

# Peter Pirkelbauer

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e-mail: peter.pirkelbauer@tamu.edu

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## Education

**PhD in Computer Science** with emphasis on Programming Languages and Tools, Texas A&M University, College Station, TX, expected Fall 2008.

**MBA** at Texas A&M University, College Station, TX, May 2003.

**Dipl.-Ing. in Computer Science** with emphasis on Software Engineering and System Programming at Johannes - Kepler Universität, Linz, Austria - July 1997.

**Erasmus Exchange Student** at the Universidad de Murcia, Murcia, Spain, Fall 1995 - Spring 1996.

## Conference Publications

Peter Pirkelbauer, Yuriy Solodkyy, Bjarne Stroustrup: *Open Multi-Methods for C++*. In proceedings of the 6th International Conference on Generative Programming and Component Engineering (GPCE), 2007. ACM Press. (acceptance rate = 31%)

Damian Dechev, Peter Pirkelbauer, Bjarne Stroustrup: *Lock-free Dynamically Resizable Arrays*. In Proceedings of Principles of Distributed Systems, 10th International Conference, OPODIS 2006, LNCS 4305, Springer 2006. (acceptance rate = 12%)

Markus Hof, Hanspeter Mössenböck, Peter Pirkelbauer: *Zero-Overhead Exception Handling Using Metainformation*. 24th Seminar on Current Trends in Theory and Practice of Informatics, SOFSEM '97, LNCS 1338, Springer 1997.

## Invited Talk, Technical Reports & Workshop

Peter Pirkelbauer, Yuriy Solodkyy, Bjarne Stroustrup: *Report on language support for Multi-Methods and Open-Methods for C++*. TR N2216, ISO WG21, March 2007.

*The Pivot - a source-to-source framework for getting more elegant and efficient code*. Invited Talk. ISCR - Lawrence Livermore National Lab, August 2006.

*The Pivot Framework: Design and Implementation*. Workshop on Domain Specific Languages. Argonne National Lab, August 2004.

Peter Pirkelbauer, Markus Hof, Hanspeter Mössenböck: *Zero-Overhead Exception Handling Using Metainformation* TR CS-SSW-P97-07, Johannes Kepler University Linz, Austria, September 1997.

## Work Experience

**Research Assistant** in the Parasol Lab, Group for Programming Languages, Techniques, and Tools, Texas A&M University, July 2003 - present.

- Conversion of the intermediate program representation of the EDG frontend into IPR, the high level intermediate representation of C++ programs in The Pivot framework.
- Developed a lock-free dynamically resizable array.

- Designed and implemented open multi-methods for C++.

**Software Engineer** (Internship) in the Photoshop Team, Adobe Systems, Summer 2006.  
Worked on a programming model that unifies the benefits of the generic programming and object oriented programming paradigm.

**Research Assistant** (Internship), Lawrence Livermore National Labs, Summer 2005.  
Developed an interface between Rose (LLNL) and The Pivot (Texas A&M), two compiler frameworks supporting analysis and transformations of C++ programs.

**Software Engineer** for a TQM - project, VA Stahl Linz GmbH, Austria, Oct 1998 - Aug 2001.

Tasks included all steps of software development from system analysis, system design and implementation to maintenance and end user training.

- Designed and implemented a Rule System, a unique approach to both defining business logic during runtime and accessing databases easily. Visual code blocks shifted away the rule definition from professional programmers to end-users not knowing computer languages.
- Developed a Material Defect Catalog to both supply the data capture level with predefined context sensitive input and substitute the existing paper catalog by an electronic information system.
- Designed and implemented an on-line surface assistant comparing classified material defects against client specific defect tolerances in order to support human material inspectors in real-time.
- Designed and supervised the implementation of a workflow-component that controls the maintenance process (i.e.: versioning, submission, approval) of master data (e.g.: check lists, rules).

**Social Worker** in an elderly home, BAH Leonding, Austria, Oct 1997 - Sep 1998.

**System Programmer** (Internship), ModulaWare, La Chanenche, France, Summer 1997.  
Migration of the OpenVMS AlphaOberon integrated development and runtime environment to support the 64bit memory management abilities provided by the OpenVMS system.

**Tutor**, Johannes - Kepler Universität, Linz, Austria, Fall 1993 - Spring 1995, Spring 1997.  
Tutor for computer-programming courses including Introduction into Programming and Algorithms.

## Other Skills

**Spoken Languages:** German, English, Spanish.

**Programming Languages:** C++, C, Haskell, Java, Oberon-2, PL/SQL.

**Operating Systems:** Windows, Linux (Ubuntu, CentOS), OpenVMS.