



# Profes 2006

7TH INTERNATIONAL CONFERENCE ON  
PRODUCT FOCUSED SOFTWARE PROCESS IMPROVEMENT

12-14 JUNE, 2006,  
AMSTERDAM, NETHERLANDS

# PROGRAMME



Photo by Hazlan Abdul Hakim

Amsterdam is often referred to as one of the most colorful cities in the world. And rightly so! Where else do you find so many places of interest, famous museums, cozy pubs and fun shops and (flower) markets? Let the pre-conference tour show you a great many of the surprising things Amsterdam has in store for you. The best way to explore the city is on foot. Distances are very short and walking gives you the chance to really feel it's heart. During the pre-conference tour we will let you experience Amsterdam in the way it is. We will walk through the city center, visit a few interesting places and join a short boat trip. An agile but complete day tour for conference visitors only.

The day (10:00-18:00) consists of:

- touristic walks through Amsterdam historic city centre
- lunch in a famous and international reknown bar/restaurant
- boat tour through Amsterdam city canals
- visit to the Anne Frank House/Museum
- visit to historic hidden (at those times illegal) catholic church
- guided tour around the Amsterdam red light district

The Anne Frank House is situated in the center Amsterdam: the hiding place where Anne Frank wrote her famous diary during World War II. Anne Frank was a normal girl in exceptional circumstances. For more than two years her diary described the events in her daily life. The Anne Frank Foundation was founded in 1957 to save the Anne Frank House from being demolished. In 1960 the house was opened as museum and since then it has been visited by millions of people from all over

the world. The Anne Frank House has two parts. In 'het Achterhuis' the rear part of the house, Anne and her family remained in hiding. In the front part of the house there was a company belonging to Otto Frank, Anne's father. In the original Anne Frank House the visitor is informed about what happened during the period of hiding. The front part of the house has been returned to the style and atmosphere it had during the period of hiding. Due to conservation the rear part of the house has remained entirely in its original condition. Anne Frank's story is told using quotes from her diary and per room the function and atmosphere as described in the diary are reconstructed. To reinforce the story, original objects, documents and photos from the time can be seen.

Every tourist has heard about this district before he or she even arrives in Amsterdam. This city's Red Light District is world famous. The area around Oude Kerk certainly lives up to its name: red lights burn in abundance. But did you know that this district has more to offer? There are other reasons to visit this district. Some of Amsterdam's most beautiful buildings can be admired here. It is also a great place for unusual shops and interesting pubs and restaurants. Even though the hustle and bustle in this district detracts from the prostitution, you will be confronted with it. However, a visit to Amsterdam needs to include a guided tour around this area. After all, it is one of the USP's of the city.

Price of the PROFES pre-conference tour: 70 Euro's, including lunch, excluding drinks and tips. The day starts at 10:00 and ends around 18:00. If there is enough interest it is possible to end the tour with a joint dinner (own expenses). This will be planned at the start of the tour itself.



Photo by Hazlan Abdul Hakim

**Track I**

**8:30 Coffee & Registration**

**9:30 Opening**

Welcome, Rini van Solingen, General Chair  
 Program, Matias Vierimaa, Program Co-chair  
 Arrangements, Mark van den Brand, Organizing  
 Chair

**10:00 Keynote: Michiel van Genuchten,**  
 Processes and the software business

**11.00 Coffee**

**Session:  
 Decision Support**

**11:30** Defining the Process for Making Software System  
 Modernization Decisions,  
*Jarmo J. Ahonen, Henna Sivula, Jussi Koskinen, Heikki  
 Lintinen, Tero Tilus, Irja Kankaanpää, and Päivi Juuti-  
 lainen*

Introducing Tool Support for Retrospective Analy-  
 sis of Release Planning Decisions,  
*Lena Karlsson, Björn Regnell*

A qualitative evaluation method for business  
 process tools,  
*Erika M. Nieto-Ariza, Guillermo Rodríguez-Ortiz, and  
 Javier Ortiz-Hernández*

**13:00 Lunch**

**Session:  
 Measurement**

**14:00** Assessing Software Product Maintainability Based  
 on Class-Level Structural Measures,  
*Hans Christian Benestad, Bente Anda, and Erik  
 Arisholm*

Integrating Reuse Measurement Practices into the  
 ERP Requirements Engineering Process,  
*Maya Daneva*

Process Definition and Project Tracking in Model  
 Driven Engineering,  
*Ivan Porres, Maria C. Valiente*

**15:30 Coffee**

**16:00 Keynote: Jan Jaap Cannegieter,**  
 Controlling the chaos of the CMMI Continuous  
 Representation

**17:00 End**

**19:00 Dinner**

## Track 2

**8:30 Coffee & Registration**

**9:30 Opening**

Welcome, Rini van Solingen, General Chair  
Program, Matias Vierimaa, Program Co-chair  
Arrangements, Mark van den Brand, Organizing  
Chair

