

# QUARTZ-2024 - PROGRAM

## Sunday, 08 September 2024

08:00 - 18:00 **Tour A: Pre-conference excursion "Quartzite mineralisations of the Harz Mountains".** Departure 08:00h from GZG, Goldschmidtstr. 1-3. Guided by Dr. B. LEISS.

## Monday, 09 September 2024

12:00-18:30 **Registration**

14:00 - 16:00 **Tour B: Pre-conference guided tour to the labs of the Institute for Glass and Raw Material Technology (IGR), Göttingen (D. DIEDERICH)** Transfer by minibus from GZG, Goldschmidtstr 1-3.

16:00 - 18:00 **Tour C: Visit analytical facilities of the GZG related to quartz analyses**

GOLEM (Göttingen Light- and Electron Microscopy)  
STABLE ISOTOPE LAB  
EXPERIMENTAL MINERALOGY LABS  
CATHODOLUMINESCENCE LAB

18:00 - 21:00 **Ice breaker party**

## Tuesday, 10 September 2024

## Oral presentations (Lecture room: MN15)

08:00 - 10:00 **Registration**

09:00 - 09:20 **Welcome to QUARTZ-2024 and announcements**

**Theme: Quartz mineralogy and analytics**

**Chairperson: M. Tatzel**

09:20 - 09:50 **Keynote: JENS GÖTZE**

Agate – Genesis and peculiarities of a spectacular SiO<sub>2</sub> mineralization

09:50 - 10:10 PAN Y., MASHKOVTSYEV R.I., BOTIS S.M., LIN J., DEEVSAVAR R., CHEUNG L.K.L., WIENS E., CHEN N., CHERNOV R., SMIRNOV S.Z.

Divalent germanium in quartz: Evidence from EPR/XAFS experiments and ab initio calculations, and implications for Ge/Si systematics

10:10 - 10:30 ALFONS VAN DEN KERKHOFF, GRACIELA SOSA, SEBASTIAN ORIOLO & ANDREAS KRONZ

Quartz alteration under geological conditions as revealed by cathodoluminescence and trace element distribution

10:30 - 11:00 **Coffee break and posters**

**Theme: Stable isotope analysis of quartz**

**Chairperson: M. Reinhardt**

11:00 - 11:30 **Keynote: PACK, A., DI ROCCO, T.**

Fully automated triple oxygen isotope analyses of silicates and oxides—how and why

11:30 - 11:50 MICHAEL TATZEL, MARCUS OELZE, DANIEL A. FRICK, TOMMASO DI ROCCO, MORITZ LIESEGANG, MARIA STUFF, MICHAEL WIEDENBECK

Silicon and oxygen isotope fractionation in a silicified carbonate rock

11:50 - 12:10 ZAHNOW F., TATZEL M., SURMA J., PACK A.

Utilizing authigenic quartz for reconstructing the triple oxygen isotope composition and diagenetic temperature of saline brines

12:10 - 12:30 OSKAR SCHRAMM, TOMMASO DIROCCO, ANDREAS PACK, PATRICK, J. FRINGS, MICHAEL TATZEL

Oxygen isotopes in cherts record decreasing paleo-heat flow on Shatsky Rise (W' Pacific)

12:30-12:50 YAN YE, DANIEL J. CONLEY

What can we learn from bulk-rock and in situ silicon isotopes of Ediacaran-Cambrian chert containing sponge spicules?

12:50 - 14:00 **Lunch and posters**

**Theme: Industrial importance of quartz and quartzites**

**Chairperson: G. Sosa**

14:00 - 14:30 **Keynote: AXEL MÜLLER**

Quartz deposits and their quality definition: Assessing the current state, challenges and future prospects

