

# Profes 2004

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## Organized by (in random order):

- Nara Institute of Science and Technology (NAIST)
- Fraunhofer Institute of Experimental Software Engineering
- VTT Electronics



## In Cooperation with (in random order):

- Osaka University
- University of Oulu
- Fraunhofer Center - Maryland
- Software Engineer's Association
- CSK Corporation



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Prof. Shinji Kusumoto (Osaka University, Japan)

### Registration Chair:

Dr. Masahide Nakamura (NAIST, Japan)

### Profes Advisor:

Prof. Markku Oivo (University of Oulu, Finland)

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# 5th International Conference on Product Focused Software Process Improvement

# Profes 2004

April 5-8, 2004  
 Keihanna-Plaza, Kansai Science City, Japan

FINAL PROGRAM

## Time Table

### Monday, 5 April 2004

|             | Volga-A  | Volga-B   |
|-------------|--|---|
| 9:30-12:30  | Tutorial 1: An Introduction to Project Management & Software Process Improvement | Tutorial 2: A Feature-Oriented Method for Product Line Software Engineering |
| 13:30-16:30 |  | Tutorial 3: Mathematical Methods in Verification                            |

### Tuesday, 6 April 2004

|             | Volga-A   | Volga-B   | Huang He   |
|-------------|---|---|--|
| 9:30-12:30  | Tutorial 4: Introduction of Human-Centered Design Process Improvement   | Tutorial 6: Balancing Agility and Discipline                                    | Tutorial 5: System Dynamics Simulation                       |
| 13:30-16:30 |   | Excursion: Guided half day tour in Nara city, Totalji Temple and Horyuji Temple | Workshop on Software Product Archiving and Retrieving System |
| 17:30-20:00 | Conference Reception @ CSK Okawa Center<br>Welcome Note: "CSK Quality/Productivity Improvement Activities"<br>Mr. Teiichi Aruga (CSK Corp.) |   |  |

