

**STARS, PLANETS AND GALAXIES**  
**13-18 April Dahlem, Berlin**

**Friday, 13 April**

**STRUCTURE FORMATION: FROM COSMOLOGICAL TO ISM SCALES**

12h15	Drinks and light lunch available
13h15 Guinevere Kauffmann	Welcome
13h30 Philippe Andre	The Interstellar Medium and Star Formation: Observations.
14h00 Simon White	The Origin of the Cosmic Web of Structure on Large Scales
14h30 Oliver Hahn	Shocks and Caustics and their importance for galaxy formation
15h00 Eva Grebel	Environmental dependence of stellar chemical evolution and dependence on galaxy properties
<i>15h30</i>	<i>COFFEE BREAK</i>
16h00 Daniel Price	Star formation and the role of magnetic fields and turbulence
16h30 Thorsten Naab	Simulations of Interstellar Medium and Star formation in Galaxies
17h00 Volker Springel	Multi-scale, multi-physics simulation methods.
17h30	DISCUSSION (organizer: G. Kauffmann)
<i>18h30</i>	<i>Reception - Dinner at Harnack House</i>

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**Saturday, 14 April**

**DYNAMICAL PROCESSES IN PLANETS, STARS AND GALAXIES**

9h00 Sean Andrews	Small-Scale Substructures in Protoplanetary Disks
9h30 Ruth Murray-Clay	Pebble Accretion in Protoplanetary Disks
10h00 Francoise Combes	Dynamical Processes in Galaxies
10h30 Kathryn Johnston	Physical Manifestations of Chaos and Regularity Around Galaxies
<i>11h00</i>	<i>COFFEE</i>
11h30 Scott Tremaine	Statistical mechanics of self-gravitating N-body systems

12h00 Silvia Toonen                      Evolution & interaction in stellar binaries and multiples.

*12h30    LUNCH*

*FREE AFTERNOON FOR DISCUSSION/RECREATION*  
*No organized dinner*

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**Sunday, 15 April**

**EXTREME ENVIRONMENTS, GALACTIC CENTERS AND THEIR STARS, GAS AND PLANETS**

9h00 Reinhard Genzel                      Physics of the Galactic center black hole

9h30 Douglas Lin                              Stellar rejuvenation & gravitational waves in AGN disks

10h00 Mark Morris                              The Magnetic Field in the Galaxy's Central Molecular Zone:  
Collimated Galactic Outflows, Star Formation, and Pulsar  
Lifetimes

*10h30    COFFEE*

11h00 Re'em Sari                              Dynamics of Stars in galactic Centers

11h30 Leen Decin                              Planets around evolved stars

12h00 Guinevere Kauffmann                      Active galactic nuclei throughout the Universe

12h30 Romain Teyssier                              Bridging the scales between black hole, star and galaxy  
formation

*13h00    LUNCH*

FREE AFTERNOON FOR DISCUSSION/RECREATION  
No organized dinner

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**Monday, 16 April**

**THE ERA OF PRECISION STELLAR PHYSICS**

9h00 Aldo Serenelli                              Open questions in solar models and lessons for other stars

9h30 Yvonne Ellsworth                              Solar and Stellar Variability

10h00 Matteo Cantiello                              The Era of High Precision Stellar Physics

10h30 Saskia Hekker                              Stellar Oscillations

*11h00    COFFEE*

11h30 Norm Murray	The dynamics and time dependent mass accretion rates of proto-stars
12h00 Andrei Beloborodov	The Physics of Stellar Remnants
<i>12h30</i>	<i>LUNCH</i>
14h00 George Angelou	Stellar Nucleosynthesis and stellar yields
14h30 Jorge Melendez	The cosmological solar lithium problem
15h00 Annette Ferguson	The Stellar Peripheries of Galaxies
<i>15:30</i>	<i>COFFEE</i>
16h00 Marie Martig	Chemical abundance changes in stars during the first dredge-up
16h30 Karin Lind	Non-LTE Effects in Stellar Atmospheres
17h00	DISCUSSION (Organizer: S. Hekker)
<i>18h30</i>	<i>Dinner at Harnack House</i>

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**Tuesday, 17 April**

**CHEMISTRY, DUST, GAS DYNAMICS, ATMOSPHERES OF PLANETS AND STARS**

9h00 Edwin Bergin	Thinking Broadly about Molecules in Astrophysics
9h30 John Lattanzio	Stars and their composition and evolution
10h00 Didier Queloz	Earth twin and life detection, you must be joking
10h30 Anders Johansen	Simulating the early stages of planet formation
<i>11h00</i>	<i>COFFEE</i>
11h30 Jeremy Goodman	Dynamics and diagnosis of proto-stellar disks with realistic thermo-chemistry
12h00 Kees Dullemond	Dust-driven viscous ring-instability in protoplanetary disks
<i>12h30</i>	<i>LUNCH</i>
14h00 Martin Pessah	Dust-induced torques in protoplanetary disks
14h30 Giovanna Tinetti	A chemical survey of exoplanets

15h00 Michel Desert	Detecting and characterizing the atmospheres of planets orbiting nearby stars
15h30 Hilke Schlichting	To Have and Not to Hold: Atmospheric accretion, evolution and loss of Super-Earths
<i>16h00</i>	<i>COFFEE</i>
16h30 Enric Palle	Current state of research on biosignatures and exoplanet atmospheres
17h00 Andre Lupas	Major hurdles on the path from organic chemistry to biochemistry
17h30	DISCUSSION (Organizer: H. Schlichting)
<i>19h00</i>	<i>Dinner at Harnack House</i>
20h15	After dinner talk by Mazda Adli (Charité Universitätsmedizin Berlin) Earth habitability horizon 2050: A view from Neuroscience

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### **Wednesday, 18 April**

#### **STATISTICS OF STARS: THE FOSSIL RECORD IN GALAXIES**

9h00 Matthew Bate	The origins of the statistical properties of stars
9h30 Alex de Koter	The Most Massive Stars
10h00 Pavel Kroupa	The initial mass function of stars
<i>10h30</i>	<i>COFFEE</i>
11h00 Maurizio Salaris	Using stars to probe galaxy formation and evolution
11h30 Else Starkenburg	Photometry of extreme metal poor stars
12h00 Kim Venn	Spectroscopy of extreme metal poor stars
<i>12h30</i>	<i>LUNCH</i>
14:00 Jennifer Johnson	From Stars to Galaxies FINAL DISCUSSION
15h30	end of meeting