., Singer, J and **Forward, A**., (2003) "How software engineers use documentation: the state of the practice", *IEEE Software* special issue: The State of the Practice of Software Engineering, Nov/Dec 2003, pp 35-39.

J11. **Anquetil, N**., and Lethbridge, T.C. (2003), "A Comparative Study of Clustering Algorithms and Abstract Representations for Software Remodularization", *IEE Proceedings - Software*, pp. 185-201. Winner of the Mather Premium award.

J10. **Liu, H.**, and Lethbridge, T. (2002), "Intelligent Search Methods for Software Maintenance", *Information Systems Frontiers*, 4, 4, pp. 409-423.

J9. Lethbridge, T.C. (2001), "Mixing Software Engineering Research and Development – What Needs Ethical Review and What Does Not?", *Empirical Software Engineering*, 6 pp. 319-322.

J8. Lethbridge, T.C. (2000), "What Knowledge is Important to a Software Professional?", *IEEE Computer*, May, pp. 44-50.

J7. Lethbridge, T.C. (2000), "Evaluating a Domain-Specialist Oriented Knowledge Management System", *International Journal of Human-Computer Studies*., 52,6, June, pp. 961-990.

J6. Lethbridge, T. (2000), "Priorities for the Education and Training of Software Engineers", *Journal of Systems and Software*., 53,1, pp. 53-71.

J5. **Anquetil, N.**, and Lethbridge, T.C. (1999), "Recovering Software Architecture from the Names of Source Files", *Journal of Software Maintenance: Research and Practice*, 11, pp. 201-221.

J4. Lethbridge, T. (1998), "The Relevance of Software Education: A Survey and Some Recommendations", *Annals of Software Engineering*, 6, pp. 91-110.

J3. Lethbridge, T.C. (1998). "Metrics for Concept-Oriented Knowledge Bases", *International Journal of Software Engineering and Knowledge Engineering*, June 1998, 8 (2), pp. 161-188.

J2. Skuce, D. and Lethbridge, T.C. (1995). "CODE4: A Unified System for Managing Conceptual Knowledge". *International Journal of Human-Computer Studies* 42, pp. 413-451.

J1. Lethbridge, T.C. and Ware, C. (1989). "A Simple Heuristically-Based Method for Expressive Stimulus-Response Animation", *Computers and Graphics: an International Journal* 13 (3), pp. 297-303.

*Papers in refereed conference proceedings*

C74. Lethbridge, T., Mussbacher, G, **Forward, A**. and Badreddin, O, (2011) "Teaching UML Using Umple: Applying Model-Oriented Programming in the Classroom", CSEE&T 2011, pp. 421-428.

C73. **Fatolahi, A**., Somé, S. and Lethbridge, T.C., (2011), "Towards Reusability in Web Modeling Using QVT Relations", Webist 2011, Accepted.

C72. Lethbridge, T.C., **Forward, A**. and **Badreddin, O**. (2010), "Umplification: Refactoring to Incrementally Add Abstraction to a Program", Working Conference on Reverse Engineering (WCRE), Boston, October 2010, pp. 220-224.

C71. **Forward, A**., **Badreddin, O**., and Lethbridge T.C. (2010), "Perceptions of Software Modeling: A Survey of Software Practitioners", 5th Workshop From code centric to model centric: Evaluating the effectiveness of MDD (C2M:EEMDD), Paris, June 2010, http://www.esi.es/modelplex/c2m/papers.php.

C70. **Fatolahi, A**., Somé, S. and Lethbridge, T.C., (2010), "Designing a Map of Mappings: Visualization of QVT Relations using Basic Petri-Nets", 2nd International Workshop on Future Trends of Model-Driven Development (FTMDD 2010), Madeira, Portugal (Springer), pp.33-45.

C69. **Forward, A**., **Badreddin, O**., and Lethbridge T.C. (2010), "Umple: Towards Combining Model Driven with Prototype Driven System Development", 21st IEEE International Symposium on Rapid System Prototyping, Fairfax VA, June.

