

SPP1833

Building a Habitable Earth

PROGRAMME

General Meeting

SPP 1833 "Building a Habitable Earth"

Department of Geology and Mineralogy, University of Cologne
Geo/Bio-Lecture Hall, Zülpicher Straße 49a

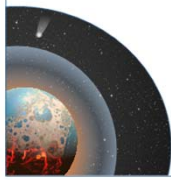
Wednesday, April 6th: Oceans and Atmosphere

- 14.00-14.15 Carsten Münker, Köln: Introductory remarks
- 14.15-14.45 Paul Mason, Utrecht: Keynote: Viewing global oxygenation and early life through multiple sulfur isotopes: Recent research from the Barberton Greenstone Belt, Kapvaal Craton
- 14.45-15.00 Katharina Schier, Bremen: Ge/Si as proxy for the origin of Si in the Archean oceans – Were Si and Fe really decoupled?
- 15.00-15.15 Florian Kurzweil, Köln: Iron and Molybdenum isotopic evidence for ocean stratification during the deposition of early Proterozoic iron formations
- 15.15-15.30 Joachim Reitner, Göttingen: Paleoproterozoic carbonates on early Earth - microbial biosignature versus hydrothermal origin
- 15.30-15.45 Jan-Peter Duda, Göttingen: Geobiology of a new type of microbial mat facies from the 3.4 Ga Strelley Pool Formation, Western Australia
- 15.45-16.00 Andreas Pack, Göttingen: New approaches in stable isotope geochemistry – application of high-resolution gas source mass spectrometry
- 16.00-16.30 *Coffee Break*
- 16.30-16.45 Sukanya Sengupta, Göttingen: High precision triple oxygen isotope analysis of cherts for determining $\delta_{18}\text{O}$ and temperature of Precambrian oceans
- 16.45-17.00 Jan-Peter Duda, Göttingen: Kerogen in early Archean hydrothermal chert veins: Biotic vs abiotic origin
- 17.00-17.15 Michelle Gehring, Kaiserslautern: Determining the effects of iron tolerance on CO_2 assimilation in 'ancient' Cyanobacterial species
- 17.15-17.30 Georg Feulner, Potsdam: Modelling the climate evolution of the early Earth
- 17.30-17.45 Stefanie Gebauer, Berlin: Atmospheric processes affecting the Evolution of Molecular Oxygen in Earth-like Atmospheres
- 18.00 *Icebreaker-Barbecue*

Thursday, April 7th: Building Blocks, part I

- 9.00-9.15 Bettina Rockenbach, Rektorat der Universität zu Köln: Welcoming speech
- 9.15-9.45 Maria Schönbächler, Zürich (Keynote): Nucleosynthetic isotope constraints on the formation of the Earth and the Moon
- 9.45-10.00 Bo-Magnus Elfers, Köln: The Hf and W Isotope inventory of sequentially leached chondrites
- 10.00-10.15 Christoph Burkhardt, Münster: Meteoritic SmNd isotope constraints for Earth's bulk composition and mantle evolution
- 10.15-10.45 *Coffee Break*
- 10.45-11.00 Til Birnstiel, Heidelberg: Evolution of Solids in Circumstellar Disks
- 11.00-11.15 Hubert Klahr, Heidelberg: All Planetesimals are born equal - Why the size distribution of Asteroids and Kuiper Belt objects is so similar
- 11.15-11.30 Christian Lenz, Heidelberg: Spatial distribution of planetesimals in protoplanetary disks
- 11.30-11.45 Dmitry Semenov, Heidelberg: Chemistry of the Solar Nebula in the terrestrial planet forming region
- 11.45-12.00 Hans-Peter Gail, Heidelberg: The spatial distribution of carbon dust in the early Solar Nebula and the carbon content of planetesimals
- 12.00-14.00 *Lunch Break*

Note that only the first author/speaker of each talk is given, all co-authors are cited in the abstracts



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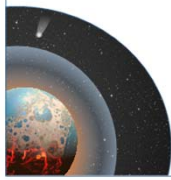
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Thursday, April 7th: Building Blocks, part II