**10:00 Keynote: Michiel van Genuchten,**  
Processes and the software business

**10.00 Coffee**

**Session:  
Embedded Software & System  
Development**

**11:30** An effective source code review process for  
embedded software,  
*Masayuki Hirayama*

Troubleshooting Large-Scale NPD Embedded  
Software Projects,  
*Petri Kettunen*

Software Process Improvement with Agile Prac-  
tices in a Large Telecom Company,  
*Jussi Auvinen, Rasmus Back, Jeanette Heidenberg,  
Piia Hirkman and Luka Milovanov*

**13:00 Lunch**

**Session:  
Industrial Experiences I**

**14:00** Difficulties in Establishing a Defect Management  
Process: A Case Study *Marko Jäntti, Tanja Toroi, and  
Anne Eerola*

A Case Study on the Success of Introducing  
General Non-Constructive Activities for Project  
Management and Planning Improvement  
*Topi Haapio, Jarmo J. Ahonen*

The concerns of prototypers and their mitigating  
practices: an industrial case-study, *Steve Counsell,  
Keith Phalp, Emilia Mendes and Stella Geddes*

**15:30 Coffee**

**16:00 Keynote: Jan Jaap Cannegieter,**  
Controlling the Chaos of the CMMI Continuous  
Representation

**17:00 End**

**19:00 Dinner**

## Keynote 1: 10:00-11:00

### **Processes and the software business**

**MICHIEL VAN GENUCHTEN,  
GENERAL MANAGER PHILIPS HDSOFTWARE**

#### **Abstract:**

The amount of software in many electronic products is growing rapidly. Two examples: the amount of software in a mobile phone is expected to increase from 2 million today to 20 million in 2010. The amount of software in a car in 2010 is expected to be 100 million of source code (Charrette, 2005). Many companies see their business change from a hardware business to a software business. The impact on companies goes far beyond development and development processes. Adoption of proper software sales and legal processes is as important. The presentation is based on research into the software business and 10 years of experience in managing software companies.

#### **Biography:**

*Michiel van Genuchten is general manager of Philips HDSOFTWARE for four days a week and professor at Eindhoven University of Technology for one day a week. He has worked in industry since 1987, among others at Philips Electronics and GroupSupport, a software company he founded. His focus of attention is software as a technology and software as a business. Results of his research work have been published in journals such as IEEE Software, Journal of MIS, IEEE Transactions on Software Engineering and IEEE Transactions on Professional Communications.*

## Keynote 2: 16:00-17:00

# Controlling the chaos of the CMMI Continuous Representation

**JAN JAAP CANNEGIETER,**  
DIRECTOR OF **SYSQA**

### **Abstract:**

In 2000 the Software Engineering Institute introduced the continuous representation of the CMMI. In the following years many organizations based their process improvement effort on this representation. Despite the advantages of this model several of these organizations found it hard to make a choice which process area's to implement first. To help organizations make these decisions, three improvement paths are recognised: Project, Process and Product. This so-called PPP-concept of continuous and the improvement paths will be addressed in this keynote presentation.

### **Biography:**

*Jan Jaap Cannegieter is a leading CMMI and SPI expert in the Netherlands. He has 14 years of experience in ICT, starting with software testing and quality assurance in ICT-projects. The last few years he lead several CMMI and SPI projects. Currently he is CMMI consultant at Central Bookhouse and Swisse Live. Beside his assignments Jan Jaap is director of SYSQA, a company specialized in software testing, quality assurance and software process improvement. Jan Jaap is author of several articles and three books in the Netherlands: Quality Assurance in ICT-projects, Software Process Improvement and the recent: "The small CMMI". These books are the only books about CMMI an SPI in Dutch.*

## Track I

**9:30**                    **Keynote: Barbara Kitchenham,**  
Evidence-based Software Engineering and  
Systematic Literature Reviews

**10:30**                    **Coffee**

**Session: Process Improvement**

**11:00**    Implementing Software Process Improvement  
Initiatives: An Empirical Study, *Mahmood Niazi,*  
*David Wilson and Didar Zowghi*  
Using Linear Regression Models to Analyse the  
Effect of Software Process Improvement, *Joost*  
*Schalken, Sjaak Brinkkemper, and Hans van Vliet*  
Taba Workstation: Supporting Software Process  
Deployment based on CMMI and MR-MPS,  
*Mariano Montoni, Ana Regina Rocha, Gleison Santos,*  
*Sávio Figueiredo, Ahilton Barreto, Andréa Soares,*  
*Cristina Cerdeiral, and Peter Lupo*  
Analysis of an Artifact Oriented Test Process  
Model and of Testing Aspects of CMMI, *Paulo M. S.*  
*Bueno, Adalberto N. Crespo, and Mario Jino*

