# Table of Contents

Real-Time Utilities for Ada 2005 ........................................... 1  
   Andy Wellings and Alan Burns

Handling Temporal Faults in Ada 2005 .............................. 15  
   José A. Pulido, Santiago Uruêña, Juan Zamorano, and  
   Juan A. de la Puente

Implementation of New Ada 2005 Real-Time Services in MaRTE OS  
and GNAT ................................................................. 29  
   Mario Aldea Rivas and José F. Ruiz

Enhancing Dependability of Component-Based Systems ............ 41  
   Arnaud Lanoix, Denis Hatebur, Maritta Heisel, and  
   Jeanine Souquières

On Detecting Double Literal Faults in Boolean Expressions ....... 55  
   Man F. Lau, Ying Liu, Tsong Y. Chen, and Yuen T. Yu

Static Detection of Livelocks in Ada Multitasking Programs ....... 69  
   Johann Blieberger, Bernd Burgstaller, and Robert Mittermayr

Towards the Testing of Power-Aware Software Applications for Wireless  
Sensor Networks ...................................................... 84  
   W.K. Chan, Tsong Y. Chen, S.C. Cheung, T.H. Tse, and  
   Zhenyu Zhang

An Intermediate Representation Approach to Reducing Test Suites for  
Retargeted Compilers ................................................ 100  
   Gyun Woo, Heung Seok Chae, and Hanil Jang

Correctness by Construction for High-Integrity Real-Time Systems: A  
Metamodel-Driven Approach .......................................... 114  
   Matteo Bordin and Tullio Vardanega

A Metamodel-Driven Process Featuring Advanced Model-Based Timing  
Analysis ............................................................... 128  
   Marco Panunzio and Tullio Vardanega

ArchMDE Approach for the Development of Embedded Real Time  
Systems ............................................................... 142  
   Nourchène Elleuch, Adel Khalfallah, and Samir Ben Ahmed

Generating Distributed High Integrity Applications from Their  
Architectural Description .......................................... 155  
   Bechir Zalila, Irfan Hamid, Jerome Hugues, and Laurent Pautet
Automatic Ada Code Generation Using a Model-Driven Engineering Approach ...................................................... 168
  Diego Alonso, Cristina Vicente-Chicote, Pedro Sánchez, Bárbara Alvarez, and Fernando Losilla

Towards User-Level Extensibility of an Ada Library: An Experiment with Cheddar .................................................. 180
  Frank Singhoff and Alain Plantec

Modelling Remote Concurrency with Ada .................................... 192
  Claude Kaiser, Christophe Pajault, and Jean-François Pradat-Peyre

Design and Performance of a Generic Consensus Component for Critical Distributed Applications ............................ 208
  Khaled Barbaria, Jerome Hugues, and Laurent Pautet

SANCTA: An Ada 2005 General-Purpose Architecture for Mobile Robotics Research ............................................. 221
  Alejandro R. Mosteo and Luis Montano

Incorporating Precise Garbage Collection in an Ada Compiler ....... 235
  Francisco García-Rodríguez, Javier Miranda, and José Fortes Gálvez

Author Index ............................................................................. 247