C68. **Fatolahi, A**., Somé, S. and Lethbridge, T.C., (2010), "Automated Generation of Use Case Descriptions from Problem Frames", Software Engineering Research, Management & Applications (SERA 2010), pp 223-230.

C67**. Forward, A**., Lethbridge, T.C., and **Brestovansky, D**. (2009), "Improving Program Comprehension by Enhancing Program Constructs: An Analysis of the Umple

language", *International Conference on Program Comprehension (ICPC) 2009*, Vancouver, IEEE Computer Society, pp. 311-312.

C66. **Fatolahi, A**., Somé, S. and Lethbridge, T.C., (2008) "Towards a Semi-Automated Model-Driven Method for the Generation of Web-based Applications from Use-cases", *MDWE 2008: Model Driven Web Engineering*, in conjunction with *Models 2008*, Toulouse, France, http://mdwe2008.pst.ifi.lmu.de/accepted_papers_final/1_some_mdwe2008.pdf.

C65. **Forward, A.** and Lethbridge, T.C. (2008) "A Taxonomy of Software Types to Facilitate Search and Evidence-Based Software Engineering", *Cascon 2008*, IBM and ACM, pp. 179-191.

C64. **Fatolahi**, A., Somé, S. and Lethbridge, T.C., (2008) "A Model-Driven Approach for the Semi-Automated Generation of Web-based Applications from Requirements", *SEKE 2008: Conference on Software Engineering and Knowledge Engineering*, Redwood City, CA, Knowledge Systems Institute, pp. 619-624.

C63. **Forward, A**., and Lethbridge, T.C. (2008), "Problems and Opportunities for Model-Centric Versus Code-Centric Software Development: A Survey of Software Professionals", *Workshop on Modeling in Software Engineering*, in conjunction with *ICSE 2008*, Leipzig, ACM, pp. 27-32

C62. **Farah, H.** and Lethbridge, T.C. (2007), "Temporal Exploration of Software Models: A Tool Feature to Enhance Software Understanding", *WCRE 2007,* Vancouver, IEEE Computer Society, pp. 41-49.

C61. **Forward, A**., Lethbridge, T.C. and Deugo, D (2007), "CodeSnippets Plug-in to Eclipse: Introducing Web 2.0 Tagging to Improve Software Developer Recall", *Software Engineering Research, Management and Applications (SERA) 2007*, August, IEEE Computer Society, pp. 451-460.

C60. **Fatolahi, A**. Somé, S.S, and Lethbridge, T.C. (2007) "Enterprise Architecture using the Zachman Framework: A Model Driven Approach", *Information Resources Management Association International Conference*, Vancouver, B.C., pp 65-69.

C59. **Nojoumian, M,** and Lethbridge, T.C. (2007), "Extracting Document Structure to Facilitate a Knowledge Base Creation for The UML Superstructure Specification", *4th International Conference on Information Technology : New Generations*, Las Vegas, IEEE Computer Society, pp 393-400.

C58. **Nojoumian, M,** and Lethbridge, T.C. (2006), "A New Approach for the Trust Calculation in Social Networks", *International Conference on E-Business*, Lisbon, Portugal, August, INSTICC, pp. 257-264. Updated version republished (2008) in *E-business and Telecommunication Networks,* Communications in Computer and Information Science, Vol. 9, Springer, pp. 64-77.

C57. **Hamou-Lhadj, A.** and Lethbridge, T.C. (2006), "Summarizing the Content of Large Traces to Facilitate the Understanding of the Behaviour of a Software System", *International Conf. on Program Comprehension*, Athens, Greece, 2006, IEEE Computer Society, pp. 181-190.

C56. Thompson, J.B, and Lethbridge, T.C. (2006), "Software Engineering 2004 – A Jewel in the ACM/IEEE-CS Curricula Effort", *Education for the 21st Century 2006, IFIP World Computer Congress*, Santiago, Chile, pp. 417-421.

