CURRICULUM VITÆ
Brian J. N. Wylie

(current)
John von Neumann Institut für Computing
ZAM, Forschungszentrum Jülich
D-52425 Jülich, Germany

Work: +49 (2461) 61-6589

(personal)
9 Anderson Drive
Carron, Falkirk, FK2 8DU, Scotland

E-mail: wylie@cs.wisc.edu
Home: +49 (2461) 986-358

OBJECTIVE: User/product-oriented research and development of improved software tools and environments to effectively exploit modern distributed computer systems.

QUALIFICATIONS:
- Over 14 years of professional experience with advanced software tools research and development progressing from academia and research institutes to the computer/software industry.
- Technology transfer into successful products for industry, partners and spin-offs.
- Design, implementation, documentation, maintenance and support of complex software systems through entire product lifecycle as part of distributed, international development teams.

TECHNICAL/COMPUTER SKILLS:
- Hardware: diverse large-scale parallel/distributed and individual systems and prototypes from Sun, IBM, Cray, SGI, NEC, Thinking Machines, Meiko & ICL/AMT
- Software: Sun Studio, ClusterTools & GNU developer tools, OpenMP, MPI
- Programming Languages: C, C++, Fortran, Java, Perl, shells, Tcl/Tk, etc. (incl. parallel dialects)
- Operating Systems: Solaris, Linux, AIX, Irix, Tru64Unix, Windows, VMS

EXPERIENCE:

Forschungszentrum Jülich (FZJ), Jülich, NRW, Germany   2004 – date
- Research Scientist – John von Neumann Institut für Computing, Programming Techniques Group
- Developing the KOJAK program instrumentation, execution tracing & automated analysis toolkit
- Evaluating state-of-the-art in program development tools for large-scale distributed systems
- Investigating requirements for application development in and for emerging Grid environments

Sun Microsystems, Inc. (SUNW), Menlo Park, CA, USA   2000 – 2004
- Compiler Engineer, Member of Technical Staff (Software) – Platform Developer Tools
- Defined and enhanced the *Sun Studio* developer suite of compilers, libraries and tools to improve application run-time performance, developing performance tools to help users tune their complex multi-language/multiprocess/multithreaded codes for distributed SPARC and x86-based computer systems, and creating a new product generation and major upgrades of the *Performance Analyzer*.
- Enhanced product usability and capabilities for execution performance data collection & analysis, including re-design of Java/Swing/NetBeans GUI and augmenting automated product test suite.
- Developed novel technologies for exploiting microprocessors' performance counters to profile program and machine memory/data accesses to complement traditional code execution profiling: peer-reviewed technical paper published in proceedings of IEEE/ACM SC2003 conference.
- Devised and performed customer product demonstrations and technical briefings at conferences (including a technical session at Sun Network 2003) and Sun Executive Briefing Center.
- Prepared technical documentation and training materials, and provided coaching and assistance regarding productive use of developer tools.
- Supported external customers (Oracle, SAS, Fluent, PTC, etc.) and internal users, analysing their application performance and tools' usability problems, and identifying/developing remedies.
- Represented needs of performance tools to processor & system design/development teams.
- Maintained software development code base/build and computer systems.

University of Wisconsin-Madison (UWM), Madison, WI, USA   1997 – 2000
- Associate Researcher – Computer Sciences Dept.
- Developed the cutting-edge *Paradyn* performance tools for parallel/distributed applications, mentoring and coordinating a distributed group of graduate and undergraduate students.
- Improved dynamic instrumentation (*dyninst*) flexibility, reliability and thoroughness for more effective automated run-time searching for performance bottlenecks.
- Maintained, supported and disseminated Paradyn Project software and research, including organising a research exhibit at SC'97, tutorial at SC'99, and annual research showcase.
- Liaised with industrial, government and academic partners and clients.

Centro Svizzero di Calcolo Scientifico (CSCS), Lugano-Manno/TI, Switzerland   1993 – 1997
- Research Scientist – Section for Research & Development, Software Technology Group
- Applied advanced software technologies to the design and development of integrated solutions for NEC Corporation, Sun Microsystems, Inc., and industrial and academic partners.
- Designed and developed the *Annai* integrated tool environment for HPF & MPI application engineering on parallel distributed systems, particularly the performance monitor and analyzer.
- Prototyped a Web-based portal to launch and control applications on HPC systems.
- Coordinated group activities (up to 6 staff and 3 internship students).
- Taught and advised students in annual internship programme.

Edinburgh Parallel Computing Centre (EPCC), Edinburgh, Scotland   1990 – 1993
- Applications Scientist – Numerical Simulations and Visualisation Groups
- Designed and implemented the seminal *PARAMICS* real-time traffic congestion simulator, which won Computerworld/Smithsonian Institute Prizes for Outstanding Achievement in IT (1995 & 1996) and became an internationally successful commercial product.
- Consulted on strategies for addressing future computational needs of weather forecasting and climate simulation, including CM-200/CM-Fortran prototype implementation.
- Conducted contracted report "Benchmarking Parallel Computers."
- Taught and advised students in annual internship programme.

EDUCATION & TRAINING:
Ph.D., Computational Physics, University of Edinburgh, Edinburgh, Scotland   1990
B.Sc. (Hons), Physics, University of Edinburgh, Edinburgh, Scotland   1986

ADDITIONAL INFORMATION
- Functional Italian (ICC grade 2, 1997), moderate French & German
- 4 US software patents (1 granted; 3 pending)
- 25+ conference/journal/book articles/chapters
- 50+ conference/workshop/seminar presentations & demonstrations (9 invited)
- http://www.cs.wisc.edu/~wylie/CV