

# Monday, 14th August

## Minisymposium sessions 1-6

Mini 1: Interpolation and Approximation Methods (Lecture Theatre 1)

Mini 2: Spectral and Polynomial Methods (Tun Razak Lecture Theatre)


Mini 3: Techniques related to Numerical Linear Algebra (Seminar Room 1)

Mini 4: Numerical Optimization and Analysis (Seminar Room 2)

Mini 5: Numerical Methods for Differential Equations (Seminar Room 3)

Mini 6: Early-career researchers I (Seminar Room 4)

Monday	Mini 1	Mini 2	Mini 3	Mini 4	Mini 5	Mini 6
3:45	Berrut	Olver	Moufawad	Toh	Hansen	Leveque
4:10	Fortunato	Papadopoulos	Burke	Hall	Engström	Heinzelreiter
4:35	Salazar Celis	Slevinsky	Baglama	Chok	Toro	Drysdale
5:00	Goodrich	Burns	Hashemi	Ang	Rufai	Buggenhout
5:25	Austin	Vasil	MacDonald	Shustin	Xue	Cisneros




# Monday, 14th August

## Minisymposium 1: Interpolation and Approximation Methods

**Location: Lecture Theatre 1**

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- 3:45-4:05 Jean-Paul Berrut  
Rational sinc interpolants and point shifts
  - 4:10-4:30 Daniel Fortunato  
A high-order fast direct solver for surface PDEs
  - 4:35-4:55 Oliver Salazar Celis  
Greedy rational interpolation and continued fractions
  - 5:00-5:20 Ben Goodrich  
Interpolating Continuous Functions on the Unit Hypercube
  - 5:25-5:45 Anthony Austin  
On Trigonometric Interpolation in an Even Number of Points
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# Monday, 14th August

## Minisymposium 2: Spectral and Polynomial Methods

**Location: Tun Razak Lecture Theatre**

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- 3:45-4:05 Sheehan Olver  
Sparse hp-FEM with  $p$  up to a billion
- 4:10-4:30 Ioannis Papadopoulos  
Sparse hp-FEM and spectral methods for the Helmholtz equation posed on disks and annuli via generalized Zernike annular polynomials
- 4:35-4:55 Richard Mikael Slevinsky  
Polynomial and rational measure modifications of orthogonal polynomials via infinite-dimensional banded matrix factorizations
- 5:00-5:20 Keaton Burns  
Corner cases of the generalized tau method
- 5:25-5:45 Geoff Vasil  
Generalising the classical tau method for fun and profit
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# Monday, 14th August

## Minisymposium 3: Numerical Linear Algebra

**Location: Seminar Room 1**

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- 3:45-4:05 Sophie Moufawad  
S-Step and Flexible Enlarged Conjugate Gradient Methods
- 4:10-4:30 Liam Burke  
Krylov Subspace Recycling For Matrix Functions
- 4:35-4:55 James Baglama  
Golub-Kahan-Lanczos Bidiagonalization (GKLB) Methods for  
Computing Singular Triplets for Very Large Sparse Matrices  
and Applications
- 5:00-5:20 Behnam Hashemi  
Rectangular eigenvalue methods
- 5:25-5:45 Colin Macdonald  
Nearest Neighbor Sampling of Point Sets using Random Rays
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# Monday, 14th August

## Minisymposium 4: Numerical Optimization and Analysis

**Location: Seminar Room 2**

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- 3:45-4:05 Kim-Chuan Toh  
A Feasible method for linearly constrained convex SDP problems
- 4:10-4:30 Julian Hall  
Direct solution of equations in large-scale linear optimization
- 4:35-4:55 James Chok  
Rational Function Approximation as Constrained Optimization
- 5:00-5:20 Andersen Ang  
A multigrid proximal gradient method for nonsmooth convex optimisation
- 5:25-5:45 Boris Shustin  
Manifold-Free Riemannian Optimization
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**Monday, 14th August**

**Minisymposium 5: Numerical Methods for Differential Equations**

**Location: Seminar Room 3**

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- 3:45-4:05   Eskil Hansen  
Convergence analysis of the nonoverlapping Robin–Robin method for nonlinear elliptic equations
- 4:10-4:30   Emil Engström  
Time-dependent Steklov–Poincaré operators and space-time Robin–Robin decomposition for the heat equation
- 4:35-4:55   Eleuterio Toro  
The ADER approach for constructing very-high order schemes for approximating hyperbolic equations
- 5:00-5:20   Mufutau Ajani Rufai  
An adaptive one-step block method for integrating reaction-diffusion Brusselator system
- 5:25-5:45   Yidan Xue  
Computation of 2D Stokes flows via lightning and AAA rational approximation
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# Monday, 14th August

## Minisymposium 6: Early-career researchers I

**Location: Seminar Room 4**

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- 3:45-4:05 Santolo Leveque  
Parallel-in-time solvers for the all-at-once Runge–Kutta discretization
- 4:10-4:30 Bernhard Heinzlreiter  
Efficient numerical linear algebra for large-scale PDE-constrained optimization problems
- 4:35-4:55 Catherine Drysdale  
Computation and Certification of the Pseudospectral Boundary
- 5:00-5:20 Niel Van Buggenhout  
A new Legendre polynomial-based approach for non-autonomous linear ODEs
- 5:25-5:45 Jorge Cisneros  
Split-step methods with finite difference schemes and analytical continuation formulas
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