Samuel K. Regli, MSc ETH Process Engineering

Born 1988-04-13, Swiss citizenship.

Experience

2020.06 - current	**NTNU, Ugelstad Laboratory,** Trondheim, Norway Senior Engineer, Management and operation of Ugelstad Laboratory, Lab development, procurements, and instrument responsibility (FT-IR, UV-vis, Fluorescence, Raman), user training, HSE e-learning course development and implementation
2016.06 – 2021.02	**NTNU, Catalysis Group KinCat,** Trondheim, Norway PhD Research Fellow, Research and characterization by *in situ* and *operando* spectroscopy (XAFS, DRIFTS, UV-Vis, Raman) of heterogeneous catalysts and processes, planning, proposing and conducting synchrotron beamtimes
2019-07 – 2019.10	**Haldor Topsøe**, **Atomic-Scale Analysis Department**, Kongens Lyngby, DK: Visiting PhD, industrial exchange with Dr. P. Beato. Dealumination study of Zeolites by Raman Spectroscopy.
2019.04 – 2019.06 & 2019.11 – 2019.12	**Paul Scherrer Institut, Applied Catalysis and Spectroscopy group,** Villigen, CH: Visiting PhD, international exchange with Dr. D. Ferri. *Operando* DRIFTS of Cu and Fe supported on mesoporous metal-oxides for NH_3-SCR
2014.10 – 2015.12	**ETH Zürich, Particle Technology Laboratory**, Zürich ZH, Switzerland. Research assistant: Supervision of undergraduate student projects, procurement and installation of a testing set-up for gas sensors, fabrication of solar cells, characterization of photocatalysts

Education

2016.06 - current	**PhD in Chemical Engineering** Norwegian University of Science and Technology Trondheim (NTNU), "Advanced *in situ* and *operando* characterization of heterogeneous catalysts for sustainable process industry" expected to defend before Summer 2021.
2013.09 – 2016.01	**Master of Science ETH in Process Engineering** Swiss Federal Institute of Technology Zürich (ETHZ) Master Thesis: "Porous polyaniline-metal oxide nanocomposites for room temperature gas sensing" Semester Thesis: "Formaldehyde Sensing for Lung Cancer Detection by Flame-made Micro-sensor Arrays" Bachelor Thesis: "Band gap tuning by annealing FSP made TiO_2-Ag/TiO_x NPs"
2010.09 – 2013.07	**Bachelor of Science in Mechanical Engineering with Specialization in Materials and Process Engineering ZHAW** University of Applied Sciences Zürich (ZHAW) Bachelor Thesis: "Cracking gas cleaning in a pilot plant for temperature swing pressure adsorption"
2008.09 –2010.08	**Materials Sciences** Swiss Federal Institute of Technology Lausanne (*EPFL*) 4 semesters

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Publications

Bjørkedal OH, Regli SK, Nuguid RJG, Vullum PE, Kröcher O, Ferri D, Rønning M. One-pot synthesis of highly dispersed mesoporous Cu/ZrO_2 catalysts for NH_3-SCR. *submitted*.

Niu J, Wang Y, Liland SE, Regli SK, Yang J, Kumar RR, Luo J, Rønning M, Jingyu R, Chen D. Unraveling enhanced activity, selectivity, and coke-resistance of Pt-Ni bimetallic clusters in dry reforming. *ACS Catalysis*. Accepted.

Duyar MS, Gallo A, Regli SK, Snider JL, Singh JA, Valle E, McEnaney J, Bent SF, Rønning M, Jaramillo TF. Understanding Selectivity in CO_2 Hydrogenation to Methanol for MoP Nanoparticle Catalysts Using In Situ Techniques. *Catalysts*. 2021, 11:143

Salman AuR, Hyrve SM, Regli SK, Zubair M, Enger BC, Lødeng R, Waller D, Rønning M. Catalytic Oxidation of NO over $LaCo_{1-x}B_xO_3$ (B = Mn, Ni) Perovskites for Nitric Acid Production. *Catalysts.* 2019**,** *9:*429.

Selected Oral and Poster Presentations

Regli SK, Rønning M. Invited Talk: "Multivariate statistical analysis of *in situ* and *operando* X-ray Absorption Spectroscopy data". ESRF User Meeting 2020, Grenoble, France

Regli SK, Fenes E, Ma H, Rout KR, Fuglerud T, Chen D, Rønning M. " Contributed Talk: "Elucidating Cu Species By *Operando* XAS – UV-Vis of $CuCl_2$ Oxychlorination Catalysts". 2019 *North American Catalysis Society Meeting*. Chicago, IL, USA.

Regli SK, Rønning M. Poster: "*Operando* XRD and XAS study of nitric oxide oxidation over supported Pt catalysts". 17th International Conference on X-ray Absorption Fine Structure - *XAFS2018*. Kraków, Poland.

Awards and Scholarships

2018.07	**Award for Outstanding Poster Presentation**, 17th International Conference on X-ray Absorption Fine Structure - *XAFS2018*. Kraków, Poland.
2014.02 – 2015.08	**Fellowship at Particle Technology Laboratory** for a period of 18 months at *ETH Zürich*, Switzerland
2013.07	**Rieter Award 2013,** Rieter Foundation Highest diploma rank within the study program *"Materials and Process Engineering"* at University of Applied Sciences Zürich

Languages

German, Swiss german	Native language
English	Proficient, Certificate of Proficiency in English (level C2)
Norwegian (Bokmål)	Fluent
French	Fluent

Main technical competencies and skills:

Experimental Methods: X-ray Absorption Spectroscopy; X-ray diffraction; UV-Vis, Infrared, Fluorescence and Raman spectroscopy; Flame Spray Pyrolysis;

Software and analysis methods: Python programming; MathWorks MATLAB; National Instruments LabVIEW; Diffrac.TOPAS; FEFF; FDMNES; Multivariate Statistical Analysis; Wavelet Transform;

Essential skills: Project planning and management, teamwork capabilities, student supervision and guidance, proposal writing as main proposer for beamtimes