**13:00**                    **Lunch**

**Session:****Product Line Engineering**

**14:00**    A Variability-centric Approach to Instantiate Core  
Assets in Product Line Engineering, *Soo Ho Chang*  
*and Soo Dong Kim*  
Improving the Development of e-Business  
Systems by Introducing Process-Based Software  
Product Lines, *Joachim Bayer, Mathias Kose, and*  
*Alexis Ocampo*  
Assessing Requirements Compliance Scenarios  
in System Platform Subcontracting; *Björn Regnell,*  
*Hans O. Olsson, and Staffan Mossberg*

**15:30**                    **Coffee**

**16:00**                    **Keynote Jan Bosch,**  
Challenges in Engineering Successful Mobile Services

**17:00**                    **Closure**

**17:30**                    **End**



## Track 2

**9:30**                    **Keynote: Barbara Kitchenham,**  
Evidence-based Software Engineering and  
Systematic Literature Reviews

**10:30**                    **Coffee**

**Session:**

### **Agile Development Practices**

**11:00**    The Impact of Pair Programming and Test-Driven  
Development on Package Dependencies in Ob-  
ject-Oriented Design — An Experiment,  
*Lech Madeyski*

Applying an Agility/Discipline Assessment for a  
Small Software Organisation,  
*Philip S. Taylor, Des Greer, Paul Sage, Gerry Coleman,*  
*Kevin McDaid, Ian Lawthers and Ronan Corr*

Lessons learned from an XP Experiment with  
Students: Test-First needs more teachings, *Thomas*  
*Flohr, Thorsten Schneider*

An Empirical Study on Design Quality Improve-  
ment from Best-Practice Inspection and Pair  
Programming, *Dietmar Winkler, Stefan Biffel*

**13:00**                    **Lunch**

**Session:**

### **Industrial Experiences 2**

**14:00**    An Industrial Case Study on the Choice between  
Language Customization Mechanisms, *Miroslaw*  
*Staron, Claes Wohlin*

Preliminary Results from a Survey of Multimedia  
Development Practices in Australia, *Anne Han-*  
*nington, Karl Reed*

An ISO 9001:2000 Certificate and Quality  
Awards from Outside – What's Inside? – A Case  
study, *Darja Šmite, Nils Brede Moe*

**15:30**                    **Coffee**

**16:00**                    **Keynote Jan Bosch,**  
Challenges in Engineering Successful Mobile Services

**17:00**                    **Closure**

**17:30**                    **End**

## Track 3

**9:30** **Keynote: Barbara Kitchenham,**  
Evidence-based Software Engineering and Systematic  
Literature Reviews

**10:30** **Coffee**

**Short papers I**

**11:00** Software Inspections in Practice: Six Case Studies, *Sami Kollanus, Jussi Koskinen*

Productivity of Test Driven Development: a controlled experiment with professionals, *Gerardo Canfora, Aniello Cimitile, Felix Garcia, Mario Piattini, and Corrado Aaron Visaggio*

Results and Experiences from an Empirical Study of Fault Reports in Industrial Projects, *Jon Arvid Børretzen*

A Software Process Tailoring System Focusing to Quantitative Management Plans, *Kazumasa Hikichi, Kyohei Fushida, Hajimu Iida, and Ken'ichi Matsumoto*

Software Process Improvement: A Road to Success, *Mahmood Niazi*

Characterization of Runaway Software Projects Using Association Rule Mining, *Sousuke Amasaki, Yasuhiro Hamano, Osamu Mizuno, and Tohru Kikuno*

A Framework for Selecting Change Strategies in IT Organizations, *Jan Pries-Heje, and Otto Vinter*

**13:00** **Lunch**

**Short papers 2**

**14.00** Building Software Process Line Architectures from Bottom Up, *Hironori Washizaki*

Refinement of Software Architectures by Recursive Model Transformations for Service Specification, *Ricardo J. Machado, João M. Fernandes, Paula Monteiro, and Helena Rodrigues*

A UML based process meta-model integrating a rigorous process patterns definition, *Hanh Nhi Tran, Bernard Coulette, and Bich Thuy Dong*

Ad hoc versus Systematic Planning of Software, *Gengshen Du, Jim McElroy, and Guenther Ruhe*

An Extreme Approach to Automating Software Development with CBD, PLE and MDA Integrated, *Soo Dong Kim, Hyun Gi Min, Jin Sun Her, and Soo Ho Chang*

