

Bridging The Gap

Optimization and Data Mining at
Birmingham

<http://www.btg.bham.ac.uk>

Xin Yao, Cercia

Background

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From EPSRC:

- “The aim of Bridging the Gaps (BTG) is to empower Research Organisations to design a programme of activities that will stimulate creative thinking from the individuals involved, and that reflect institutional strengths and strategies.
- This is an exciting opportunity for institutions to **initiate, nurture and sustain interactions** between researchers and across disciplines. BTG funding is to support a suite of **people-based activities** to develop a multidisciplinary working environment; it is **not** aimed at supporting research projects.”

Our Aims and Objectives

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- **Builds on CRNs**
- **Support Multi-/Cross-/Inter-Disciplinary work at Birmingham**
- **Specifically aimed at work leading up to grant proposals**

People

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- **Industrial Advisory Board**
 - Shail Patel (Chair), Unilever
- **Management Committee**
 - Andrew Chan, Michal Kocvara, Zoe Kourtzi, Thorsten Schnier, Xin Yao
- **Theme Co-Leads**
 - Ela Claridge, Kalyanmoy Deb, Peter Watkins
- **Academic Champions**
 - Matthias Gerdts, Dietmar Heinke, Roy Johnston, Jon Rowe, Martin Russell
- **You!**

Today's Event

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9:00 AM Tea and Coffee (Atrium)

9:30 AM Introduction

9:35 AM Opening Address

10:00 AM Introduction to Bridging the Gap

10:30 AM Industrial Perspective

11:00 AM Coffee Break (Atrium)

11:30 AM *Global Optimisation Strategies Applied to the Structure Determination of Nanoalloy Clusters*

12:15 PM *Nonlinear optimization: Methods and applications*

1:00 PM Lunch (Atrium)

Prof. Xin Yao

Prof. Nigel Weatherill

Prof. Xin Yao

Shail Patel

Unilever

Chair of the Industrial Advisory Board

Prof. Roy L Johnston

School of Chemistry

University of Birmingham

United Kingdom

Prof. Anders Forsgren

Department of Mathematics

Royal Institute of Technology (KTH)

Stockholm

Proposed Themes

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- **Multi-disciplinary Combinatorial Optimisation**
- **Conic Optimisation**
- **Advanced Data Analysis and Data Mining**
- **High-performance Computing for Modelling Complex Systems**

Funds Available

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- **Bridging Fellowships**
 - 3 month buyout – Calls Jan. 2009 and Jan. 2010, 2 awarded per call
- **Grant Development Awards**
 - Up to £5000 – developed during research/industrial retreats (up to 3 per retreat)
- **Travel Awards**
 - Up to £1500 – 5 calls, 2 awarded per call
 - First call this June!
- **Workshop/Away day funding**

Events

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- ***Free to all UoB researchers and friends, but please register***
- **Knowledge Workshops**
 - Half-day 'tasters' in different disciplines (12)
- **Challenge Away Days**
 - Discuss discipline specific challenges (6)
- **Research Retreats**
 - 2 day in-depth workshops, theme-led (4)
- **Industrial Retreats**
 - 2 day in-depth workshops, industry-led (3)

Online Resources

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- **Website with all program details**
- **Still to come:**
 - **Collaborative Tools**
 - **Documents / Calls**
 - **Benchmark Data**
 - **'Ask the Expert'**
 - **'Virtual Coffee Lounge'**

First Knowledge Workshop

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Aspects of Mathematical Optimization

19th June 2008, ERI

9:00 AM Tea and Coffee

9:30 AM *Current trends in nonlinear optimisation*

Prof. Michal Kocvara

10:15 AM *Optimal Control Problems and Applications in Engineering*

Dr. Matthias Gerds

11:00 AM Coffee Break (Atrium)

11:30 AM *Equilibrium systems*

Dr. Sandor Nemeth

12:15 PM *Question and Answer session*

1:00 PM Lunch (Atrium)

Get Involved

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- **Participate in workshops and other events**
- **Suggest topics for workshops, challenge away days, and retreats**
- **Apply for funds**
- **Contribute to our online community**
- **Subscribe to the BTG announcement mailing list**
- **Talk to us:**

btg-manager@contacts.bham.ac.uk