14:30 - 14:50 STEFAN HERWIG GÖDEKE, MUHAMMAD 'ASRI AKMAL BIN HAJI SUHIP, AFIQ AIMAN BIN JAYA, DIETER GÖDEKE

The White Sands of Tutong: A quality silica sand deposit from Borneo

14:50 - 15:10 AXEL MÜLLER, MARCO BRÖNNER, JULIAN MENEUGE, CLAUDIA POHL, KLAUS BRAUCH, GEORGIOS TASSIS, CLAUDIA HAASE, BEN WILLIAMSON, ANA TEODORO, KERSTIN SAALMANN, JOANA CARDOSO-FERNANDES, ALEXANDRE LIMA, KATE SMITH, FRANCIS WALL, DOUGLAS SANTOS, ENCARNACIÓN RODA-ROBLES, MARIO HOPFNER, IDOIA GARATE-OLAVE, JON ERRANDONEA-MARTIN, JOHN HARROP, LAWRENCE CARTER, WILLIAM KEYSER, HAORYANG ZHOU, TEIMOOR NAZARI-DEHKORDI, ELENA GEIGER, THOMAS UNTERWEISSACHER, RALF STEINER, WOLFGANG REIMER, CARLA PUEYO LLORET

The GREENPEG project toolset to explore for buried pegmatites hosting high purity quartz and rare metals

15:10 - 15:40 **Coffee break and posters**

**Theme: Chert and the analysis of organics**

**Chairperson: J. Götze**

15:40 - 16:10 **Keynote: STEFFEN TRÜMPER, GRACIELA SOSA, MATTHIAS FRANZ, ALFONS VAN DEN KERKHOFF, ARMIN ZEH, ANDREAS KRONZ, KIRSTEN TECHMER, RONNY RÖBLER**

How nature freezes life at cell scale: novel approach reveals 200-Myr history of plant silicification

16:10 - 16:30 ARMIN ZEH, MATTHIAS FRANZ, GRACIELA SOSA, ALFONS VAN DEN KERKHOFF, STEFFEN TRÜMPER, RONNY RÖBLER

Dating petrified wood by LA-ICP-MS – challenges and implications

16:30 - 16:50 WENQING LIU, GUANGHAI SHI, ROMAN BOTCHARNIKOV, ANNE JANTSCHKE and TOBIAS HÄGER

New insights into the correlation between silica and relict organic matter of silicified wood in Qitai, Xinjiang

16:50 - 17:10 MANUEL REINHARDT, VOLKER THIEL

Rapid silicification preserved molecular characteristics of 3.42-billion-year-old carbonaceous matter (Buck Reef Chert, Barberton greenstone belt)

**Theme: Quartz in different geological environments and quartz resources**

**Chairperson: S. Trümper**

17:10 - 17:30 VOINCHET P., CHOURIO-CAMACHO D., AUPART C., DEVISMES D., RIZZA M., VALLA P., BOULAY M., RIXHON G., TRICHARD F., LACH P., TISSOUX H.

Sediment Provenance using coupled OSL, ESR, and Elemental analysis methods: insights from quartz-bearing bedrock and river sediments from the Strengbach catchment (Vosges Mountains, France)

17:30 - 17:50 ARDUIN-RODE, FIORELLA, GRACIELA SOSA, ALFONS VAN DEN KERKHOFF, YVES KRÜGER, DAVID BAJNAI, ANDREAS PACK, TOMMASO DI ROCCO, PEDRO OYHANTÇABAL, KLAUS WEMMER, DANIEL HERWARTZ, SWEA KLIPSCH, BETTINA WIEGAND, SIEGFRIED SIEGSMUND, MATHIAS HUECK

Amethyst-agate geodes from Uruguay: Combining nucleation-assisted fluid inclusion microthermometry and triple oxygen isotopes as geothermometers for low-temperature silica crystallisation

19:00 -22:00 **Conference dinner in the historical townhall (Bullerjahn)**

Wednesday, 11 September 2024

Oral presentations (Lecture room: MN15)