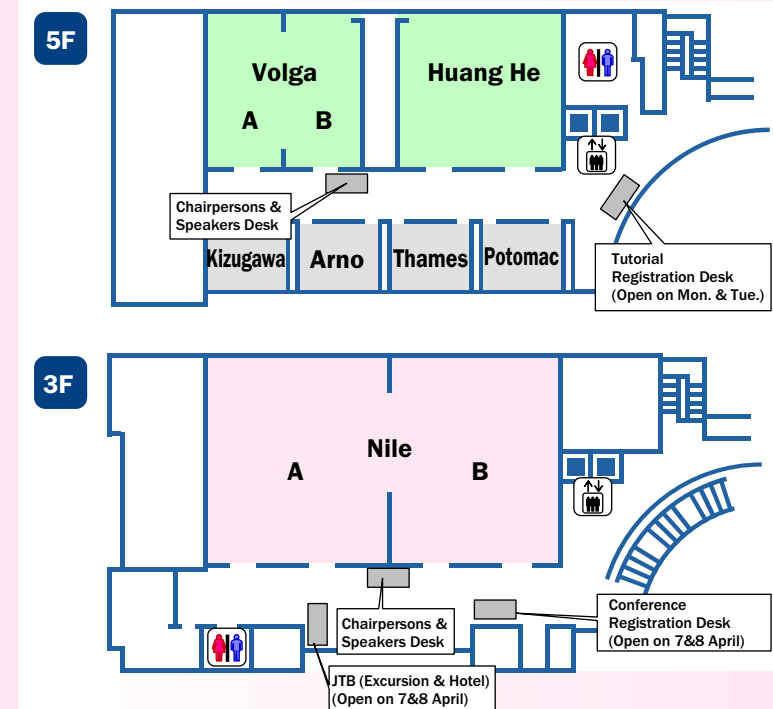
### Wednesday, 7 April 2004

|             | Nile-A  | Nile-B                            |
|-------------|---|-----------------------------------|
| 9:00-9:30   | Conference Registration   |                                   |
| 9:30-9:45   | Opening Welcome   |                                   |
| 9:45-10:45  | Keynote: "Best Practices and Process Improvement: Myth Meets Measures"<br>Prof. Richard Turner (George Washington University) |                                   |
| 10:45-10:55 | Break   |                                   |
| 10:55-12:10 | Session 1: Software Process Improvement -1  | Session 2: Software Quality       |
| 12:10-13:10 | Lunch   |                                   |
| 13:10-14:50 | Session 3: Measurement  | Session 4: Methods and Tools      |
| 14:50-15:20 | Break   |                                   |
| 15:20-17:00 | Session 5: Experimental Software Engineering  | Session 6: Industrial Experiences |
| 18:00-20:00 | Conference Banquet @ Hyakuraku-Soh  |                                   |
| 20:00-21:00 | Special "Kyogen" Attraction @ Nara Shin-Kokaido   |                                   |

### Thursday, 8 April 2004

|             | Nile-A  | Nile-B                                     |
|-------------|---|--|
| 9:15-10:15  | Keynote: "Embedded Software Development -Today and Tomorrow-"<br>Mr. Takashi Yamamura (Ricoh Company, Ltd.) |  |
| 10:15-10:30 | Break   |  |
| 10:30-12:10 | Session 7: Agile Methods -1   | Session 8: Software Process Improvement -2 |
| 12:10-13:10 | Lunch   |  |
| 13:10-14:25 | Session 9: Agile Methods -2   | Session 10: Software Process Assessment    |
| 14:25-14:55 | Break   |  |
| 14:55-16:10 | Session 11: Requirements Engineering  | Session 12: Software Reuse / COTS          |

## Venue Map



# 2004 International Conference on Product Focused Software Process Improvement

## FINAL PROGRAM

Profes  
2004 

### Monday, April 5th, 2004

**Tutorial1:**  
An Introduction to Project Management & Software Process Improvement  
*Michael Barker (EASE Project, Nara Institute of Science & Technology)*

**Tutorial2:**  
A Feature-Oriented Method for Product Line Software Engineering  
*Kyo C. Kang (Department of Computer Science and Engineering, Pohang University of Science and Engineering, Pohang, Kyungbuk, Korea)*

**Tutorial 3 (in Japanese):**  
Mathematical Methods in Verification  
*Koichi Takahashi, Daichi Mizuguchi, and Makoto Takeyama (Laboratory for Verification and Semantics, Advantec Institute of Science and Technology)*

### Tuesday, April 6th, 2004

**Tutorial 4 (in Japanese):**  
Implementation of Human-Centered Design Processes Improvement in Organizations ~Aiming at Improvement of Software Usability Quality~  
*Masako Itoh (Tokiwa University), Koh Kajii (NTT Advanced Technology Corporation), Naotake Hirasawa (Otaru University of Commerce), Yasuhiro Horibe (Mitsubishi Research Institute, Inc.) and Yuji Mizuta (Mitsubishi Research Institute, Inc.)*

**Tutorial 5:**  
System Dynamics Simulation - A Tool in Support of Software Process Improvement and Risk Management  
*Dietmar Pfahl (Fraunhofer IESE)*

**Tutorial 6:**  
Balancing Agility and Discipline: Evaluating and Integrating Agile and Plan-Driven Methods  
*Richard Turner (George Washington University)*

**Workshop on Software Product Archiving and Retrieving System**  
*Organized by Katsuro Inoue (Osaka University)*

**Conference Reception at CSK Okawa Center**  
Chair: Ken'ichi Matsumoto (NAIST)

Welcome Note from CSK  
"CSK Quality/Productivity Improvement Activities"  
*Teiichi Aruga (CSK Corporation)*

