

SPP1833

Building a Habitable Earth

PROGRAMME

General Meeting 2017

SPP 1833 "Building a Habitable Earth"

Institute for Inorganic and Analytical Chemistry

Humboldtstr. 8, Jena

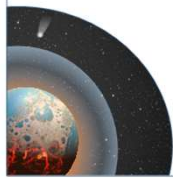
Wednesday, March 29th: Early Solar System

- 14.00-14.15 Carsten Münker, Köln & Christoph Heubeck, Jena: Introductory remarks
- 14.15-14.30 Christian Vollmer, Münster: The carbon and nitrogen functional chemistry of organic matter in extraterrestrial samples
- 14.30-14.45 Jan Leitner, Mainz: Characterization of Nitrogen-bearing phases in Enstatite Chondrites
- 14.45-15.00 Ninja Braukmüller, Köln: Elemental analyses of bulk carbonaceous chondrites with SF-ICP-MS
- 15.00-15.15 Christian Lenz, Heidelberg: Constraining the Parameter Space for the Solar Nebula
- 15.15-15.30 Natascha Manger, Heidelberg: Vortex Formation through hydrodynamic instabilities
- 15.30-15.45 Manfred Vogt, Heidelberg: Volatile acquisition during terrestrial accretion: Solar wind (SW)-implanted Ne in cosmic dust
- 15.45-16.15 *Coffee Break*
- 16.15-16.30 Wladimir Neumann, Münster: Ceres – a water-rich precursor to fill Earth's oceans
- 16.30-16.45 Mario Fischer-Gödde, Münster: Ruthenium isotopic evidence for an inner solar system origin of the late veneer
- 16.45-17.00 David Rubie, Bayreuth: A scaling law for melt volume produced by giant impacts
- 17.00-17.15 Sylvain Petitgirard, Bayreuth: Density and structure of amorphous silicate at high pressure conditions
- 17.15-17.30 Katherine Armstrong, Bayreuth: Iron speciation in silicate melts as a function of pressure: implications for magma ocean and early atmosphere evolution
- 17.30-17.45 Maxim Bykov, Bayreuth: Novel iron nitrides synthesized at the conditions of the deep Earth's interiors
- 17.45-18.00 Ulrich Hansen, Münster: Evolution of a bumpy core-mantle boundary from a chemically stratified mantle
- 18.30 *optional: Joint Dinner in a local pub*

Thursday, March 30th: Onset of Plate Tectonics and Continental Crust Formation

- 9.00-9.30 Nicholas Arndt, Grenobles (**Keynote**): The Onset of Plate Tectonics and Significance (if any) of the Archean-Proterozoic Boundary
- 9.30-9.45 Richard W. White, Mainz: Phase equilibrium constraints on the formation and evolution of Earth's earliest continental crust
- 9.45-10.00 Andrea Piccolo, Mainz: Geodynamical implication of delamination on felsic crust generation during the Archean
- 10.00-10.30 *Coffee Break*
- 10.30-10.45 Matthias Schmitz, Jena: Horizontal vs Vertical Tectonics in the Barberton Greenstone Belt
- 10.45-11.00 Sampriti Basak, Bochum: Multistage evolution of Coorg granulites, S. India – constraints on timescales of evolution
- 11.00-11.15 Annika Dziggel, Aachen: Exhumation of deep crustal granulites during Neoproterozoic terrane accretion in the Nuuk region, SW Greenland
- 11.15-11.30 Jochen Kolb, Karlsruhe: The Godthåbsfjord gold province in the North Atlantic craton of southern West Greenland
- 11.30-11.45 Christian Marien, Köln: Fiji: Probe of ancient continental growth?
- 11.45-13.15 *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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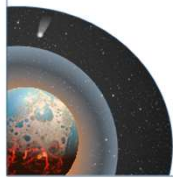
Thursday, March 30th: Isotopes

