

## IWOTA2012 PROGRAMME

### 1. MONDAY, JULY 16

- Monday 09:00–09:50.** Registration ..... in *The Roundhouse*
- Monday 10:00–10:30.** Welcome ..... in *The Roundhouse*
- Monday 10:30–11:20.** The stochastic Weiss conjecture ..... by *Jan van Neerven*  
in *The Roundhouse*
- Monday 11:30–12:20.** On the structure of weighted shifts on directed trees ..... by *Il Bong Jung*  
in *The Roundhouse*
- Monday 12:30–14:00.** Lunch
- Monday 14:00–14:50.** Input/state/output linear systems and function theory: the Bergman space setting ..... by *Joseph A. Ball*  
in *The Roundhouse*
- Monday 15:00–15:50.** Complete Positivity meets Linear Matrix Inequalities; a tale of Free Analysis ..... by *Igor Klep*  
in *The Roundhouse*
- Monday 15:55–16:20.** Coffee break ..... in *The Roundhouse*
- Monday 16:30–17:00.** A Hodge-Dirac operator and its stable discretization ..... by *Paul C. Leopardi*  
in *Quadrangle G047*
- Realization and interpolation theory for the Herglotz-Agler class over the poly-right-halfplane ..... by *Joseph A. Ball*  
in *Quadrangle 1001*
- Diagonals of positive compact operators, Schur-Horn generalizations and infinite majorization theory ..... by *G. Weiss*  
in *Quadrangle G034*
- Linear Matrix Inequalities in Matrix Variables ..... by *Bill Helton*  
in *Newton 306*
- Strongly Compact Algebras Associated with Composition Operators ..... by *Joel Shapiro*  
in *OMB-230*
- Projections and approximation properties for nonseparable spaces ..... by *David Yost*  
in *OMB-G31*

<b>Monday 17:10–17:40.</b> Clifford Analysis on discrete tori .....	by <i>Uwe Kaehler</i> in <i>Quadrangle G047</i>
On sectorial classes of inverse Stieltjes functions .....	by <i>Sergey Belyi</i> in <i>Quadrangle 1001</i>
Singular traces in symmetrically normed operator ideals .....	by <i>Fedor Sukochev</i> in <i>Quadrangle G034</i>
Towards a Quantum-Classical Systems Theory .....	by <i>Matthew James</i> in <i>Newton 306</i>
Two parameter methods for symmetrizable non-self-adjoint eigenproblems .....	by <i>Paul Binding</i> in <i>Newton 307</i>
Nearly Invariant Subspaces of $L^2(\mathbb{R})$ and Symmetric Operators .....	by <i>Robert T. W. Martin</i> in <i>OMB-230</i>
Characterizations of connections and means for positive operators .....	by <i>Patrawut Chansangiam</i> in <i>OMB-G31</i>
<b>Monday 17:50–18:20.</b> Monogenic Appell sequences for Jacobi polynomials .....	by <i>David Eelbode</i> in <i>Quadrangle G047</i>
.....	by <i>Greg Knese</i> in <i>Quadrangle 1001</i>
On the distinction between Dixmier and Connes-Dixmier measurability .....	by <i>A. Usachev</i> in <i>Quadrangle G034</i>
Linear Programming and Averaging Approaches to Singularly Perturbed Optimal Control Problems .....	by <i>Vladimir Gaitsgory</i> in <i>Newton 306</i>
A hierarchy of Von Neumann Inequalities? .....	by <i>Quanlei Fang</i> in <i>Newton 307</i>
Spectrum of an Invertible Weighted Composition Operator with a Hyperbolic Composition Map .....	by <i>Gajath Gunatillake</i> in <i>OMB-230</i>
On the hyperreflexivity of power partial isometries .....	by <i>Marek Ptak</i> in <i>OMB-G31</i>

