

Program
International Conference in PDE
Complex Analysis, and Differential Geometry
In Honor of M. Salah Baouendi

Department of Mathematics, University of Notre Dame

Monday, June 12, 2006

- **8:00-8:50** *Registration and Refreshments.* Hurley 257. (Talks in Hayes-Healy 127.)
- **8:50-9:00** *Welcoming Remarks,* Jeffrey Kantor, Vice President, Graduate Studies and Research.
- **9:00-9:50** Serge Alinhac, Université de Paris XI (Paris-Sud), *Blowup of solutions to nonlinear hyperbolic equations: a survey of recent results.*

Special Session I, Hayes – Healy 127

- **10:00-10:30** David Tartakoff, University of Illinois at Chicago, *Loss of Derivatives.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** David Barrett, University of Michigan, *Cauchy integrals and Mobius-invariant geometry of curves.*

Special Session II, Hayes – Healy 129

- **10:00-10:30** Gerardo Mendoza, Temple University, *Characteristic classes of the boundary of a compact complex b-manifold.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** Adalberto Bergamasco, Universidade de São Paulo, Brazil, *Global analytic hypoellipticity for a class of systems of vector fields.*

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- **11:45-12:15** *Discussion - Open Problems.* Hayes-Healy 127
 - **12:15-2:00** *Lunch.*
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- **2:00-2:50** Michael Taylor, University of North Carolina, *Integrability of rough almost complex structures.*
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Special Session I, Hayes – Healy 127

- **3:00-3:30** Emil Straube, Texas A&M University, *Geometric sufficient conditions for compactness of the $\bar{\partial}$ -Neumann operator.*
- **3:30-4:00** *Tea & Coffee Break.* Hurley 257

Special Session II, Hayes – Healy 129

- **3:00-3:30** Hamid Mezzani, Florida International University, *On bending of surfaces with nonnegative curvature*
- **3:30-4:00** *Tea & Coffee Break.* Hurley 257

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- **4:00-4:50** Yan-Yan Li, Rutgers University, *A geometric problem and the Hopf Lemma.*
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Short Talks Hayes – Healy 127

- **5:00-5:15** Wayne Eby, Temple University, *Pompeiu problem on the Heisenberg group and non-radial solids.*
- **5:15-5:30** Jennifer Halfpap, University of Montana, *CR Extension for Tube-Like CR Manifolds of CR Dimension 1.*
- **5:30-5:45** Debraj Chakrabarti, University of Wisconsin – Madison, *Approximation of maps with values in a complex or almost complex manifold.*

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- **6:00-7:30** Reception. McKenna Hall Atrium, Main Floor
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Tuesday, June 13, 2006

- **8:00-8:50** *Refreshments.* Hurley 257. (Talks in Hayes-Healy 127.)
- **9:00-9:50** Linda Rothschild, University of California, San Diego, *Finite mappings of generic submanifolds in complex space.*

Special Session I, Hayes – Healy 127

- **10:00-10:30** Lei Ni, University of California, San Diego, *Mean Value Theorems and Ricci Flow.*

- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** Sophia Vassiliadou, Georgetown University, *Solving $\bar{\partial}$ on some complex spaces with non-isolated singularities.*

<i>Special Session II, Hayes – Healy 129</i>
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- **10:00-10:30** Shif Berhanu, Temple University, *Microlocal analyticity of solutions of a first order nonlinear pde.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** Jon Wolfson, Michigan State University, *Volume minimization, lagrangian submanifolds and singularities.*

- **11:45-12:15** *NSF Discussion.* Hayes-Healy 127
- **12:15-2:00** *Lunch.*

- **2:00–2:50** Xiaojun Huang, Rutgers University, *Proper holomorphic mappings between balls with degenerate geometric rank.*

<i>Special Session I, Hayes – Healy 127</i>

- **3:00-3:30** Stephen Yau, University of Illinois at Chicago, *Rigidity of CR morphisms between strongly pseudoconvex CR manifolds..*
- **3:30-4:00** *Tea & Coffee Break.* Hurley 257

<i>Special Session II, Hayes – Healy 129</i>
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- **3:00-3:30** Karen Yagdjian, University of Texas, Pan American, *Global Existence for the n -Dimensional Semilinear Tricomi-Type Equations*
- **3:30-4:00** *Tea & Coffee Break.* Hurley 257

- **4:00–4:50** John D’Angelo, University of Illinois, *The Complexity of CR Mappings.*

Short Talks, Hayes – Healy 127

- **5:00-5:15** Lei Zhang, University of Florida, *Elliptic estimates for a three dimensional prescribing curvature equation with boundary conditions.*
- **5:15-5:30** Andrew Raich, Texas A&M University, *Pointwise Estimates for Relative Fundamental Solutions of Heat Equations in $\mathbb{R} \times \mathbb{C}$.*
- **5:30-5:45** Nataliya Vasylyeva, Institute of Applied Math and Mechanics - Ukraine, *Existence of smooth solutions of some Stefan type problems in the case of nonregular initial data.*

Wednesday, June 14, 2006

- **8:00-8:50** *Refreshments.* Hurley 257. (Talks in Hayes-Healy 127.)
- **9:00–9:50** Yum-Tong Siu, Harvard University, *Multiplier ideal sheaves and their applications*

