

# Conference Programme

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## ***Sunday - August 30, 2015***

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17:00 – 20:00	Lobby	Registration
18:30	Lobby	City Tour
19:30	Lobby	Self-paid dinner at a nearby restaurant

## ***Monday - August 31, 2015***

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08:00	Foyer	Registration (whole week)
08:30	Lobby	Welcome Coffee
9:30 – 12:20	Room "Colmar"	
Splinter I:	Comparing and Validating Meridional Flow Derivations in the Solar Convection Zone	
09:25 – 12:30	Conference Room "Basel"	
Splinter II:	Waves inside Stars: Theory, Simulations, Observational Signatures, and Lab Experiments	
10:30 – 11:00	Coffee Break & Posters	
12:30 – 14:00	Lunch at Restaurant La Rotonde	

### ***Session I: Solar and Stellar Observations Conference Room "Basel"***

***Chair: Frank Hill***

14:00	Markus Roth Welcome
14:10	Lucia Kleint <i>Invited Talk: An Overview of Polarimetry</i>
14:40	Roman Brajsa Modeling Radiation from the Solar Atmosphere in the sub-mm, mm and cm Wavelength Range
15:00	Christopher J. Nelson On The Relationship Between Ellerman Bombs and Other Solar Processes
15:20	Jan Langfellner Anisotropy of the solar network magnetic field around the average supergranule

- 15:40 Manfred Schüssler  
The cause of the weak solar cycle 24
- 16:00 – 16:30 Coffee Break & Posters
- 16:30 Ralph Neuhäuser  
Strong variations of 14-C around AD 775 and AD 1795 - due to solar activity
- 16:50 Rob Rutten  
A new view of the H $\alpha$  chromosphere
- 17:10 Sanjay Gosain  
Full Stokes Polarimeter for Chromospheric Measurements with SOLIS/VSM
- 17:30 Junwei Zhao  
Establishing Connections between Photospheric Waves and Coronal Waves in Active Regions
- 17:50 Sanjay Gosain  
A Proposal for Next Generation Synoptic Solar Instrumentation
- 18:10 Frank Hill  
GONG Status

**Tuesday - September 1, 2015**

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08:30 Lobby Welcome Coffee

**Session II: Solar and Stellar Modelling  
Conference Room "Basel"**

**Chair: Rudolf Komm**

- 09:00 Matt Browning  
*Invited Talk:* Global Simulations of solar and stellar dynamos: cycles, theories, and limits
- 09:30 Manfred Schüssler  
The Babcock-Leighton solar dynamo
- 09:50 Jacobo Varela  
Differential Rotation and Dynamo Action in Solar-like Stars
- 10:10 Zarzalt Magic  
*Invited Talk:* 3D MHD Stellar Atmosphere Simulations
- 10:40 – 11:10 Coffee Break & Posters
- 11:10 Laurene Jouve  
*Invited Talk:* Models and data combined to progress towards a better understanding of the magnetism of solar-type stars
- 11:40 Volkmar Holzwarth  
Joint magnetospheres of close "solar-twin" binary systems
- 12:00 Aditi Sood  
Dynamical model for spindown of solar-type stars

12:20 Conference Photo

12:30 – 14:00 Lunch at Restaurant La Rotonde

**Session III: Solar and Stellar Seismology**  
**Conference Room “Basel”**

**Chair: John Leibacher**

- 14:00 Ariane Schad  
*Invited Talk:* Global helioseismic measurement of meridional circulation and differential rotation from mode eigenfunction perturbations
- 14:30 S.P. Rajaguru  
Deep structure of solar meridional circulation: helioseismic inferences from four years of HMI/SDO observations
- 14:50 Ruizhu Chen  
Measurement of deep solar meridional flow and its temporal variation
- 15:10 Dean-Yi Chou  
Solar-Cycle Variations of Meridional Flows and Magnetic Signature at the Base of Convection Zone
- 15:30 Rosaria Simoniello  
Helioseismic Signatures of the Progression of Solar Cycle: A Reflection of a Dynamo Wave
- 15:50 – 16:20 Coffee Break & Posters
- 16:20 Charles S. Baldner  
Variations in Large-scale Flow Structures in the Current Solar Cycle
- 16:40 Rudolf Komm  
Large-scale subsurface flows during Solar Cycle 23 and 24
- 17:00 Anne-Marie Broomhall  
Statistical searches for low signal-to-noise oscillations
- 17:20 Kaori Nagashima  
Measurement of the amplitude of the solar cross-covariance function
- 17:40 Vincent Böning  
Validating Spherical Born Kernels for Meridional Flows
- 18:00 Björn Löptien  
Data Compression for Helioseismology