## 2. TUESDAY, JULY 17

<b>Tuesday 09:00–09:50.</b> Multiplication operators on Bergman space and Riemann surfaces .....	by <i>Ron Douglas</i> in <i>The Roundhouse</i>
<b>Tuesday 10:00–10:30.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Tuesday 10:30–11:20.</b> Ritt operators and their square functions on commutative and noncommutative $L^p$ -spaces .....	by <i>Christian Le Merdy</i> in <i>The Roundhouse</i>
<b>Tuesday 11:30–12:20.</b> Recursively determined representing measures for bivariate truncated moment sequences .....	by <i>Raul Curto</i> in <i>The Roundhouse</i>
<b>Tuesday 12:30–14:00.</b> Lunch	
<b>Tuesday 14:00–14:50.</b> The band method from operator theory and Szegő-Kreĭn orthogonal matrix functions .....	by <i>Rien Kaashoek</i> in <i>The Roundhouse</i>
<b>Tuesday 15:00–15:50.</b> Perturbed tuples of commuting self-adjoint operators .....	by <i>Vladimir Peller</i> in <i>The Roundhouse</i>
<b>Tuesday 15:55–16:20.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Tuesday 16:30–17:00.</b> Robust Stability of Quantum Systems with a Non-linear Coupling Operator .....	by <i>Ian Petersen</i> in <i>Quadrangle G047</i>
The equivalence relations of quotient maps .....	by <i>Lisa Clark</i> in <i>Quadrangle 1001</i>
On single-operators in $\text{II}_1$ -factors: commutators and Schur-Horn .....	by <i>K. Dykema</i> in <i>Quadrangle G035</i>
Extremal holomorphic maps and the symmetrised bidisc .....	by <i>Zinaida Lykova</i> in <i>Newton 306</i>
Properties of complex symmetric operators .....	by <i>Ji Eun Lee</i> in <i>Newton 307</i>
Hilbert Matrix Operator on Spaces of Analytic Functions .....	by <i>Maria Nowak</i> in <i>OMB-145A</i>
Mixingales on Riesz space .....	by <i>Wen-Chi Kuo</i> in <i>OMB-G31</i>
<b>Tuesday 17:10–17:40.</b> Averaging Analysis Off $\text{SO}(3)$ ; Stability of an Adaptive Attitude Estimation Algorithm .....	by <i>Victor Solo</i> in <i>Quadrangle G047</i>
Ideals and quotients of labeled graph $C^*$ -algebras .....	by <i>Sun Ho Kim</i> in <i>Quadrangle 1001</i>
Spectral shift function – recent development .....	by <i>D. Potapov</i> in <i>Quadrangle G035</i>
Homogeneous operators in the Cowen-Douglas class of the ball .....	by <i>Gadadhar Misra</i> in <i>Newton 306</i>

Generalized repeated interaction model and transfer functions .....	by <i>Santanu Dey</i> in <i>Newton 307</i>
Normal and co-hyponormal weighted composition operators on $H^2$ .....	by <i>Sungeun Jung</i> in <i>OMB-145A</i>
Stochastic processes in Riesz spaces: Jensen's and Doob's inequalities .....	by <i>J.J. Grobler</i> in <i>OMB-G31</i>
<b>Tuesday 17:50–18:20.</b> Asymptotic Completeness for Weak Markov Processes .....	by <i>Rolf Gohm</i> in <i>Quadrangle G047</i>
Coisometric Extensions of Completely Contractive Covariant Representations .....	by <i>Travis Wolf</i> in <i>Quadrangle 1001</i>
On spectral flow inside essential spectrum .....	by <i>N. Azamov</i> in <i>Quadrangle G035</i>
On Gamma contractions .....	by <i>Sourav Pal</i> in <i>Newton 306</i>
On invariant subspaces of the Hardy space of the polydisk .....	by <i>Thirthankar Bhattacharyya</i> in <i>Newton 307</i>
Numerical ranges of some block Toeplitz composition operators .....	by <i>Linda Patton</i> in <i>OMB-145A</i>
Maps on essentially infinite idempotent operators .....	by <i>Lucijan Plevnik</i> in <i>OMB-G31</i>
<b>Tuesday 18:30–19:00.</b> Coactions on Cuntz-Pimsner algebras .....	by <i>Dave Robertson</i> in <i>Quadrangle 1001</i>

