

INVITATION FOR CONTRIBUTIONS

To the journal *Mathematics in Computer Science* (by Birkhäuser/Springer)

Special Issue on Intensional Programming & Semantics in honour of Bill Wadge on the occasion of his 60th cycle

William W. (Bill) Wadge, best known as the pioneer of the paradigm of intensional programming and the inventor of the dataflow programming language Lucid, has completed his 60th cycle. This special issue is dedicated to this occasion to celebrate Bill's distinguished career and his contributions to diverse areas such as mathematics, software engineering, programming languages and denotational semantics, unified by the use of intensional logic as the underlying formalism.

Bill undertook his PhD research in Mathematics at the University of California, Berkeley. As part of his PhD, he defined a natural refinement of the Borel hierarchy, now called the Wadge hierarchy, an active area of research in descriptive set theory. Bill got his first academic job at the University of Waterloo. There, in collaboration with Edward (Ed) Ashcroft, he invented Lucid, in so doing laying down the foundations of intensional programming, although the term was only officially coined after Bill joined the University of Warwick in 1974. Intensional logic is a branch of mathematical logic which was originally proposed for expressing the semantics of natural languages. Bill and Ed realized that apart from its applications in linguistics and philosophy, intensional logic had significant potential in the theory, design and implementation of modern programming languages and systems. At Warwick, Bill supervised several PhD students, who worked on various aspects of intensional programming, as applied to dataflow computation, databases, denotational semantics and programming language design. Bill returned to his native Canada in 1984 to take up a professorship at the University of Victoria. He continued his work on intensional programming, in such areas as real-time programming, scientific computation, visual programming, software version control and systems for web programming, in collaboration with several close colleagues as well as a number of PhD students and research assistants. Bill has inspired many of those who have been fortunate enough to interact and work closely with him, by his insights and innovative approach to computing and logic and his ability to develop elegant and practical languages and systems based on solid mathematical foundations.

The special issue will deal with all representative aspects of intensional programming & semantics, including the theoretical foundations, design, implementation and prototype development issues, comparative studies, and applications, as well as those describing new challenges arising out of applications. Each paper will go through a rigorous review process by an international panel of experts to the standards of *Mathematics in Computer Science*.

Topics of Interest Topics include the following, as they relate to intensional programming & semantics:

Programming Paradigms	Software Engineering
dataflow computation logic programming real-time programming visual programming executable temporal logics	version control visual user interfaces distributed systems languages & systems for the Web formal specification & verification
Logic & Semantics	Applications
denotational semantics descriptive set theory Wadge degrees & Wadge hierarchy nondeterminism infinite computations & games	image & signal processing hardware synthesis scientific programming data models multidimensional systems

Paper submission Submitted articles must not have been previously published or currently submitted for journal publication elsewhere. Longer, extended and revised versions of papers that have appeared in preliminary form in proceedings of conferences or workshops are welcome; however, the authors should include a brief statement in their submission to indicate the way in which the article differs from such previously published papers.

The submissions should be limited to 7500 words (or 25 double-spaced pages). Submission guidelines are available from the website of *Mathematics in Computer Science* (<http://www.cc4cm.org/mcs/>).

Interested authors should submit digital copies (PDF preferred) of their contributions, including all tables, diagrams and illustrations via EasyChair by the due date. The URL for the automatic submission is:

<http://www.easychair.org/IPSIssue08/>

A free service to convert a number of widely used file formats to PDF is available at

<http://createpdf.adobe.com/> (the first five uses of this service are free)

If it is not possible to submit papers via EasyChair, alternatively digital copies (PDF preferred) can be submitted to the Guest Editors, by email.

Important Dates
Submission Deadline: **November 30, 2007**
Completion of First-Round Reviews: **February 28, 2008**
Revised Papers Due: **April 15, 2008**
Publication Materials Due: **May 31, 2008**
Publication: **late 2008**

Contact Details Please address all correspondence and/or enquiries regarding this special issue to the Guest Editors:

Mehmet A. Orgun Department of Computing Macquarie University, Sydney NSW 2109, Australia Email: mehmet AT comp.mq.edu.au URL: http://www.comp.mq.edu.au/~mehmet	John Plaice School of Computer Science and Engineering, University of New South Wales, Sydney NSW 2052, Australia Email: plaice AT cse.unsw.edu.au URL: http://www.cse.unsw.edu.au/db/staff/info/plaice.html
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Contributors are also welcome to contact the Journal's Managing Editor, Prof. Dongming Wang, for further information:

Dongming Wang Beihang University, Beijing, China and UPMC- CNRS, Paris, France URL: http://www-calfor.lip6.fr/~wang/
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