PDE 2015 Program

## Monday, 30.11.2015, 12:00 - 17:20

| 12:00 – 13:20 | Registration   |
|---------------|--|
| 13:20 – 13:30 | Opening  |
| 13:30         | <b>Susanna Terracini:</b> Entire solutions and spiralling asymptotic profiles of competition-diffusion systems                                   |
| 14:15         | Wolfgang Arendt: Diffusion governed by non-local boundary conditions   |
| 15:00         | <b>Danielle Hilhorst:</b> Large time behavior in order preserving dynamical systems with mass conservation                                       |
| 15:45 – 16:00 | Poster Announcements   |
|               | <b>Markus Gahn:</b> Effective models including dynamic Wentzell-type transmission conditions for domains separated by a thin heterogeneous layer |
|               | Kamel Ali Khelil: Stability of neutral functional equations with multiple delays   |
|               | Michał Łasica: Facets in non-smooth anisotropic curvature flows in the plane   |
|               | <b>Mohamed Vall Ould Moustapha:</b> Wave kernels for the Maass Laplacians on the hyperbolic plane and with the Morse Potential                   |
|               | Athanasios Stylianou: Modelling the interface between two ferrofluids  |
|               | Anna Zubkova: On a generalized Poisson-Nernst-Planck system  |
| 16:00 – 16:30 | Coffee & Poster  |
| 16:30         | Tomáš Roubíček: Waves in solids involving inelastic processes and their efficient numerical approximation  |
| 16:55         | <b>Christina Lienstromberg:</b> On the analysis of microelectromechanical systems with general permittivity                                      |

Program PDE 2015

# Tuesday, 01.12.2015, 09:00 - 17:20

| 09:00         | Xavier Cabré: Curves and surfaces with constant nonlocal mean curvature     |
|---------------|---|
| 09:45         | Giampiero Palatucci: The obstacle problem for nonlocal integro-differential |
|               | operators   |
| 10:10 - 10:40 | Coffee & Poster   |
| 10:40         | Serena Dipierro: Boundary regularity for nonlocal minimal surfaces          |
| 11:05         | Etienne Emmrich: The peridynamic model in nonlocal elasticity theory        |
| 11:50         | Matteo Novaga: Nonlocal isoperimetric problems                              |
| 12:35 – 12:40 | Group Photo   |
| 12:40 – 14:00 | Lunch   |
| 14:00         | Hans-Dieter Alber: A non-Griffith based phase field fracture model — com-   |
|               | parison with other models and numerical results                             |
| 14:45         | Jana Kopfová: Thermo-elasto-plastic contact problems with fatigue           |
| 15:10 – 15:45 | Coffee & Poster   |
| 15:45         | Augusto Visintin: Compactness and Structural Stability of Nonlinear Flows   |
| 16:30         | Mario Bukal: Fourth-order q-logarithmic equations                           |
| 16:55         | Jonathan Zinsl: Exponential convergence to equilibrium in a Poisson-Nernst- |
|               | Planck-type system  |
| 17:30         | Guided STOLPERSTEIN tour (English)  |
|               |   |

PDE 2015 Program

# Wednesday, 02.12.2015, 09:00 - 18:25

| 09:00         | Tom ter Elst: Hölder estimates for second-order operators on domains with                         |
|---------------|---|
|               | rough boundary  |
| 09:45         | Fabio Paronetto: A Harnack's inequality for mixed type evolution equations                        |
| 10:10         | Robert Haller-Dintelmann: The Kato square root property for mixed bound-                          |
|               | ary conditions  |
| 10:35 – 11:05 | Coffee & Poster   |
| 11:05         | Pascal Auscher: Elliptic systems and Dirac operators  |
| 11:50         | Moritz Egert: Mixed boundary value problems on cylindrical domains                                |
| 12:15         | <b>Patrick Tolksdorf:</b> $\mathcal{R}$ -sectoriality of higher-order elliptic systems on general |
|               | bounded domains   |
| 12:40 – 14:00 | Lunch   |
| 14:00         | Aldo Pratelli: New results about approximation of Sobolev homeomorphisms                          |
| 14:45         | Eleonora Cinti: Quantitative flatness results for nonlocal minimal surfaces in                    |
|               | low dimensions  |
| 15:10         | Joachim Escher: On geodesic flows on Fréchet–Lie groups   |
| 15:55 – 16:30 | Coffee & Poster   |
| 16:30         | Juha Lehrbäck: Hardy and Hardy-Sobolev inequalities on general open sets                          |
| 17:15         | Nikolaos Roidos: The porous medium equation on manifolds with conical                             |
|               | singularities   |
| 17:40         | Camillo De Lellis: A Nash-Kuiper theorem for $C^{1,1/5}$ isometric immersions                     |
|               | of disks  |
| 19:00 – 22:00 | Dinner at the historic 'Umspannwerk Ost' 10243 Berlin, Palisadenstr. 48                           |
|               |   |