## 3. WEDNESDAY, JULY 18

<b>Wednesday 09:00–09:50.</b> Boundary value problems and Hardy spaces .....	by <i>Pascal Auscher</i> in <i>The Roundhouse</i>
<b>Wednesday 10:00–10:30.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Wednesday 10:30–11:20.</b> Weighted BMO spaces associated to operators .....	by <i>Xuan Duong</i> in <i>The Roundhouse</i>
<b>Wednesday 11:30–12:20.</b> Odd K-theory and its applications .....	by <i>Jerry Kaminker</i> in <i>The Roundhouse</i>
<b>Wednesday 12:30–14:00.</b> Lunch	
<b>Wednesday 14:00–14:50.</b> Boundedness of bilinear multipliers and applications to bilinear Bochner-Riesz means .....	by <i>Lixin Yan</i> in <i>The Roundhouse</i>
<b>Wednesday 15:05–15:35.</b> Riesz Transforms and Steerable Wavelet Frames .....	by <i>Peter Massopust</i> in <i>Quadrangle G047</i>
Derivations in the ideals of compact operators .....	by <i>Fedor Sukochev</i> in <i>Quadrangle 1001</i>
Hardy's Uncertainty Principle .....	by <i>Michael Cowling</i> in <i>Quadrangle G027</i>
Eigencurves of non-definite Sturm-Liouville problems for the $p$ -Laplacian .....	by <i>Bruce Watson</i> in <i>Newton 306</i>
Schur analysis in the case of slice-hyperholomorphic functions .....	by <i>Daniel Alpay</i> in <i>Newton 307</i>
Truncated Toeplitz Operators .....	by <i>Isabelle Chalendar</i> in <i>OMB-G32</i>
On the algebras generated by Toeplitz operators with piecewise continuous symbols .....	by <i>N. Vasilevski</i> in <i>OMB-G31</i>
Subnormality of unbounded composition operators in $L^2$ -spaces .....	by <i>Piotr Budzynski</i> in <i>OMB-230</i>
<b>Wednesday 15:50–16:15.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Wednesday 16:25–16:55.</b> Lax pairs in Clifford analysis .....	by <i>Paula Cerejeiras</i> in <i>Quadrangle G047</i>
The K-theory of labelled graph $C^*$ -algebras .....	by <i>David Pask</i> in <i>Quadrangle 1001</i>
The Schrödinger equation for the sublaplacian on complex spheres .....	by <i>Valentina Casarino</i> in <i>Quadrangle G027</i>
Fractional Linear Transformation for Quantum Feedback Networks .....	by <i>John Gough</i> in <i>Newton 306</i>
Dilation theory in finite dimensions .....	by <i>Orr Shalit</i> in <i>Newton 307</i>

Rational dilation and complete sets of Pick kernels .....	by <i>Michael Dritschel</i> in <i>OMB-G32</i>
Normal block Toeplitz operators .....	by <i>Dong-O Kang</i> in <i>OMB-G31</i>
Quantitative Lyapunov theorem for abstract and concrete Banach spaces .....	by <i>Sergey Ajiev</i> in <i>OMB-230</i>
<b>Wednesday 17:05–17:35.</b> The fundamental solution of higher spin Dirac operators .....	by <i>Tim Raeymaekers</i> in <i>Quadrangle G047</i>
Characterization of the primitive ideal space of row-finite $k$ -graphs .....	by <i>Sooran Kang</i> in <i>Quadrangle 1001</i>
The Kato Square Root Problem on Submanifolds .....	by <i>Andrew Morris</i> in <i>Quadrangle G027</i>
Linear State Estimation Via Multiple Sensors Over Rate-Constrained Channels .....	by <i>Subhrakanti Dey</i> in <i>Newton 306</i>
Semi-algebraic geometry designed for matrix variables .....	by <i>Bill Helton</i> in <i>Newton 307</i>
Composition operators on weighted Bergman spaces with admissible Békollé weights .....	by <i>Sei-Ichiro Ueki</i> in <i>OMB-G32</i>
.....	by <i>M. Englis</i> in <i>OMB-G31</i>
The form method for accretive operators .....	by <i>Manfred Sauter</i> in <i>OMB-230</i>
<b>Wednesday 17:45–18:15.</b> The Gaussian and other kernels in discrete Clifford analysis .....	by <i>Swanhild Bernstein</i> in <i>Quadrangle G047</i>
A $T(1)$ -Theorem for non-integral operators .....	by <i>Dorothee Frey</i> in <i>Quadrangle G027</i>
On Structure Preserving Transformations of the Itô Generator Matrix for Model Reduction of Quantum Feedback Networks .....	by <i>Hendra Nurdin</i> in <i>Newton 306</i>
Free Convexity and Changes of Variables .....	by <i>Igor Klep</i> in <i>Newton 307</i>
Commutants of Analytic Multiplication Operators .....	by <i>Rebecca Wahl</i> in <i>OMB-G32</i>
Determination of a family of 1-dimensional Dirac systems from their spectrum .....	by <i>Thomas Roth</i> in <i>OMB-230</i>
<b>Wednesday 18:25–18:55.</b> Quadratic eigenvalue problems for second order systems .....	by <i>Sonja Currie</i> in <i>Newton 306</i>

