# PATTERNS 2012

The Fourth International Conferences on Pervasive Patterns and Applications

July 22-27, 2012

Nice, France

**PATTERNS 2012 Editors**

Alfred Zimmermann, Reutlingen University, Germany

Pascal Lorenz, University of Haute Alsace, France

**Printed from e-media with permission by:**

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2012) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2012)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

**Additional copies of this publication are available from:**

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

# TABLE OF CONTENTS

## PATTERNS 1: PATTERNS AT WORK

**Growing Complex Software Systems: A Formal Argument for Piecemeal Growth in Software Engineering** ..... 1
*Jerry Overton*

**Patterns in Safety Analysis** ..... 7
*Tor Stålhane, Olawande Daramola, Vikash Katta*

**Analyzing User Patterns to Derive Design Guidelines for Job Seeking and Recruiting Website** ..... 11
*Yao Lu, Sandy El Helou, Denis Gillet*

**Pattern Innovation for Architecture Diagnostics in Services Computing** ..... 17
*Alfred Zimmermann, René Reiners*

**Iris Recognition: Existing Methods and Open Issues** ..... 23
*Sajida Kalsoom, Sheikh Ziauddin*

## PATTERNS 2: SOFTWARE PATTERNS

**A Pattern-Based Architecture for Dynamically Adapting Business Processes** ..... 29
*Mohamed Lamine Berkane, Lionel Seinturier, Mahmoud Boufaida*

**Exploiting HCI Pattern Collections for User Interface Generation** ..... 36
*Juergen Engel, Christian Herdin, Christian Maertin*

**On A Type-2 Fuzzy Clustering Algorithm** ..... 45
*Leehter Yao, Kuei-Sung Weng*

**Pattern-oriented Enterprise Architecture Management** ..... 51
*Tobias Brunner, Alfred Zimmermann*

**Development of Graphical User Interfaces based on User Interface Patterns** ..... 57
*Stefan Wendler, Danny Ammon, Teodora Kikova, Ilka Philippow*

**Author Index**