Program PDE 2015

# Thursday, 03.12.2015, 09:00 - 17:15

| 09:00         | <b>Andrey Shishkov:</b> Very singular and large solutions of semi-linear parabolic and elliptic equations with degenerate absorption potential                                |
|---------------|---|
| 09:45         | Arrigo Cellina: The regularity of solutions to the $p\text{-Laplace}$ equation for $2 \leq p < 3$   |
| 10:10         | ${\bf James\ Kennedy:}$ Nonlinear semigroups on rough domains via $j\text{-elliptic}$ functionals   |
| 10:35 – 11:05 | Coffee & Poster   |
| 11:05         | <b>Bernd Kawohl:</b> On the geometry of the <i>p</i> -Laplacian operator  |
| 11:50         | <b>Matthias Liero:</b> On $p(x)$ -Laplace thermistor models describing electrothermal feedback in organic semiconductor devices   |
| 12:15         | <b>Joachim Naumann:</b> Existence of weak solutions to a generalized thermistor problem with $p$ -current-voltage relations: the unsteady case                                |
| 12:40 – 14:00 | Lunch   |
| 14:00         | Ben Schweizer: Dispersive models for waves in heterogeneous media   |
| 14:45         | <b>Julia Orlik:</b> Evolutional contact with Coulomb's friction on a periodic microstructure  |
| 15:10         | <b>Yumi Cho:</b> Nonlinear gradient estimates for generalized elliptic equations with nonstandard growth in nonsmooth domains   |
| 15:35 – 16:05 | Coffee & Poster   |
| 16:05         | <b>Maria Neuss-Radu:</b> Homogenization of reaction–diffusion processes in a porous medium with nonlinear flux condition at the interface. Applications to cellular processes |
| 16:50         | <b>Julian Fischer:</b> A higher-order large-scale regularity theory for random elliptic operators   |
| 17:30         | Guided STOLPERSTEIN tour (German)   |
| 18:30         | 'The Botticelli Renaissance' guided visit (English / German) of the special exhibition at Gemäldegalerie, 10785 Berlin, Matthäikirchplatz                                     |

PDE 2015 Program

## Friday, 04.12.2015, 09:00 - 12:45

| 09:00         | Jan Prüß: Modeling and Analysis of Nematic Liquid Crystal Flows  |
|---------------|--|
| 09:45         | Senjo Shimizu: Local existence of compressible two-phase flows with phase  |
|               | transitions  |
| 10:10         | Lutz Recke: Smooth Parameter Dependence of Solutions to Parabolic and  |
|               | Hyperbolic Initial-Boundary Value Problems: A Comparison   |
| 10:35 – 11:05 | Coffee   |
| 11:05         | Philippe Laurençot: A thin film Muskat problem   |
|               |  |
| 11:50         | Wolf-Patrick Düll: On the mathematical justification of reduced models for   |
| 11:50         | <b>Wolf-Patrick Düll:</b> On the mathematical justification of reduced models for water waves                                |
| 11:50         | ,  |
|               | water waves  |
|               | water waves  Arthur Kierkels: On a kinetic equation arising in weak turbulence theory for                                    |
| 12:15         | water waves  Arthur Kierkels: On a kinetic equation arising in weak turbulence theory for the nonlinear Schrödinger equation |