Important dates

July 2016	1st announcement
October 2016	2nd announcement
December 1 – 2, 2016	ThermAc 2016

Contact

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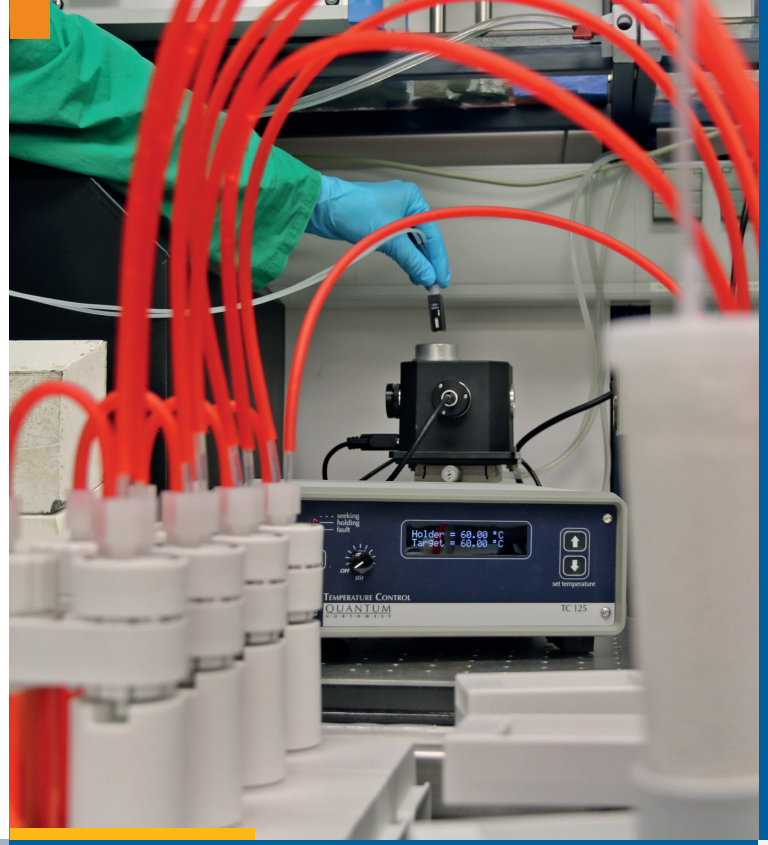

Helmholtz-Zentrum Dresden-Rossendorf, Germany
1st to 2nd December 2016

Midterm ThermAc Project Workshop on

AQUATIC ACTINIDE CHEMISTRY AND THERMODYNAMICS AT ELEVATED TEMPERATURES

HZDR

HELMHOLTZ ZENTRUM DRESDEN ROSSENDORF

Repositories for highly active heat producing waste will feature elevated temperatures over a significant period after closure. If early canister failure occurs, radionuclides therefore may contact aquatic systems at higher temperatures. For such conditions, the chemical understanding and available thermodynamic database for actinides, long-lived fission products and relevant matrix elements in aquatic systems has to be improved. To this end, a systematic use of estimation methods for thermodynamic data and model parameters will be compared to comprehensive experimental results. This allows for the validation of the estimations and quantum-chemistry based information. In addition, fundamental studies for improved process understanding of actinide chemistry at elevated temperatures are performed. Final goal is the assessment of estimation methods to set up a workable thermodynamic database for elevated temperatures with high applicability to topics relevant for nuclear waste disposal. Furthermore, it will be clarified, to which extent systems will remain critical with regard to available thermodynamic data, and which relevant processes at elevated temperatures are still not sufficiently understood.

- The number of participants is limited to 50.
- Short proceedings will be issued based on the presentations.
- New: mini poster session during lunch on Dec.2.

ThermAc partners

Marcus Altmaier	Karlsruhe Institute of Technology (Germany), Coordinator
Vinzenz Brendler	Helmholtz-Zentrum Dresden-Rossendorf (Germany)
Petra Panak	University Heidelberg (Germany)
Sven Hagemann	Gesellschaft für Reaktorsicherheit Braunschweig (Germany)
Felix Brandt	Forschungszentrum Jülich (Germany)
Sven Krüger	Technical University Munich (Germany)
Elisenda Colas	Amphos21 (Barcelona, Spain)
Tres Thoenen	Paul-Scherrer-Institut (Villigen, Switzerland)

Federal Ministry of Education and Research

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Tentative Agenda on December 1, starting at 9:00:

Benoit Made (invited) | France
Effect of the increase in temperature in the assessment of actinides behavior in the near field of storage: Approach in “ThermoChimie” database

Dan Miron | Switzerland
Current status of the PMATCH++ software for management and temperature extrapolation of thermodynamic data using the graph database concept

Wolfgang Voigt (invited) | Germany
Continuous description or model switch: Activity coefficient models in broad concentration – temperature ranges

Elisenda Colas | Spain
Entropy and enthalpy data estimation: application to An(III) and An(VI) systems

Andrey Plyasunov (invited) | Russia
Simple methods of short (up to 200°C) temperature extrapolation of equilibrium constants in aqueous media

Carola Franzen | Germany
U-Hydrolysis at higher temperatures: comparing estimations with experiments

Marcus Altmaier | Germany
Solubility and solid phase alterations of actinides at elevated temperatures

Yongliang Xiong | USA
Am(III)/Nd(III)–sulfate interactions at elevated temperatures in high ionic strength environments

Brian Powell (invited) | USA
Quantifying Eu, Np, U, and Pu sorption to hematite at elevated temperatures: Variable temperature batch sorption and calorimetry studies

Andrej Skerencak-Frech | Germany
Thermodynamics of actinides in high temperature aqueous solutions: Application of spectroscopic methods

Sven Krüger | Germany
Quantum chemical modeling of Np hydroxide and carbonate complexes

Viktor Vinograd | Germany
The thermodynamics of the system (Ra,Ba)SO4 + H2O at elevated temperatures: Combining experiment with atomistic simulations

Sven Hagemann | Germany
Determination of the redox-state of concentrated brines at elevated temperatures

Artem Matyskin | Sweden
Solubility of radium sulfate at elevated temperatures: An experimental approach

Phillipe Blanc | France
Stability of silicates (Clays) with temperature: Thermodynamic properties measurements and predictions

On December2, starting at 9:00, a resume of the workshop and potential collaborations will be discussed. At 11:00, an internal project discussion will conclude the workshop.

Information about accommodation and transport

The following hotels are recommended (all clustered near the stop of the shuttle bus):

Pullman Dresden Newa	Prager Strasse 2c 01069 Dresden +49 351 4814109 h1577@accor.com
Ibis Hotels Dresden (Bastei, Königstein, Lilienstein)	Prager Straße 5/9/13 01069 Dresden +49 351 48564856 reservierung@ibis-dresden.de
Motel One am Zwinger	Postplatz 5 01067 Dresden +49 351 438 38 0 dresden-am-zwinger@motel-one.com

Transport to HZDR and back is organized with a shuttle bus.
1st stop in Dresden is at the parking lot behind “Bastei”, 2nd one in front of Motel One. Participants staying in other hotels are expected to come to these meeting points for pick-up.

Please keep in mind that the touristic high season connected to Christmas starts end of November in Dresden.
This will render hotel room booking more and more challenging ...