# HARMONIC ANALYSIS CONFERENCE
# IN HONOR OF MICHAEL CHRIST

Talks will be in Van Vleck Hall, B102. Posters will be displayed in Van Vleck 901 and 903. Coffee breaks will be in the 9th floor lounge, VV 911.

## Monday, May 16, 2016.

8:15-8:50 a.m. Coffee and meet/greet in 911 Van Vleck

9:00-9:50 a.m.   **Alexander Nagel** (University of Wisconsin-Madison)
*Algebras of singular integral operators with kernels controlled by multiple norms.*

10:00-10:20 a.m. Coffee break

10:30-11:20 a.m. **Anthony Carbery** (University of Edinburgh)
*Remarks on some determinant inequalities with a geometrical flavour.*

11:30-12:20 a.m. **Guy David** (Université Paris Sud, Orsay)
*Boundary behaviour of sliding almost minimal sets near a smooth, one-dimensional sliding boundary.*

12:30-2:30 Lunch

2:30-2:45 p.m. **Mariusz Mirek** (University of Bonn and University of Wrocław)
*$\ell^p(\mathbb{Z}^d)$ boundedness for discrete operators of Radon type: maximal and variational estimates.*

2:50-3:05 p.m. **Yen Do** (University of Virginia)
*Variational estimates for the bilinear iterated Fourier integral.*

3:10-3:35 p.m. Coffee

3:45-4:35 p.m. **Almut Burchard** (University of Toronto)
*A geometric stability result for the Coulomb energy.*

4:45-5:35 p.m. **Alexander Volberg** (Michigan State University)
*Monge-Ampère equations with drifts for certain end-point estimates in harmonic analysis.*

**Tuesday, May 17, 2016.**

8:30-9:20 a.m. **M. Burak Erdoğan** (University of Illinois Urbana-Champaign)
*Smoothing estimates for nonlinear dispersive PDE*

9:30-10:00 a.m. Coffee

10:00-10:50 a.m. **Carlos Kenig** (University of Chicago)
*The energy critical wave equation.*

11:00-11:50 a.m. **Svitlana Mayboroda** (University of Minnesota)
*TBA.*

12:00-2:00 p.m. Lunch

2:00-2:15 p.m. **Yumeng Ou** (Brown University)
*Domination of multilinear singular integrals by positive sparse forms.*

2:20-2:35 p.m. **Taryn Flock** (University of Birmingham)
*Behaviour of the Brascamp-Lieb constant and Applications.*

2:40-2:55 p.m. **Lechao Xiao** (University of Pennsylvania)
*Some sharp $L^\infty \times L^\infty \times L^\infty$ estimates.*

3:00-3:20 p.m. Coffee

3:30-4:20 p.m. **Michael Goldberg** (University of Cincinnati)
*Functions whose Fourier transform vanishes on the sphere.*

4:30-5:20 p.m. **Alexander Kiselev** (Rice University)
*Regularity and blow up in an ideal fluid.*

**Wednesday, May 18, 2016.**

8:30-9:20 a.m. **Elias Stein** (Princeton University)
*The Cauchy-Leray integral and the Cauchy-Szegő projection in several complex variables.*

9:30-9:50 a.m. Coffee

10:00-10:50 a.m. **Michael Christ** (UC Berkeley)
*Remarks on extremization problems related to Young's inequality.*

11:00-11:50 a.m. **Ciprian Demeter** (Indiana University)
*The proof of Vinogradov's Mean value Theorem.*

12:00-2:00 p.m. Lunch

2:00-2:15 p.m. **Stefan Steinerberger** (Yale University)
*Nonlinear Fourier Series via Blaschke products.*

2:20-2:35 p.m. **Theresa Anderson** (University of Wisconsin-Madison)
*What the $A_2$ theorem has taught us about singular integrals.*

2:40-2:55 p.m. **Alexis Drouot** (UC Berkeley)
*Existence and non-existence of extremizers for certain k-plane transform inequalities.*