### Wednesday, April 7th, 2004

**Opening Welcome**  
Chair: Frank Bomarius (Fraunhofer IESE)

**Keynote:**  
Chair: Seija Komi-Silvio (VTT Electronics)  
"Best Practices and Process Improvement: Myth Meets Measures"  
*Richard Turner (George Washington University)*

**Session 1: Software Process Improvement-1**  
Chair: Pasi Kuvaja (University of Oulu)

- A Model for the Implementation of Software Process Improvement: An Empirical Study  
*Mahmood Niazi, David Wilson, Didar Zowghi, Bernard Wong*
- Does Use of Development Model Affect Estimation Accuracy and Bias?  
*Kjetil Molokken, Anette C. Lien, Magne Jørgensen, Sinan S. Tanilkan, Hans Gallis, Siw E. Hove*
- Managing Software Process Improvement (SPI) through Statistical Process Control (SPC)  
*Maria Teresa Baldassarre, Nicola Boffoli, Danilo Caivano, Giuseppe Visaggio*

**Session 2: Software Quality**  
Chair: Timo Jokera (University of Oulu)

- Evaluating the Calmness of Ubiquitous Applications  
*Jukka Riekkii, Pekka Isomursu, Minna Isomursu*
- Quality Attributes in mobile Web Application Development  
*Axel Spriestersbach, Thomas Springer*
- Introducing Quality System in Small and Medium Enterprises: An Experience Report  
*Lerina Aversano, Gerardo Canfora, Giuseppe Capasso, Giuseppe A. Di Lucca, Corrado A. Visaggio*

**Session 3: Measurement**  
Chair: Dietmar Pfahl (Fraunhofer IESE)

- Definition and Empirical Validation of Metrics for Software Process Models  
*Félix García, Francisco Ruiz, Mario Piattini*
- Multiview Framework for Goal Oriented Measurement Plan Design  
*Pasquale Ardimento, Maria Teresa Baldassarre, Danilo Caivano, Giuseppe Visaggio*
- Eliminating Over-Confidence in Software Development Effort Estimates  
*Magne Jørgensen, Kjetil Molokken*
- Measuring the Object-Oriented Properties in Small Sized C++ Programs ~ an Empirical Investigation  
*S. Kanmani, V. Rhymend Uthariaraj, V. Sankaranarayanan, P. Thambidurai*

**Session 4: Methods and Tools**  
Chair: Osamu Mizuno (Osaka University)

- An Empirical Investigation on the Impact of Training-by-Examples on Inspection Performance  
*Atiq Chowdhury, Lesley Pek Wee Land*
- Refactoring Support Based on Code Clone Analysis  
*Yoshiki Higo, Toshihiro Kamiya, Shinji Kusumoto, Katsuro Inoue*
- Introducing the Next Generation of Software Inspection Tools  
*Henrik Hedberg*
- Intelligent Support for Software Release Planning  
*Amandeep, Gunther Ruhe, Mark Stanford*

**Session 5: Experimental Software Engineering**  
Chair: Ilkka Tervonen (University of Oulu)

- An Empirical Evaluation of Predicting Runaway Software Projects Using Bayesian Classification  
*Osamu Mizuno, Takanari Hamasaki, Yasunari Takagi, Tohru Kikuno*
- Effort Estimation Based on Collaborative Filtering  
*Naoki Ohsugi, Masateru Tsunoda, Akito Monden, Ken'ichi Matsumoto*
- Effective Software Project Management Education through Simulation Models: An Externally Replicated Experiment  
*Daniel. Rodríguez, M. Satpathy, Dietmar Pfahl*
- Software Engineering Research Strategy: Combining Experimental and Explorative Research (EER)  
*Markku Oivo, Pasi Kuvaja, Petri Pulli, Jouni Similä*