	<b>Theme: Quartz glass and other glass products</b>	<b>Chairperson: E. Rädlein</b>
09:00 - 09:30	<b>Keynote: G. HELSCH, B. PAIVA DA FONSECA, A. ZANDONÀ, J. DEUBENER</b>	Sol-Gel Spray-Dried Qz-ss: Extension of the glass forming ability and diversity
09:30 - 09:50	BEATRIZ PAIVA DA FONSECA, GUNDULA HELSCH, ALESSIO ZANDONÀ, JOACHIM DEUBENER	Zn and Zn/Mg-stuffed derivatives of quartz crystallized from sol-gel and melt-quenched glasses: structure and thermal expansion
09:50 - 10:20	<b>Keynote: D. GÖDEKE, H. FRIEDRICH, J. ESSER</b>	Sustainable interleaving powders for glass
10:20 - 11:00	<b>Coffee break and posters</b>	
	<b>Theme: Natural and technical glass</b>	<b>Chairperson: G. Hensch</b>
11:00 - 11:30	<b>Keynote: SHARON L. WEBB</b>	Libyan Desert Glass
11:30 - 12:15	<b>Keynote: RÄDLEIN, EDDA &amp; BROKMANN, ULRIKE (1 + 2)</b>	Current results on wet and plasma-etching during fluorine-based attack of silicate structures: Fluorine-based etching of silicate glasses
12:15 - 13:30	<b>Lunch and posters</b>	
13:30 - 14:30	<b>Honors for best posters, discussion and outlook</b>	

**POSTER SESSION (Foyer GZG)**

	<b>Theme: Quartz mineralogy and analytics</b>	
1	TISSOUX H., CHOURIO-CAMACHO D, AUPART C. 1, DEVISMES D., VOINCHET P., RIXHON G., TRICHARD F., LACH P., VALLA P., BOULAY M. , RIZZA M	Physico-chemical variability of quartz grains in various bedrock materials: insights from coupled ESR and Trace element analysis
	<b>Theme: Stable isotope analysis of quartz</b>	
2	FIGIELLA ARDUIN-RODE, MICHAEL TATZEL, GRACIELA SOSA, ALFONS VAN DEN KERKHOFF, PEDRO OYHANTÇABAL, KLAUS WEMMER, MATHIAS HUECK	Silicon isotopes in agate-amethyst geodes from Uruguay
3	FINJA GROTH, MICHAEL TATZEL	Silica sources of Lower Carboniferous cherts from the Rhenohercynian basin from petrography and silicon isotopes
	<b>Theme: Quartz in different geological environments</b>	
4	LOHMEIER S., LEHMANN B., HODGKIN A.	Boiling textures in quartz as indicators of Au content (Maricunga Belt, N-Chile)
5	BARBARA TRÄXLER	Public relations work in the field of mineral resources geology using the example of "Quartz mineral resources - we all need them" at GeoSphere Austria
6	WERDENICH MANUEL, REITNER HEINZ, SCHUSTER RALF, MELCHER FRANK, RANTITSCH GERD, MALI HEINRICH	Potential for high-quality quartz mineral resources in greenschist to amphibolite-facies Austroalpine basement units (Styria/Austria)
	<b>Theme: Quartz glass and other glass products</b>	
7	KNÜPFER, L., TECHMER, K.	Surface alteration studies of natural and technical silicious glass fibers
	<b>Theme: Chert and the analysis of organics</b>	
8	ANNE FRIEDRICH, KIRSTEN TECHMER, SHARON WEBB	Electron microscopy observations on synthetic opal and its structural changes after heat treatment
	<b>Theme: Experiments on glass and silicates</b>	
9	ABEL, A., FRIEDRICH, A., KOHLTHOFF, W. A.	Experiments on the formation of highly porous silica network structures (part of the project "Mineralogy", including film)
10	HAGEL, J. DEUBENER	Growth and dissolution rates of diopside crystals around the liquidus temperature studied by high-temperature observation (including film)

Thursday, 12 September 2024

08:00 - 18:30 **Tour D: Post-conference excursion "Glass production from raw materials to final products". Visit SCHOTT AG, Grünenplan (Holzminden), the Quarzwerke GmbH in Weferlingen. Departure by touring car from GZG, Goldschmidtstr. 1-3, Göttingen at 08:00h on time! Guided by Dr. K. TECHMER and Dr. J. WALTER**