## 4. THURSDAY, JULY 19

<b>Thursday 09:00–09:50.</b> A trace formula and stability of square root domains for non-self-adjoint operators .....	by <i>Fritz Gesztesy</i> in <i>The Roundhouse</i>
<b>Thursday 10:00–10:30.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Thursday 10:30–11:20.</b> Asymptotics for Hessenberg matrices for the Bergman shift operator on Jordan regions .....	by <i>Edward Saff</i> in <i>The Roundhouse</i>
<b>Thursday 11:30–12:20.</b> Elliptic PDEs in rough media: boundary regularity, elliptic measure, singular integrals, and properties of eigenfunctions .....	by <i>Svitlana Mayboroda</i> in <i>The Roundhouse</i>
<b>Thursday 12:30–14:00.</b> Lunch	
<b>Thursday 14:00–14:50.</b> Mexican hat completeness and invertibility of mixed frame operators .....	by <i>Qui Bui</i> in <i>The Roundhouse</i>
<b>Thursday 15:05–15:35.</b> The Schur algorithm and de Branges spaces in the slice holomorphic case .....	by <i>Daniel Alpay</i> in <i>Quadrangle G047</i>
Toeplitz index theory and K-theory .....	by <i>Jerry Kaminker</i> in <i>Quadrangle 1001</i>
The stochastic functional calculus in $L^p$ -spaces .....	by <i>Brian Jefferies</i> in <i>Quadrangle G027</i>
Operator algebraic complex geometry .....	by <i>Orr Shalit</i> in <i>Newton 306</i>
Positivity, Sums of Squares and the Multi-Dimensional Moment Problem .....	by <i>Salma Kuhlmann</i> in <i>Newton 307</i>
Commutators of Composition Operators with Adjoints of Composition Operators on Weighted Bergman Spaces .....	by <i>Rachel Weir</i> in <i>OMB-G32</i>
Upper triangular Toeplitz matrices and applications in $II_1$ factors .....	by <i>K. Dykema</i> in <i>OMB-G31</i>
On determinants associated with Hankel operators .....	by <i>Gordon Blower</i> in <i>Quadrangle G053</i>
<b>Thursday 15:50–16:15.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Thursday 16:25–16:55.</b> Bergman spaces of slice hyperholomorphic functions .....	by <i>Irene Sabadini</i> in <i>Quadrangle G047</i>
KMS states for self-similar actions .....	by <i>Michael Whittaker</i> in <i>Quadrangle 1001</i>
A restriction theorem for Metivier group .....	by <i>Paolo Ciatti</i> in <i>Quadrangle G027</i>
Domains associated with mu-synthesis and magic functions .....	by <i>Nicholas Young</i> in <i>Newton 306</i>

