

Mag. Dr. Sarah Theiner
Institute of Analytical Chemistry
University Vienna
Währinger Str. 38, 1090 Vienna, Austria

Phone: +43 1 4277 52383

Email: sarah.theiner@univie.ac.at

Scopus author ID: 56328020400



ORCID: <https://orcid.org/0000-0001-5301-0139>

Research topics

- Metallomics, ICP-MS, imaging mass spectrometry, laser ablation setups, bioimaging, anticancer drug research, speciation analysis

Research achievements in numbers (since 2014)

- 39 publications (~500 citations, h-index 14, scopus) including 3 review articles, 1 book chapter
- >30 talks and posters at national and international conferences

Academic credentials

- 12/2015 **PhD** in Chemistry (Dr. rer. naturalis), Institute of Inorganic Chemistry, University of Vienna
PhD thesis in Bioanalytical Chemistry ‘Pharmacokinetic and bioimaging studies of platinum-based anticancer complexes by ICP-MS and LA-ICP-MS’ in the frame of the ‘Translational Cancer Therapy Research Platform’
- 2012 – 2016 **PhD studies** at the University of Vienna, Institute of Inorganic Chemistry under supervision of o. Univ.-Prof. DDr. Bernhard K. Keppler
- 11/2011 **Magister** (Mag rer. nat.) in Chemistry at the University of Vienna, Diploma thesis at the University of Natural Resources and Applied Life Sciences, Vienna
Supervisor: Prof. Thomas Prohaska
- 2005 - 2011 University of Vienna: Diploma studies in Chemistry with focus on Analytical Chemistry

Appointments

since 02/2020	Post-doctoral researcher at the Institute of Analytical Chemistry, University of Vienna, group of Prof. Gunda Koellensperger
11/2019 – 01/2020	Post-doctoral researcher at the Department of Chemistry, University of Natural Resources and Applied Life Sciences, BOKU Vienna
2016 – 2019	Post-doctoral researcher at the Institute of Analytical Chemistry, University of Vienna, group of Prof. Gunda Koellensperger
10/2016 – 12/2016	Research stay in the group of Prof. Frank Vanhaecke, Department of Analytical Chemistry, Ghent University, Ghent, Belgium
2012 – 2016	PhD position at the Institute of Inorganic Chemistry, University of Vienna in the group of Prof. Bernhard K. Keppler
04/2015 – 07/2015	Research stay in the group of Prof. Paul J. Dyson, Laboratory of Organometallic and Medicinal Chemistry, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
Since 2012	Teaching assistant in introductory laboratory courses in Analytical and Inorganic Chemistry, advanced laboratory courses and seminars in Analytical Chemistry

Key research achievements and selected activities

- **2018 Förderungspreis des Fonds der Stadt Wien für innovative interdisziplinäre Krebsforschung** for the publication ‚LA-ICP-MS imaging in multicellular tumor spheroids – a novel tool in the preclinical development of metal-based anticancer drugs‘
- **2016 Award of Excellence of the Federal Ministry of Science, Research and Economy of Austria** for the best dissertations for the year 2016 for the PhD thesis ‘Pharmacokinetic and bioimaging studies of platinum-based anticancer complexes by ICP-MS and LA-ICP-MS’
- **2015 Poster award** on the International Conference on BioInorganic Chemistry (ICBIC 17) in Beijing, China, July 2015 for the poster presentation ‘Investigating tumor response and therapy-related side effects of platinum-based drug treatment in a preclinical tumor model by (LA-)ICP-MS’
- **2015 Kurzwissenschaftliches Auslandsstipendium (KWA)** from the University of Vienna for the scientific stay in the group of Prof. Paul J. Dyson at the EPFL in Lausanne, Switzerland

- Supervision and co-supervision of more than 20 students at Bachelor, Master and PhD-level including thesis writing support and laboratory training
- Referee for Analytical Chemistry (ACS), Analyst (RSC), Analytical and Bioanalytical Chemistry (Springer), Metallomics (RSC)
- 2018 Main Organizer of Young Analytical Forum of the Austrian Society of Analytical Chemistry
- Co-organizer of the 6th International Symposium on Metallomics 2017 and the Mass Spectrometry Forum 2015 and 2017 at the University of Vienna

Selected key publications

- **S. Theiner**, A. Schoeberl, A. Schweikert, B. K. Keppler, G. Koellensperger, Mass spectrometry techniques for imaging and detection of metallodrugs, *Current Opinion in Chemical Biology*, 2021, 61, 123-134, DOI: 10.1016/j.cbpa.2020.12.005
- **S. Theiner**, A. Schweikert, C. Haberler, A. Peyrl, G. Koellensperger, Laser ablation-ICP-TOFMS imaging of germ cell tumors of patients undergoing platinum-based chemotherapy, *Metallomics*, 2020, 12, 1246-1252, DOI: 10.1039/D0MT00080A
- **S. Theiner**, K. Loehr, G. Koellensperger, L. Mueller, N. Jakubowski, Single-cell analysis by use of ICP-MS, *J. Anal. At. Spectrom.*, 2020, 35, 1784-1813, DOI: 10.1039/D0JA00194E
- **S. Theiner**, A. Schweikert, S. Van Malderen, A. Schoeberl, P. Jilma, A. Peyrl, G. Koellensperger, Laser ablation-inductively coupled plasma-mass spectrometry imaging of trace elements at single-cell level for clinical practice, *Anal. Chem.*, 2019, 91(13), 8207-8212, DOI: 10.1021/acs.analchem.9b00698
- **S. Theiner**, A. Schoeberl, L. Fischer, S. Neumayer, S. Hann, G. Koellensperger, FI-ICP-TOFMS for quantification of biologically relevant trace elements in cerebrospinal fluid – high throughput at low sample volume, *Analyst*, 2019, 144, 4653-4660, DOI: 10.1039/C9AN00039A
- **S. Theiner**, A. Schoeberl, S. Neumayer, FI-ICP-TOFMS for high-throughput and low volume multi-element analysis in environmental and biological matrices, *J. Anal. At. Spectrom.*, 2019, 34(6), DOI: 10.1039/C9JA00022D
- **S. Theiner**, A. Schoeberl, L. Fischer, S. Neumayer, S. Hann, G. Koellensperger, FI-ICP-TOFMS for quantification of biologically essential trace elements in cerebrospinal fluid – high-throughput at low sample volume, 2019, *Analyst*, 144(15), 4653-4660, DOI: 10.1039/C9AN00039A

- **S. Theiner**, S. Van Malderen, T. Van Acker, A. Legin, B. Keppler, F. Vanhaecke, G. Koellensperger, Fast high-resolution LA-ICP-MS imaging of the distribution of platinum-based anticancer compounds in multicellular tumor spheroids, *Anal. Chem.*, 2017, 89(23), 12641-12645, DOI: 10.1021/acs.analchem.7b02681
- **S. Theiner**, E. Schreiber-Brynzak, M. Jakupec, M. Galanski, G. Koellensperger, B. K. Keppler, LA-ICP-MS imaging in multicellular tumor spheroids – a novel tool in the preclinical development of metal-based anticancer drugs, *Metallomics*, 2016, 8, 398-402, DOI: 10.1039/C5MT00276A
- **S. Theiner**, C. Kornauth, H. Varbanov, M. Galanski, S. Van Schoonhoven, P. Heffeter, W. Berger, A. Egger, B. Keppler, Tumor microenvironment in focus: LA-ICP-MS bioimaging of a preclinical tumor model upon treatment with platinum(IV)-based anticancer agents, *Metallomics*, 2015, 7, 1256-1264, DOI: 10.1039/C5MT00028A