C55. **Murray, A.** and Lethbridge, T.C. (2005), "Cognitive Patterns for Program Comprehension: Temporal Details", *Pattern Languages of Program Design (PLoP)* 2005, Allerton Park, IL, USA.

C54. **Murray, A.** and Lethbridge, T.C. (2005), "On Generating Cognitive Patterns of Software Engineering" *CASCON 2005*, Toronto, October, IBM, in ACM Digital Library, pp. 129-139.

C53. **Murray, A.** and Lethbridge, T.C. (2005), "Presenting Micro-Theories of Program Comprehension in Pattern Form", *International Workshop on Program Comprehension (IWPC)*, St. Louis, May, IEEE Computer Society Press, pp. 45-54.

C52. **Hamou-Lhadj, A**., Lethbridge, T.C., and Fu, L. (2005), "SEAT: A Usable Trace Analysis Tool", *International Workshop on Program Comprehension (IWPC),* St. Louis, May, IEEE Computer Society Press, pp. 157-160.

C51. **Hamou-Lhadj, A.** and Lethbridge, T.C. (2005) "Measuring Various Properties of Execution Traces to Help Build Better Trace Analysis Tools*", 10th International Conference on Engineering of Complex Computer Systems* (*ICECCS*), Shanghai China, IEEE Computer Society, pp. 559-568.

C50. Atlee, J.M., LeBlanc, R.J, and Lethbridge, T.C. (2005) "Software Engineering 2004: ACM/IEEE-CS Guidelines for Undergraduate Programs in Software Engineering", *International Conference on Software Engineering* (ICSE) 2005, pp. 623-624.

C49. **Hamou-Lhadj, A.**, **Braun, E.**, Amyot, D and Lethbridge, *T.C. (2005)* "Recovering Behavioral Design Models from Execution Traces", *9th European Conference on Software Maintenance and Reengineering (CSMR)*, Manchester, UK, IEEE Computer Society, pp. 112-121.

C48. **Murray, A.**, and Lethbridge, T.,C. (2004) "A Brief Summary of Cognitive Patterns for Program Comprehension", *Working Conference on Reverse Engineering*, Delft, Netherlands, IEEE Computer Society, pp. 304-305.

C47. **Hamou-Lhadj, A**., and Lethbridge, T.C., (2004) "A Survey of Trace Exploration Tools and Techniques", *CASCON 2004*, Toronto, October, IBM, in ACM Digital Library, pp. 42-55.

C46. **Hamou-Lhadj, A.**, and Lethbridge, T.C. (2004) "Reasoning About the Concept of Utilities", *1st ECOOP International Workshop on Practical Problems of Programming in the Large*, , Oslo, Norway, June, *Lecture Notes In Computer Science* (LNCS) volume 3344, Springer-Verlag, pp. 10-22.

C45. **Hamou-Lhadj, A.**, Lethbridge, T.C., and **Fu, L.** (2004) "Challenges and Requirements for an Effective Trace Exploration Tool", *International Workshop on Program Comprehension 2004*, Bari, Italy, June, IEEE Computer Society Press, pp 70-78.

C44. Lethbridge, T.C. (2004) "Value Assessment by Potential Tool Adopters: Towards a Model that Considers Costs, Benefits and Risks of Adoption", *ACSE 2004: 4th International Workshop on Adoption -Centric Software Engineering*, in conjunction with ICSE 2004, Edinburgh Scotland, May, IEE Press, ISBN 0-86341-421-4, pp 46-50.

C43. **Sayyad Shirabad, J**., Lethbridge, T.C. and Matwin, S. (2004) "Mining the Software of a Legacy Telephony System", *MSR 2004: International Workshop on Mining Software Repositories*, in conjunction with ICSE 2004, Edinburgh Scotland, May, IEE Press, pp 53-57.