Special Session I, Hayes – Healy 127

- **10:00-10:30** Nordine Mir, Université de Rouen, France, *Automorphism groups of CR manifolds I.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** Bernard Lamel, University of Vienna, Austria, *Automorphism groups of CR manifolds II.*

Special Session II, Hayes – Healy 129

- **10:00-10:30** Feride Tiglay, University of New Orleans, *The Cauchy problem for the Proudman-Johnson equation.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** Shanyu Ji, University of Houston, *Real ellipsoids in C^2 and CR umbilical points.*

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- **11:45-12:15** *Conference Picture/Discussion.*
 - **12:15-2:00** *Lunch.*

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- **2:00–2:50** Peter Ebenfelt, University of California, San Diego, *Geometric and algebraic properties of finite mappings of CR manifolds*.
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Special Session I, Hayes – Healy 127

- **3:00–3:30** Song-Ying Li, University of California at Irvine, *Characterization for a class of pseudoconvex domains*.
- **3:30–4:00** *Tea & Coffee Break*. Hurley 257
- **4:00–4:30** Loredana Lanzani, University of Arkansas, *A Real Analysis approach to the $\bar{\partial}$ problem*.

Special Session II, Hayes – Healy 129

- **3:00–3:30** Howard Jacobowitz, Rutgers University, Camden, *Complex Functions and CR-generic Submanifolds*
- **3:30–4:00** *Tea & Coffee Break*. Hurley 257
- **4:00–4:30** Harold Donnelly, Purdue University, *Spectral stability of symmetric spaces*.

Short Talks, Hayes – Healy 127

- **4:45–5:00** Robert Juhlin, University of Notre Dame, *Finite Jet Determination of CR-diffeomorphisms*.
 - **5:00–5:15** Jiri Lebl, University of California, San Diego, *Singularities of Levi-Flat Hypersurfaces*.
 - **5:15–5:30** Ziad Adwan, Temple University, *Edge of the Wedge Theory in Involutive Structures*.
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- **6:00–8:30** *Banquet*. McKenna Hall Dinning area, lower level.
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Thursday, June 15 2006

- **8:00–8:50** *Refreshments*. Hurley 257. (Talks in Hayes-Healy 127.)
- **9:00–9:50** Joseph Kohn, Princeton University, *PDE with loss of derivatives*.

Special Session I, Hayes – Healy 127

- **10:00-10:30** Andreea Nicoara, Harvard University, *The Kohn Algorithm in More General Classes of Functions.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** Francine Meylan, Université de Fribourg, Switzerland, *Approximation of holomorphic functions in Banach spaces admitting a Schauder decomposition.*

Special Session II, Hayes – Healy 129

- **10:00-10:30** Gerson Petronilho, Univers. Federal de Sao Carlos, Brazil, *Global hypoellipticity for a family of sums of squares operators.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257
- **11:00-11:30** Hua Chen, Wuhan University, China, *Existence of solutions for the hyperbolic-parabolic type Chemotaxis systems.*

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- **11:45-12:15** *NSF Discussion - Open Problems.* Hayes-Healy 127
 - **12:15-2:00** *Lunch.*

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- **2:00–2:50** Sidney Webster, University of Chicago, *Geometry of the sublaplacian.*
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Special Session I, Hayes – Healy 127

- **3:00-3:30** Dmitri Zaitsev, Trinity College, Ireland, *Obstructions to embeddability of CR manifolds into hyperquadrics and explicit examples.*
- **3:30-4:00** *Tea & Coffee Break.* Hurley 257
- **4:00-4:30** Phil Harrington, University of South Dakota, *Property (P) and Oka’s Lemma.*

Special Session II, Hayes – Healy 129

- **3:00-3:30** Kenneth Koenig, Ohio State University, *Comparing the Bergman and Szego projections on domains with subelliptic boundary Laplacian.*
- **3:30-4:00** *Tea & Coffee Break.* Hurley 257
- **4:00-4:30** Gábor Francsics, Michigan State University, *Spectral analysis on complex hyperbolic spaces.*

Short Talks, Hayes – Healy 127

- **4:45-5:00** Jae-Seong Cho, University of Illinois at Urbana-Champaign, *An Algebraic Generalization of Subelliptic Multipliers - Some Aspects of Regular Local Rings.*
- **5:00-5:15** Yifei Pan, Indiana University-Purdue University, *A new result on Positive Harmonic Functions on the unit ball.*
- **5:15-5:30** Gustavo Hoepfner, Universidade Federal de São Carlos, *Locally solvable vector fields and Hardy Spaces.*

Friday, June 16, 2006

- **8:00-8:50** *Refreshments.* Hurley 257.

Special Session I, Hayes – Healy 127

- **9:00-9:30** Xionghong Gong, University of Wisconsin, *Differential inequalities of continuous functions and removing singularities of Rado type for J-holomorphic maps.*
- **9:45-10:15** Xiangyu Zhou, Academia Sinica, *Invariant holomorphic extension.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257

Special Session II, Hayes – Healy 129

- **9:00-9:30** Pit-Mann Wong, University of Notre Dame, *The Oka-Grauert-Gromov Principle: Past and Future.*
- **9:45-10:15** Dan Burns, University of Michigan, *Exterior Monge Ampere Solutions.*
- **10:30-11:00** *Tea & Coffee Break.* Hurley 257

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- **11:00–11:50** Laszlo Lempert, Purdue University, *The Cauchy-Riemann equations in N variables as N varies.*
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