**Wednesday - September 2, 2015**

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08:30 Lobby Welcome Coffee

**Session III: Solar and Stellar Seismology (continued)  
Conference Room "Basel"**

**Chair: Rekha Jain**

- 09:00 Damien Przybylski  
Signatures of mode conversion in a sunspot simulation
- 09:20 Khalil Daifallah  
Helioseismology of sunspot models
- 09:40 Rudolf Komm  
Subsurface helicity of active regions 12192 and 10486
- 10:00 Johannes Löhner-Böttcher  
Magnetic field reconstruction based on sunspot oscillations
- 10:20 – 10:50 Coffee Break & Posters
- 10:50 Ângela Santos  
Contribution from sunspots to the observed frequency shifts
- 11:10 Kiran Jain  
Response of Solar Oscillations to The Magnetic Activity: Comparison between  
Solar Cycles 23 and 24
- 11:30 Jesper Schou  
What to do Next in Global Mode Seismology?
- 11:50 Foyer Packed Lunch

***Excursion to Europa-Park Rust & Conference Dinner***

- 12:45 Buses leave to Rust
- 13:30 Entry into Europa-Park Rust  
via the entrance of the Hotel El Andaluz
- 20:00 – 23:00 Conference Dinner  
at the Hotel Santa Isabella, Room: Convento
- 23:00 Buses return to Freiburg

**Thursday - September 3, 2015**

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08:30 Lobby Welcome Coffee

**Session III: Solar and Stellar Seismology (continued)  
Conference Room "Basel"**

**Chair: Conny Aerts**

- 09:00 Sarbani Basu  
*Invited Talk:* Seismic inferences of solar and stellar structure
- 09:30 George Angelou  
On the Utility of Diagrams of Small Frequency vs Large Frequency Separation
- 09:50 Elisabeth Guggenberger  
Towards an improvement of the scaling relations
- 10:10 Mutlu Yildiz  
Effects of the Hell ionization zones on oscillation frequencies and their promises
- 10:30 – 11:00 Coffee Break & Posters
- 11:00 Maria Bergemann  
*Invited Talk:* Chemical abundances of the Sun and solar-like stars
- 11:30 Vincent Ballenegger  
Thermodynamic properties of hydrogen and hydrogen-helium mixtures under solar conditions
- 11:50 Antonio Ferriz-Mas  
Chandrasekhar's 'adiabatic exponents' and other material coefficients for stellar interiors
- 12:10 Ehsan Moravveji  
Tight asteroseismic constraints on core overshooting and diffusive mixing for massive stars
- 12:30 Gaël Buldgen  
Constraining mixing processes in 16CygA and 16CygB using Kepler data and seismic inversion
- 12:50 – 14:15 Lunch at Restaurant La Rotonde

**Session IV: In Memory of Jean-Paul Zahn  
Conference Room "Basel"**

**Chair: Eric Michel**

- 14:15 Stephane Mathis / Ian Roxburgh  
*Invited Talk:* A Tribute to Jean-Paul Zahn
- 14:45 Sebastien Deheuvels  
*Invited Talk:* What asteroseismology is teaching us about the internal rotation of stars
- 15:15 Santiago Andres Triana  
The internal rotation of stars as revealed by asteroseismic inversions