**15:30** **Coffee**

**16:00** **Keynote Jan Bosch,**  
Challenges in Engineering Successful Mobile Services

**17:00** **Closure**

**17:30** **End**

## Keynote 3: 9:30-10:30

# Evidence-based Software Engineering and Systematic Literature Reviews

**BARBARA KITCHENHAM,  
PROFESSOR OF QUANTITATIVE  
SOFTWARE ENGINEERING AT  
KEELE UNIVERSITY**

### **Abstract**

This keynote addresses the evidence-based paradigm currently being adopted in many practical sciences (e.g. medicine, education, social policy) and discusses whether it is applicable to software engineering. In the presentation the view is taken that although Evidence-based Software Engineering may be unproven, one aspect of the evidence-based paradigm is hard to ignore, that is: Systematic literature reviews. Systematic literature reviews aim to summarise research studies related to a specific research question in a way that is fair, rigorous and auditable. The keynote presentation will outline potential benefit of systematic literature reviews and describe in detail the process of performing such a systematic literature review.

### **Biography:**

*Barbara Kitchenham is Professor of Quantitative Software Engineering at Keele University in the UK; she is also a Senior Principal Research at National ICT Australia. She has worked in software engineering for nearly 30 years both in industry and academia. Her main research interest is software metrics and its application to project management, quality control, risk management and evaluation of software technologies. She is particularly interested in the limitations of technology and the practical problems associated with applying measurement technologies and experimental methods to software engineering. She is a Chartered Mathematician and Fellow of the Institute of Mathematics and Its Applications. She is also a Fellow of the Royal Statistical Society. She is a visiting professor at both the University of Durham and the University of Ulster.*

**Keynote 4: 16:00-17:00****Challenges in Engineering Successful Mobile Services**

**JAN BOSCH,  
VICE PRESIDENT OF RESEARCH,  
NOKIA RESEARCH**

**Abstract:**

Mobile services business has a relatively short but eventful history. Since the late nineties and the introduction of WAP protocol, the mobile devices and networks have had the potential for provisioning commercial consumer oriented mobile services. However, the actual market place for these services has not lived up to its full potential so far. Fixed internet services have enjoyed relatively stable growth since the original boom and inevitable burst of the expectations bubble in the late 90's. Compared to the fixed internet services the mobile consumer service domain appears to be more complex and has more stakeholders with potentially conflicting interests in technical, business and management domains. A successful mobile service strategy will need to cater to the interests of all stakeholders. The talk explores the tradeoffs and challenges in traditional ways of engineering mobile services and discusses novel approaches to engineering mobile services.

**Biography:**

*Prof. dr. ir. Jan Bosch is a VP and head of the Software and Application Technologies Laboratory at Nokia Research Center, Finland. Earlier, he headed the software engineering research group at the University of Groningen, The Netherlands, where he holds a professorship in software engineering (<http://www.cs.rug.nl/~bosch/>). He received a MSc degree from the University of Twente, The Netherlands, and a PhD degree from Lund University, Sweden. His research activities include software architecture design, software product families, software variability*

**Session 1: 1 day Workshop**

- 8.30** **Coffee**
- 9:00** Workshop on Empirical Software Engineering  
(WSESE06), *A. Jedlitschka & M. Ciolkowski*
- 12.00** **Lunch**
- 14.00** Workshop on Empirical Software Engineering  
(WSESE06), *A. Jedlitschka & M. Ciolkowski*
- 16.00**

**Session 2: 1 day Workshop**

- 8.30** **Coffee**
- 9:00** Workshop on Embedded Software Development  
In Collaboration, *Pasi Kuvaja*
- 12.00** **Lunch**
- 14.00** Workshop on Embedded Software Development  
In Collaboration, *Pasi Kuvaja*
- 16.00**

**Session 3: 1 day Tutorial**

- 8.30** **Coffee**
- 9:00** Software Product Metrics -  
Goal-Oriented Software Product Measurement  
*J. Münch & D. Hamann*
- 12.00** **Lunch**
- 14.00** Software Product Metrics -  
Goal-Oriented Software Product Measurement  
*J. Münch & D. Hamann*
- 16.00**

**Session 4: 1/2 day Tutorials**

- 8.30** **Coffee**
- 9:00** Art and Science of Software Systems Release  
Planning  
*Günther Ruhe & Omolade Saliu*
- 12.00** **Lunch**
- 14.00** Multiple Risk Management Process supported by  
Ontology  
*C. M. Gomes de Gusmao & H. Perrelli de Moura*
- 16.00**

**Session 5: 1/2 day Tutorials**

- 8.30** **Coffee**
- 9:00** Get your Experience Factory ready for the next  
decade-- Ten years after "How to Build and Run  
One" --, *F. Bomarius & R. Feldmann*
- 12.00** **Lunch**



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<http://www.cwi.nl/events/2006/profes>