- 13.15-14.15 Meeting of the Scientific Committee & Proposals for the second phase of the SPP 1833
- 14.15-14.30 Stefan Peters, Göttingen: Triple oxygen isotope compositions of Archean ultramafic rocks
- 14.30-14.45 Jonas Tusch, Köln: High-precision W isotope measurements on Archean rocks from the Isua area, South-West Greenland
- 14.45-15.00 Sebastian Viehmann, Wien: The potential of coupled Hf-Nd isotopes to unravel geodynamical processes on Early Earth
- 15.00-15.15 Jens Hopp, Heidelberg: Search for palaeoatmospheric noble gas isotopes
- 15.15-15.30 Kathrin Schneider, Berlin: Implications of ^{146}Sm - ^{142}Nd systematics on Paleoarchean volcanic and granitoid rocks from the eastern Kaapvaal Craton
- 15.30-16.00 *Coffee Break*
- 16.00-16.15 Elis Hoffmann, Berlin: A geodynamic model for the lower Onverwacht Group, Barberton Greenstone Belt (South Africa)
- 16.15-16.30 Alfred Kröner, Mainz & Elis Hoffmann, Berlin: Were early Archean greenstone belt remnants in the eastern Kaapvaal craton, southern Africa, part of a large continental plateau basalt province?
- 16.30-16.45 Sukanya Sengupta, Göttingen: Geochemical modelling of triple oxygen isotope composition of seawater using high precision $\Delta^{17}\text{O}$ analyses of terrestrial materials
- 16.45-17.45 Poster Session
- 18:00 *Reception at the special exhibition „Die Erde im Archaikum – Leben erobert einen Planeten“ (optional)*

Friday, March 31th: Early Life

- 9.00-9.30 Mark van Zuilen, Paris (Keynote): Biogenic and abiogenic microstructures in the early rock record
- 9.30-9.45 Dieter Braun, München: Early life driven by thermal forces in pores of rock?
- 9.45-10.00 Helge Mißbach, Göttingen: The fate of biogenic vs. abiogenic organic matter during thermal maturation
- 10.00-10.15 Jan-Peter Duda, Göttingen: Where geo- meets astrobiology: Tackling the origin of organic matter on early Earth
- 10.15-10.30 Christian Hallmann, Bremen: Indigenous and non-indigenous Precambrian hydrocarbons: what Information can we extract about Earth's earliest biota?
- 10.30-11.00 *Coffee Break*
- 11.00-11.15 Christoph Heubeck, Jena: A Paleoarchean coastal oxygen oasis, Moodies Group, Barberton Greenstone Belt
- 11.15-11.30 Sami Nabhan, Jena: Biogenic overgrowth on detrital pyrite in ~3.2 Ga old Archean paleosols (Moodies Group, BGB, South Africa).
- 11.30-11.45 Stefanie Gebauer, Berlin: Effect of geologically-constrained environmental variables on the atmosphere and biosphere of early Earth
- 11.45-12.00 Michelle Gehringer, Kaiserslautern: Oxidative photosynthesis before the Great Oxygenation Event
- 12.00-12.15 Gerhard Franz, Berlin: Algal bloom in a Paleoproterozoic pegmatite from Volyn, Ukraine - an example of geo-bio-interaction in the early Earth history
- 12.15-12.30 Inga Köhler, Jena: First geochronologically-resolved Meso-Archean O_2 production
- 12.30-12.45 *Conclusion*

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Posters

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Nina **Albrecht**, Göttingen:

Analyzing $\Delta^{17}\text{O}$ of sedimentary carbonates by means of high resolution mass spectrometry in order to establish a new single phase thermometer

Annika **Brüske**, Hannover:

Constraints on metal mobilization in early Proterozoic marine sediments from Uranium isotopes

Paul **Fugmann**, Jena:

Petrology, geochemistry and age of the syn-Moodies Lomati River Sill in the Barberton Greenstone Belt

Arne **Leider**, Bremen:

Diagnosticity of steroidal breakdown products in pyrolysates

Isabelle **Leisgang**, Mainz:

LA-ICP-MS zircon ages for clastic sediments of the Moodies Group, Barberton Greenstone Belt, South Africa and Swaziland

Christian **Maas**, Münster:

Effect of planetary rotation on the differentiation of a terrestrial magma ocean

Raul **Martinez**, Freiburg:

Surface reactivity of the anaerobic phototrophic Fe(II)-oxidizing bacterium *Rhodovulum iodosum*: implications for trace metal budgets in ancient oceans and banded iron formations

Franziska **Scheffler**, Potsdam:

Evaporite pseudomorphs in the Paleoproterozoic Koegas Fm., South Africa

Ronny **Schönberg** & Michael **Babechuk**, Tübingen:

Fe & Cr isotopes of the ca. 2.45 Ga Cooper Lake paleosol: anoxic weathering in the wake of the GOE

Toni **Schulz**, Wien:

New insights into the Paleoproterozoic meteorite bombardment of the Earth - Geochemistry and Re-Os isotope signatures of the BARB5 ICDP drill core from the Barberton Greenstone Belt, South Africa

Falko **Schulz** & Nicola **Tosi**, Berlin:

Early mantle dynamics with non-linear rheology

Jie **Yao**, Bayreuth:

Liquid and glass structure of Mg_2SiO_4 and MgSiO_3 at high pressure