- 15:35 Coffee Break & Posters
- 16:15 Vincent Prat  
Ray dynamics of gravito-inertial modes in rapidly rotating stars
- 16:35 Paul G. Beck  
Seismic analysis of red giant stars in binary systems –  
the heartbeat of red giants
- 16:55 Wiebke Herzberg  
The effect of large scale flows on the eigenfrequencies of subgiant stars
- 17:15 Guy Davis  
*Invited Talk:* Sounding solar and stellar activity cycles using asteroseismology

**Friday - September 4, 2015**

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08:30 Lobby Welcome Coffee

**Session V: Solar and Stellar Activity  
Conference Room "Basel"**

**Chair: Guy Davis**

- 09:00 Thomas Ayres  
Invited Talk: The Ups and Downs of Stellar Activity
- 09:30 Svetlana Berdyugina  
Invited Talk: Overview on sunspots and starspots
- 10:00 Lousie Harra  
Invited Talk: Review of solar flares
- 10:30 – 11:00 Coffee Break & Posters
- 11:00 Manfred Kitze  
Superflares on solar analogue stars
- 11:20 Rekha Jain  
Oscillations in a solar coronal arcade near a flare-site
- 11:40 Alina Donea  
Invited Talk: Seismicity induced by solar and stellar flares: comparison
- 12:10 Frederic Baudin  
Flares and solar p-modes
- 12:30 Goodbye
- 12:30 – 14:00 Lunch at Restaurant La Rotonde
- 14:00 Conference Room "Basel" left
- Splinter III: Open-access tools for local helioseismology provided by SpaceInn

14:00 Conference Room "Basel" right

Splinter IV: Meridional flow,  $\alpha$  effect, single vs multiple dynamo: addressing open issues in solar/stellar dynamo with p-mode parameters

15:30 – 16:00 Coffee Break

17:00 End

### ***Poster Session***

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Posters will be on display during the whole week.

#### **Solar Physics**

- P1 Aditi Sood  
Suppression of kinematic dynamo by shear flow
- P2 V. Senthamizh Pavai  
Sunspot group, tilt angles and surface field reconstruction from historical observations
- P3 Anne-Marie Broomhall  
Quasi-periodic pulsations in stellar flares
- P4 M. Schüssler  
The cause of the weak solar cycle 24

#### **Helioseismology**

- P5 René Kiefer  
20 years of GONG: p-mode parameters and the solar cycle
- P6 Anne-Marie Broomhall  
Empirical Mode Decomposition studies of quasi-biennial variations in helioseismic frequencies
- P7 Hui Zhao  
Measurements of Absorption and Scattering Cross Sections for the Interaction of Solar Acoustic Waves with Sunspots
- P8 M. C. Rabello Soares  
Statistical analysis of the regions around and below a sunspot using acoustic waves
- P9 Kiran Jain  
Subsurface Flows within Active Regions

- P10 Richard Bogart  
Overcoming Systematic Effects in Ring-Diagram Fitting
- P11 Vincent Böning  
Modelling the Line-of-Sight Projection and Filtering-Induced Leakage in Time-Distance Helioseismology
- P12 Vincent Böning  
Validating Spherical Born Kernels for Meridional Flows
- P13 Vincent Böning  
Spherical Born Kernels for Flows in Time-Distance Helioseismology

### **Asteroseismology**

- P14 René Kiefer  
Determination of fundamental asteroseismic parameters using the Hilbert transform
- P15 René Kiefer  
Search for signatures of stellar activity cycles in the p mode frequencies of 25 solar-type stars observed by Kepler
- P16 M.K. Bensaïa  
Time Dependent Convection asteroseismic study of Beta Hydri
- P17 Mutlu Yildiz  
Effects of the HeII ionization zones on oscillation frequencies - Applications to Kepler and CoRoT stars
- P18 Redoune Mecheri  
Modeling the oscillations of a rotating polytropic star

### **Projects**

- P19 Markus Roth  
Solarnet Transnational Access Programme 2013 – 2017
- P20 Kevin Belkacem & Eric Michel  
The Seismic Plus portal
- P21 Markus Roth  
Exploitation of Space Data for Innovative Helio- and Asteroseismology