Hardy classes on noncommutative domains .....	by <i>Victor Vinnikov</i> in <i>Newton 307</i>
Spectral Picture for Some Composition Operators .....	by <i>Carl Cowen</i> in <i>OMB-G32</i>
Classification of finite-dimensional operator systems .....	by <i>M. Argerami</i> in <i>OMB-G31</i>
Hardy-Littlewood inequalities for norms of positive operators on sequence spaces .....	by <i>Miguel Lacruz</i> in <i>Quadrangle G053</i>
<b>Thursday 17:05–17:35.</b> Some problems in function theory arising from the Weyl functional calculus .....	by <i>Brian Jefferies</i> in <i>Quadrangle G047</i>
Simplicity of groupoid $C^*$ -algebras .....	by <i>Jon Brown</i> in <i>Quadrangle 1001</i>
Restriction estimates, sharp spectral multipliers and Bochner-Riesz means .....	by <i>Peng Chen</i> in <i>Quadrangle G027</i>
The role of the fundamental operator in functional model and complete unitary invariance of a pure $\Gamma$ -contraction .....	by <i>Tirthankar Bhattacharyya</i> in <i>Newton 306</i>
Commutative Livsic Overdetermined Three-Dimensional Linear Systems .....	by <i>Eli Shamovich</i> in <i>Newton 307</i>
Subideals of operators .....	by <i>G. Weiss</i> in <i>OMB-G31</i>
Quotient Hilbert modules in the Cowen-Douglas class .....	by <i>Hyun Kwon</i> in <i>Quadrangle G053</i>
<b>Thursday 17:45–18:15.</b> On some notions of spectra for $n$ -tuples of operators .....	by <i>Fabrizio Colombo</i> in <i>Quadrangle G047</i>
From $k$ -coloured graphs to $k$ -graphs .....	by <i>Sam Webster</i> in <i>Quadrangle 1001</i>
Weighted estimates for second order Riesz transforms associated to the Schrödinger operator .....	by <i>Fu Ken Ly</i> in <i>Quadrangle G027</i>
Characterization of Input for Livšic systems .....	by <i>Grant Boquet</i> in <i>Newton 307</i>
<b>Thursday 18:45–23:00.</b> Conference Dinner .....	in <i>Randwick Labor Club</i>



## 5. FRIDAY, JULY 20

<b>Friday 09:00–09:50.</b> Equilibrium states on operator-algebraic dynamical systems .....	by <i>Iain Raeburn</i> in <i>The Roundhouse</i>
<b>Friday 10:00–10:30.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Friday 10:30–11:20.</b> Subnormality of block Toeplitz operators .....	by <i>Woo Young Lee</i> in <i>The Roundhouse</i>
<b>Friday 11:30–12:20.</b> Singular Integral operators, commutators and weights: some recent progress .....	by <i>Carlos Perez</i> in <i>The Roundhouse</i>
<b>Friday 12:30–14:00.</b> Lunch	
<b>Friday 14:00–14:50.</b> Free Banach spaces over metric spaces .....	by <i>Gilles Godefroy</i> in <i>The Roundhouse</i>
<b>Friday 15:05–15:35.</b> The Bessmertnyi class: old and new results .....	by <i>D Kaliuzhnyi-Verbovetskyi</i> in <i>Quadrangle G047</i>
Non-commutative solenoids .....	by <i>Judith Packer</i> in <i>Quadrangle 1001</i>
A classification theorem for Helfrich surfaces .....	by <i>James McCoy</i> in <i>Quadrangle G027</i>
<b>Friday 15:50–16:15.</b> Coffee break .....	in <i>The Roundhouse</i>
<b>Friday 16:25–16:55.</b> Zero-pole interpolation, Beurling-Lax representations for shift-invariant subspaces, and transfer function realizations: half-plane/continuous time versions .....	by <i>Austin Amaya</i> in <i>Quadrangle G047</i>
Quantum Heisenberg manifolds as twisted groupoid $C^*$ -algebras .....	by <i>Alex Kumjian</i> in <i>Quadrangle 1001</i>
Localization of eigenfunction expansions. .....	by <i>Chris Meaney</i> in <i>Quadrangle G027</i>
<b>Friday 17:05–17:35.</b> Nevanlinna representations in several variables .....	by <i>Nicholas Young</i> in <i>Quadrangle G047</i>
Unital Dilations of Completely Positive Semigroups .....	by <i>Dave Gaebler</i> in <i>Quadrangle 1001</i>
<b>Friday 17:45–18:15.</b> When is the $C^*$ -algebra of a higher-rank graph approximately finite-dimensional? .....	by <i>Aidan Sims</i> in <i>Quadrangle 1001</i>