3:00-3:20 Coffee

3:30-4:20 p.m. **James Wright** (University of Edinburgh)
*On a theorem of L. Alpar: higher dimensional extensions.*

4:30-5:20 p.m. **Nets Katz** (CalTech)
*Additive nonsmoothing: an introduction.*

## Thursday, May 19, 2016.

8:30-9:20 a.m. **Jonathan Bennett** (University of Birmingham)
*Weighted inequalities for oscillatory integrals.*

9:30-9:50 a.m. Coffee

10:00-10:50 a.m. **Izabella Łaba** (University of British Columbia)
*Restriction estimates for fractal sets.*

11:00-11:15 a.m. **Benjamin Krause** (University of British Columbia)
*Discrete (Random) Carleson Theorems with Monomial Modulations.*

11:20-11:35 a.m. **Alexander Reznikov** (Vanderbilt University)
*Optimal Riesz Potentials for Discrete Measures.*

11:40-1:30 p.m. Lunch

1:30-2:20 p.m. **Terence Tao** (UCLA)
*Cancellation for the multilinear Hilbert and simplex transforms.*

2:30-3:30 p.m. *Problem session*

3:30-4:10 p.m. Coffee

4:20-5:10 p.m. **Michael Lacey** (Georgia Tech)
*A discrete version of a quadratic Carleson theorem.*

5:30 p.m. Informal conference dinner at Steenbocks (WID)

**Friday, May 20**

8:30-9:20 a.m. **Xiaochun Li** (University of Illinois Urbana-Champaign)
*Some Radon transforms and their discrete analogues.*

9:30-10:20 a.m. **Christoph Thiele** (Universität Bonn)
*Towards a sharp restriction inequality for the circle.*

10:30-10:50 a.m. Coffee

11:00-11:50 a.m. **Alessio Figalli** (University of Texas)
*Recent applications of quantitative stability to convergence to equilibrium.*

12:00-12:50 a.m. **Detlef Müller** (CAU Kiel)
*Spectral multipliers on 2-step groups: topological versus homogeneous dimension.*

## Posters

**Chandan Biswas** (University of Wisconsin-Madison)
*On extremals for a certain convolution inequality.*

**Laura Cladek** (University of Wisconsin-Madison)
*Radial Fourier Multipliers in $\mathbb{R}^3$.*

**Gian Maria Dall'Ara** (University of Vienna)
*Pointwise estimates of weighted Bergman kernels in several complex variables.*

**Francesco Di Plinio** (Brown University)
*Domination by positive sparse forms and outer $L^p$-embeddings for the wave packet transforms.*

**Polona Durcik** (Universität Bonn)
*Norm-variation of double ergodic averages.*

**Felipe Gonçalves** (IMPA)
*A Central Limit Theorem for Operators Given by Gaussian Kernels.*

**Danqing He** (University of Missouri-Columbia)
*Wavelets and Bilinear Operators.*

**Benjamin Jaye** (Kent State)
*On the boundedness of non-integer dimension Calderón-Zygmund Operators with anti-symmetric kernels.*

**Jongchon Kim** (University of Wisconsin-Madison)
*Endpoint bounds for spectral multipliers on compact manifolds.*

**José Ramón Madrid Padilla** (IMPA)
*On Derivative Bounds for Maximal Functions.*

**Numann Malik** (Brown University)
*Black Soliton Linearization for the 1D Gross-Pitaevsksii Equation: Low Frequency Effects.*

**Joris Roos** (Universität Bonn)
*Maximal operators and Hilbert transforms along variable curves.*

**Mateus Sousa** (IMPA)
*Variation of maximal operators of convolution type.*

**Gennady Uraltsev** (Universität Bonn)
*TBA.*

**Xiaoqian Xu** (University of Wisconsin-Madison)
*Suppression of chemotactic explosion by mixing.*

Abstracts for the 50 minute talks can be found at
$\mathtt{http://www.math.wisc.edu/ha_2016/?q = node/2}$
Abstracts for the short talks and posters can be found at
$\mathtt{http://www.math.wisc.edu/ha_2016/?q = node/16.}$