**Session 6: Industrial Experiences**  
Chair: Kjetil Molokken-Ostvoid (Simula Research Laboratory)

- Automatic Measurement at Nokia Mobile Phones: A Case of SDL Based Software Development  
*Minna Pikkarainen, Matias Vierimaa, Hannu Tanner, Raija Suikki*
- Using a reference application with Design Patterns to produce Industrial Software  
*Marek Vokàè, Oluf Jensen*
- Using RUP for Process-Oriented Organisations  
*João M. Fernandes, Francisco J. Duarte*
- Web-Based System Development: Status in the Norwegian IT Organizations  
*Jianyun Zhou, Tor Stålhane*

### Thursday, April 8th, 2004

**Keynote:**  
Chair: Hajimu Iida (NAIST)  
"Embedded Software Development - Today and Tomorrow -"  
*Takashi Yamamura (Ricoh Company, Ltd.)*

**Session 7: Agile Methods -1**  
Chair: Hironori Washizaki (Waseda University)

- Achieving CMMI Level 2 with Enhanced Extreme Programming Approach  
*Tuomo Kähkönen, Pekka Abrahamsson*
- Usability Assessment of an Extreme Programming Project: Close Co-Operation with the Customer Does Not Equal to Good Usability  
*Timo Jokela, Pekka Abrahamsson*
- Empirical Evaluation of Agile Software Development: A Controlled Case Study Approach  
*Outi Salo, Pekka Abrahamsson*
- Good-Enough Software Process  
*Kari Käsälä*

**Session 8: Software Process Improvement -2**  
Chair: Akito Monden (NAIST)

- Towards Hypotheses on Creativity in Software Development  
*Mingyang Gu, Xin Tong*

- Using Software Inspection as a Catalyst for SPI in a Small Company  
*Lasse Harjumaa, Ilkka Tervonen, Pekka Vuorio*
- Comparing Global (Multi-site) SPI Program Activities to SPI Program Models  
*Atte Kinnula, Marianne Kinnula*
- Starting SPI from Software Configuration Management: A Fast Approach for an Organization to Realize the Benefits of SPI  
*Kunihiko Ikeda, Yasuyuki Akamatsu*

**Session 9: Agile Methods -2**  
Chair: Pekka Abrahamsson (VTT)

- An Ideal Process Model for Agile Methods  
*Marcello Visconti, Curtis A. Cook*
- Experimental Development of a Prototype for Mobile Environmental Information Systems (MEIS)  
*Ari Keronen, Mauri Myllyaho, Pasi Alatalo, Markku Oivo, Harri Antikainen, Jarmo Rusanen*

**Session 10: Software Process Assessment**  
Chair: Kari Kansala (Nokia)

- Selecting CMMI Appraisal Classes Based on Maturity and Openness  
*Fredrik Ekdahl, Stig Larsson*
- Combining Capability Assessment and Value Engineering: a BOOTSTRAP example  
*Pasi Ojala*
- Assessing the State of Software Documentation Practices  
*Marcello Visconti, Curtis A. Cook*

**Session 11: Requirements Engineering**  
Chair: Shinji Kusumoto (Osaka University)

- Requirements Prioritization Challenges in Practice  
*Laura Lehtola, Marjo Kauppinen, Sari Kujala*
- A Requirement Elicitation Method in Collaborative Software Development Community  
*Masatoshi Shimakage, Atsuo Hazeyama*
- Development of a Normative Package for Safety-Critical Software Using Formal Regulatory Requirements  
*Sergiy A. Vilkomir, Aditya K. Ghose*

**Session 12: Software Reuse / COTS**  
Chair: Makoto Matsushita (Osaka University)

- A Study of Developer Attitude to Component Reuse in Three IT Companies  
*Jingyue Li, Reidar Conradi, Parastoo Mohagheghi, Odd Are Sæhle, Øivind Wang, Erlend Naalsund, Ole Anders Walseth*
- Managing COTS Components using a Six Sigma-based Process  
*Alejandra Cechich, Mario Piattini*
- Using Dynamic Modeling and Simulation to Improve COTS Software Process  
*Mercedes Ruiz, Isabel Ramos, Miguel Toro*