2009 ICSE Workshop on Software Engineering for Adaptive and Self-Managing Systems

(SEAMS)

Vancouver, British Columbia, Canada
18 – 19 May 2009
### 2: Self-Adaptive Services

1. **A Model for Dynamic and Adaptable Services Management**  
   *Patrick Martin, Wendy Powley, Imad Abdallah, Jun Li, Andrew Brown, Kirk Wilson, Chris Craddock*

10. **SLA Protection Models for Virtualized Data Centers**  
    *Alessio Gambi, Mauro Pezzè, Michal Young*

20. **The Design of a Self-Healing Composition Cycle for Web Services**  
    *K.S. May Chan, Judith Bishop*

28. **Behavioural Self-Adaptation of Services in Ubiquitous Computing Environments**  
    *Javier Câmara, Carlos Canal, Gwen Salaün*

### 3: Implementing Self-Adaptive Systems

38. **Reflecting on Self-Adaptive Software Systems**  
    *Jesper Andersson, Rogério de Lemos, Sam Malek, Danny Weyns*

48. **Identifying Implicitly Declared Self-Tuning Behavior Through Dynamic Analysis**  
    *Hamoun Ghanbari, Marin Litoiu*

58. **StarMX: A Framework for Developing Self-Managing Java-Based Systems**  
    *Reza Asadollahi, Mazeiar Salehie, Ladan Tahvildari*

### 4: Self-Organizing Systems

68. **On Exploiting Decentralized Bio-Inspired Self-Organization Algorithms to Develop Real Systems**  
    *Elisabetta Di Nitto, Daniel J. Dubois, Raffaela Mirandola*
SEAMS 2009 Table of Contents

6: Self-Adaptive and Self-Managing Architectures

76  Reinforcement Learning-Based Dynamic Adaptation Planning Method for Architecture-Based Self-Managed Software  
    (Dongsun Kim, Sooyong Park)
86  Using Dynamic Workflows for Coordinating Self-Adaptation of Software Systems  
    (Carlos Eduardo da Silva, Rogério de Lemos)
96  A Generic Software Framework for Role-Based Organic Computing Systems  
    (Florian Nafz, Frank Ortmeier, Hella Seebach, Jan-Philipp Steghöfer, Wolfgang Reif)

7: Self-Adaptive Models

106  Towards an Assume-Guarantee Theory for Adaptable Systems  
    (Paola Inverardi, Patrizio Pelliccione, Massimo Tivoli)
116  A Formal Model for Self-Adaptive and Self-Healing Organizations  
    (Robrecht Haesevoets, Danny Weyns, Tom Holvoet, Wouter Joosen)
126  Engineering Adaptive Requirements  
    (Nauman A. Qureshi, Anna Perini)

8: Self-Adaptive and Self-Managing Architectures

132  Evaluating the Effectiveness of the Rainbow Self-Adaptive System  
    (Shang-Wen Cheng, David Garlan, Bradley Schmerl)
142  Architecture-Driven Self-Adaptation and Self-Management in Robotics Systems  
    (George Edwards, Joshua Garcia, Hossein Tajalli, Daniel Popescu, Nenad Medvidovic,  
    Gaurav Sukhatme, Brad Petrus)
152  A Non-Intrusive Component-Based Approach for Deploying Unanticipated Self-Management Behaviour  
    (Sandro Santos Andrade, Raimundo José de Araújo Macêdo)

Author Index