- 14.00-14.15 Jan Leitner, Mainz: Characterization of Nitrogen-bearing Phases in Enstatite Chondrites
- 14.15-14.30 Christian Vollmer, Münster: The mineralogy and functional chemistry of organic grains from extraterrestrial samples
- 14.30-14.45 Raphaëlle Escoube, Köln: Mercury abundances in chondrites
- 14.45-15.00 Herbert Palme, Frankfurt: The Earth contains a large fraction of material not represented by meteorites
- 15.00-16.15 *Postersession + Coffee Break*
- 16.15-16.30 Frank Wombacher, Köln: Elemental distribution in chondritic meteorites determined by LA-ICP-MS
- 16.30-16.45 Wladimir Neumann, Berlin: Consistency of planetesimal melting and differentiation models with the Hf-W model ages of iron meteorites
- 16.45-17.00 David Rubie, Bayreuth: Impact-induced melting during Earth's accretion
- 17.00-17.15 Gerd Steinle-Neumann, Bayreuth: Crystallizing the Martian Magma Ocean
- 17.15-17.30 Dominik Hezel, Köln: Digital Data in Geosciences – Science, Strategy & Perspectives
- 17.30-18.00 *Discussion about field campaigns and future SPP research*

Friday, April 8th: Internal differentiation

- 9.00-9.15 Catherine McCammon, Bayreuth: The core of a habitable Earth
- 9.15-9.30 Nicola Tosi, Berlin: Consequences of magma ocean solidification for mantle dynamics and evolution
- 9.30-9.45 Sylvain Petitgirard, Bayreuth: MgSiO₃ and SiO₂ glass densities at high pressure
- 9.45-10.00 Jens Hopp, Heidelberg: Palaeoatmospheric noble gas isotopes as proxies of atmosphere-crust/mantle interaction
- 10.00-10.15 Toni Schulz, Vienna: Spherule layers from South Africa as windows into the Paleoproterozoic meteorite bombardment of the early Earth
- 10.15-10.45 *Coffee Break*
- 10.45-11.00 Julia van de Löcht, Köln: Geochemistry of Earth's oldest mantle peridotites
- 11.00-11.15 Sumit Chakraborty, Bochum: High resolution thermal and tectonic history of Archean terranes: Development of a tool through a case study from the Coorg block in S. India
- 11.15-11.30 Annika Dziggel, Aachen: PTt record of Neoarchean terrane accretion, SW Greenland
- 11.30-11.45 Christoph Heubeck, Jena: Vertical and/or horizontal tectonics (de-)form Archean greenstone belts
- 11.45-12.00 Kathrin Schneider, Berlin: Granite-greenstone relationships in the oldest mafic rocks of the Barberton Greenstone Belt, South Africa
- 12.00 *Conclusion*



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Posters

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Katherine Armstrong, Bayreuth:

The oxidation state of iron in silicate melts as a function of pressure

Michael Babechuk, Tübingen:

Geochemical investigation of the ca. 2.45 Ga Cooper Lake paleosol (Thessalon, Canada)

Annika Brüske, Hannover:

Vanadium and Uranium isotope signatures in Archean sediments: Evidence for metal mobilization and enzymatic reduction in an overall anoxic world

Pedro Cordeiro, Berlin:

Plate tectonics and the permanence of atmospheric oxygen

Michelle Gehringer, Kaiserslautern:

Expanding the "bio" in Biogeochemistry: Cyanobacteria and the Great Oxygenation Event

Christopher Giehl, Kiel:

High pressure and temperature metal-silicate-mineral partitioning of Mn, Cr and V

Inga Köhler, Jena:

Different phases of carbonaceous matter in microbial mats of the Moodies Group in the Barberton Greenstone Belt, South Africa

Vera Laurenz, Bayreuth:

Sulfide-silicate partitioning of Re and Os at high P-T conditions

Christian Maas, Münster:

Influence of planetary rotation on crystal settling in a terrestrial magma ocean

Natascha Manger, Heidelberg:

Pressure trapping solids in proto-planetary disks

Christian Marien, Köln:

Are oceanic plagiogranites from Cyprus Archean TTGs analogues?

Andrea Piccolo, Mainz:

Effects of differentiation on the geodynamics of the early Earth

Manfred Vogt, Heidelberg:

Acquisition of terrestrial volatiles – constraints from Ne and Xe isotopic composition