C42. **Hamou-Lhadj, A.**, and Lethbridge, T.C., (2003) "A Metamodel for Dynamic Information Generated from Object-Oriented Systems", *ATEM 2003, First International Workshop on Meta-Models and Schemas for Reverse Engineering*, in conjunction with WCRE, Victoria, B.C., revised version published in *Electronic Notes in Theoretical Computer Science*, Elsevier, Vol. 94, pp 59-69.

C41. Lethbridge, T.C., Sander Tichelaar, and Erhard Ploedereder (2003) "The Dagstuhl Middle Metamodel: A Schema for Reverse Engineering" , *ATEM 2003*, *First International Workshop on Meta-Models and Schemas for Reverse Engineering*, WCRE, Victoria, B.C., in *Electronic Notes in Theoretical Computer Science*, Elsevier, Vol. 94, pp 7-18.

C40. **Hamou-Lhadj, A**. and Lethbridge, T.C., (2003) "Techniques for Reducing the Complexity of Object-Oriented Execution Traces", *VisSoft 2003*, Amsterdam, pp. 35-40.

C39. **Sayyad Shirabad, J.**, Lethbridge, T.C. Matwin, S. (2003) "Applying Data Mining to Software Maintenance Records", *proc CASCON 2003*, Toronto, October, IBM, in ACM Digital Library, pp. 136-148.

C38. **Sayyad Shirabad, J**., Lethbridge, T.C., Matwin, S., (2003) "Mining the Maintenance History of a Legacy Software System", *International Conference on Software Maintenance (ICSM),* Amsterdam, IEEE Computer Society, pp. 95-104.

C37. Bagert, D, Barbacci, M., Budgen, D., Lethbridge, T.C, Suryn, W., and van Vliet, H., (2003) "Thoughts on Software Engineering Knowledge, and how to Organize it", *STEP 2002 post-conference proceedings*, IEEE Computer Society, pp. 24-35.

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None at present.

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BE2. Thompson, J. B., Edwards, H. M., and Lethbridge, T.C. (Eds.), (2004) *Post-Summit Proceedings: International Summit on Software Engineering Education* , University of Sunderland Press, Sunderland, UK, ISBN: 1-873757-34-4 (soft cover), ISBN 1-873757-89-1(CD).

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*Major invited contributions*

IN1. Lethbridge, T.C., Díaz-Herrera, J., LeBlanc, R.J., and Thompson, J.B., (2007), "Improving Software Practice through Education: Challenges and Future Trends", Frontiers of Software Engineering, Briand, L. Ed, International Conference on Software Engineering, IEEE Computer Society, pp. 12-28.

*Patents Pending*

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*Papers in non-refereed conference proceedings*

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TR9. **A. Forward**, T.C. Lethbridge, "A Taxonomy of Software Types", University of Ottawa, School of Information Technology and Engineering Technical Report TR-2008-06, http://www.site.uottawa.ca/eng/school/publications/techrep/2008/TR-2008-06-Taxonomy-Forward-Lethbridge.pdf

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TR7. Lethbridge, T., and Port, D., "A Brief Guide to Researching and Writing for CSEE&T", www.site.uottawa.ca/cseet2005/

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TR5. **Anquetil, N**., and Lethbridge, T. (1999), "Combination of Different Clustering Algorithms for Reverse Engineering", University of Ottawa, Computer Science Technical report TR-99-02

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TR1. Nash, J and Lethbridge T. (1997), "A Synchronous Teamwork Approach to SoftwareDevelopment" Technical Report, Faculty of Administration, University of Ottawa, Working paper 97-50

See also lists of papers for cases where a longer version of a paper exists as a technical report.

*Other Invited Presentations*

June, 1997 "Java: Where Does it Best Fit?", Association of Public Sector Information Professionals, Ottawa

April, 1997 "Java: Looking Beyond the Hype", Faculty of Administration, University of Ottawa

June, 1996 "Java: The Next Major OO Language?" Data Processing Institute, Professional Development Week.

June 1996 "Software Engineering: Keys to Success." Presentations in Moncton, Halifax and Charlottetown to industrial software engineering practitioners interested in furthering their education.