

**19th Annual UK Performance Engineering
Workshop**
9-10 July, 2003
University of Warwick

Workshop Details

This years meeting will contain 2 guest papers and 28 regular papers. The guest speakers are from the Los Alamos National Laboratory and the IBM Corporation; these invited talks are to focus on topical scientific and business performance engineering issues.

The papers represent performance engineering research from Europe, the Middle East and the US. They encompass a wide range of performance-related areas, including queueing networks, Internet traffic congestion control, Grid computing, TCP, server modelling, real-time systems, multicast communication, QoS performance modelling, ATM networks, information latency, Java bottleneck location, and routing analysis.

This event is open to industry and academia and the proceedings of the meeting are to be published as a book. Extended versions of the best papers will also be published in *IEE Software* in August 2003.

Timetable

Wednesday 9 July, 2003

8.30am Registration

9:00am Opening – Dr Stephen Jarvis, *University of Warwick*

9:10-10:00 Scientific Keynote Speech: Modeling the Performance of Large-Scale Systems, D. Kerbyson, *Los Alamos National Laboratory, USA*

10:00 - 10:20 Coffee Break

Networking I (Chair: Dr Nigel Thomas)

10:20 - 10:45 On the Performance of TCP Reno and Vegas in MANETs, S. Papanastasiou and M. Ould-Khaoua, *University of Glasgow*

10:45 - 11:10 Performance Analysis of Internet Traffic Congestion Control, I. Awan and M. Woodwood, *University of Bradford*

11:10 - 11:35 Analysis and Enhancement of Network Solutions using Geometrically Batched Traffic, D. Thornley and H. Zatschler, *Imperial College London*

11:35 - 12:00 Coffee Break

Modelling I (Chair: Dr Fernando Pelayo)

12:00 - 12:25 Performance Evaluation of UML Models via Automatically Generated Simulation Models, J. Hillston and Y. Wang, *University of Edinburgh*

12:25 - 12:50 Extracting Passage Times from PEPA models with the HYDRA Tool: a Case Study, J. Bradley, N. Dingle, S. Gilmore and W. Knottenbelt, *Imperial College London and University of Edinburgh*

12:45 - 2:10 Lunch

Grid Computing (Chair: Daniel Spooner)

2:10 - 2:35 The Application of Bioinspired Engineering Principles to Grid Resource Allocation, S. Davy, K. Djemame and J. Noble, *University of Leeds*

2:35 - 3:00 The Globus Monitoring and Discovery Service (MDS-2): a Performance Analysis, H. Lim Choi Keung, J. Dyson, S. Jarvis and G. Nudd, *University of Warwick*

3:00 - 3:25 Multicast Communication in Grid Computing Networks with Background Traffic, D. Kouvatsos and I. Mkwawa, *University of Bradford*

3:25 - 3:50 Personalised Grid Service Discovery, S. Miles, J. Papay, V. Dialani, M. Luck, K. Decker, T. Payne and L. Moreau, *University of Southampton*

3:50 - 4:20 Coffee Break

Networking II (Chair: Dr Paul Kelly)

4:20 - 4:45 Performance Comparison of Explicit Rate Adjustment with other Multi-rate Multicast Congestion Control Protocols, S. Puangpronpitag and R. Boyle, *University of Leeds*

4:45 - 5:10 A New Routing Protocol for MANETs with Low Communication Overhead, R. Al-Qassas, A. Al-Ayyoub and M. Ould-Khaoua, *University of Glasgow and Arab Open University, Jordan*

5:10 - 5:40 Performance Modelling of UMTS Networks with Prioritised RABs, D. Kouvatsos and I. Awan, *University of Bradford*

An Open GE-Type QNM for Wormhole Routing with Finite Buffers, D. Kouvatsos and S. Assi, *University of Bradford*

5:40 - 6:10 An Analytic Building Block for the Evaluation of Shared Buffer Queues with Bursty Traffic, D. Kouvatsos and S. Tantos, *University of Bradford*

7:00 - 7:30 Pre-dinner Drinks – Sutherland Suite, Rootes Building

7:30 - Workshop Dinner

Thursday 10 July, 2003

9:00-9:50 Business Keynote Speech: Trends, Challenges and Opportunities for Performance Engineering with Modern Business Software, R. Berry, *IBM Corporation*

9:50 - 10:10 Coffee Break

Systems I (Dr William Knottenbelt)

10:10 - 10:35 The Effect of Information Latency on Performance, N. Thomas, *University of Durham*

10:35 - 11:00 Performance Analysis of an EAI Integration Application, A. Schmietendorf and R. Dumke, *T-Systems Nova GmbH, Berlin and Otto-von-Guericke Universität Magdeburg, Germany*

11:00 - 11:25 Search Strategies for Java Bottleneck Location by Dynamic Instrumentation, D. Brear, T. Weise, T. Wiffen, K. Cheung Yeung, S. Bennett and P. Kelly, *Imperial College London*

11:25 - 11:45 Coffee Break

Modelling II (Chair: Dr Jeremy Bradley)

11:45 - 12:10 Active Nodes Performance Analysis using PEPA, J. Hillston, L. Kloul and A. Mokhtari, *University of Edinburgh and Université de Versailles, France*

12:10 - 12:35 Reversed Processes of Multiple Agent Cooperations, P. Harrison and T. Lee, *Imperial College London*

12:35 - 1:00 Verifying and Capturing Probabilistic Behaviours of Real-time Systems, G. Díaz, D. Cazorla, F. Pelayo, F. Cuartero and V. Valero, *University of Castilla-La Mancha, Spain*

1:00 - 2:00 Lunch

Networking III (Chair: Dr Irfan Awan)

2:00 - 2:25 A New Grouping Scheme in Path-Based Multicast Communication, A. Al-Dubai, M. Ould-Khaoua and L. Mackenzie, *University of Glasgow*

2:25 - 2:50 Parameter Estimation for MMPPs using the ME Algorithm, H. Ge, U. Harder and P. Harrison, *Imperial College London*

2:50 - 3:15 Product Form Solutions in Discrete Time Queueing Networks with Restricted Batch Movements, S. Al-Hakeem and M. Woodward, *University of Bradford*

3:15 - 3:40 Equivalent Bandwidth Allocation for QoS in ATM Networks, M. Bani Yassein, A. Dalal'ah, I. Ababneh and M. Ould-Khaoua, *University of Glasgow, Jordan University of Science and Technology, Jordan and Al al-byte University, Jordan*

3:40 - 4:00 Coffee Break

Systems II (Dr Simon Miles)

4:00 - 4:25 A Novel Approximated Joint Activity Transition Structure in a Tandem Feedback Unreliable Server Queue, D. Thornley, H. Zatschler and N. Thomas, *Imperial College London and University of Durham*

4:25 - 4:50 An Exhaustive Evaluation of Row-major, Column-major and Morton Layouts for Large Two-dimensional Arrays, J. Thiyagalingam, O. Beckmann and P. Kelly *Imperial College London*

4:50 - 5:15 Modelling Dynamic e-Business Applications using Historical Performance Data, D. Bacigalupo, J. Turner, S. Jarvis and G. Nudd, *University of Warwick*

5:15 Workshop close

Paper presentation: 25 minutes including questions. A slide projector and a data projector will be provided.