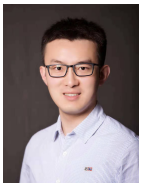
XU, HONG PH.D CANDIDATE

hong.xu@live.cn
+41 (0)7 64 64 44 26(CH)
Spitalrain 14, 5200 Brugg, Switzerland
Swiss Residence Permit B
April 1993, China

A "deep learned" Energy Researcher seeking for Business Analytics Career

EDUCATION BACKGROUND



ETH Zurich (ETH) — Zurich, Switzerland

Ph.D Candidate, Renewable Energy/CT Imaging/Big Data Analytics — 02/2017 - 11/2020(Est.)

Specialized in: Energy Research; X-ray Imaging; Image Processing; Project Management

- SNF (Swiss) & **TOYOTA** (Japan) Funded; ECS Travel Grant (by US Army Research, 2019)
- S. Courses: Renewable Energy (Teach. Assist.); Big Data Imaging; Physical Electrocatalysis
- Supervising PSI Intern in CT Image Processing and AI Image Denoising (GPU-based, tensorflow)
- Med-imaging Training at Uni. Hospital Zurich (2017); Novartis Data Science Hackathon (2019)
- **IBM** Data Science Professional Certificate (2019); **Intel**® Edge AI Scholarship Program (2020)
- **MBA Candidate** at Smartly Institute, Washington D.C. (7% admission rate, online, 2019-2020)

Technical University of Munich (TUM) — Munich, Germany

M.Sc in Materials Science, GPA 1.43/1.0; EU Erasmus+ Scholarship — 10/2014 - 10/2016

- S. Courses: Quantum Mechanics; Thermodynamics; Spectroscopy; Energy Materials; Crystals
- Master Thesis (1.3/1.0); Lab Internship (1.0/1.0); Energy Seminar Presentation (1.0/1.0)
- **EU Erasmus** Exchange in Physics at University of Rennes I, France (GPA 15.6/20)
- Neutron & X-ray School at Uni. Montpellier (2015); German Physical Society Membership (2016)

Beijing Jiaotong University (BJTU) — Beijing, China

B.Sc in Materials Chemistry, GPA 90.3/100; Innovation Scholarship — 09/2009 - 06/2013

Specialized in: Materials/Chemistry Research;

- **3** Granted **Patents**; 1 Published Papers; Bachelor Thesis (A+); 3 years Learning Scholarship;
- Finalist in TECO Green Tech Contest; Bronze in "Challenge Cup" Business Plan Competition

PROFESSIONAL EXPERIENCE

Paul Scherrer Institute (PSI, ETH domain) — Villigen, Switzerland

Doctoral Researcher, Fuel Cell Systems and Diagnostics Group (FCSD) — 12/2016 - 06/2020(Est.)

- Developed electric-fluidic rotary mechanical setup for fuel cell continuous X-ray CT imaging, and advanced big data (in TB) image reconstruction & processing pipeline based on Python & Machine Learning
- Achieved uniquely superfast (0.1s/10Hz) and high spatial (2-3μm) resolution operando X-ray CT Imaging for fuel cell in collaboration with TOMCAT beamline at Swiss Light Source (SLS).

Toyota Motor Europe S.A. (TME) — Brussels, Belgium

Industrial Collaborator, Fuel Cell Research and Imaging — 05/2017 - 02/2019

- Facilitated collaboration with industrial giant in fuel cell vehicle field and coordinated Toyota funded project for investigation of novel MPL materials and water transport mode in fuel cell.
- Published co-papers in fuel cell fast operando X-ray CT imaging (J. Power Sources, 2019) and sub-second & sub-micron X-ray CT imaging (ECS Trans. 2019, accepted).

Infineon Technologies AG (INFINEON) — Munich, Germany

Industrial Internship, Failure Analysis of Semiconductors — 12/2015 - 06/2016

- Involved in quality management with specialized in failure analysis of thermal and electrical stressed Infineon developed semiconductor chips.
- Statistically analyzed the electronic behaviors of stressed Infineon chips for performance optimizations and quality control processes.

École des Ponts ParisTech (ENPC) — Paris, France

Modelling Trainee, Lab of Water, Environment & Urban System — 08/2015 - 09/2015

- Trained on the cyanobacteria matlab modelling system developed by LEESU and aimed to apply it into controlling system of lakes and rivers in China.
- Calibrated parameters in the specific models by using local meteorological data and predicted the cyanobacterial blooms for Yuqiao reservoir in Tianjin, China.

European X-ray Free Electron Laser GmbH (XFEL) Hamburg, Germany

Mechanical Intern, Materials Imaging & Dynamics Group (MID) 05/2015 - 07/2015

・Designed mechanical configuration of the test-stand for the split and delay line (SDL) of European XFEL with technical requirements consideration under ultra-high vacuum.

・Assembled the test-stand for SDL and tested its vacuum degree, furthermore fabricated Lemo cables and tested the parasitic motion of linear translation stage based on python.

PUBLICATIONS

Selected Papers

・*H. Xu[PSI], M. Bührer, F. Marone, S. Nagashima[Toyota], H. Nguyen, K. Kishita, F. N. Büchi, J. Eller. *Exploring Sub-Second and Sub-Micron X-ray Tomographic Imaging of Liquid Water in PEFC Gas Diffusion Layers [J].* ECS Trans. 92(8), 11-21 (2019).

・Y. Nagai[Toyota], J. Eller[PSI], T. Hatanaka, S. Yamaguchi, S. Kato, A. Kato, F. Marone, *H. Xu[PSI], F. N. Büchi. *Improving water management in fuel cells through microporous layer modifications: Fast operando tomographic imaging of liquid water [J].* J. Power Sources, 435, 226809 (2019).

・*H. Xu[PSI], M. Bührer, F. Marone, Prof. T. J. Schmidt, F. N. Büchi, J. Eller. *Fighting the Noise: Towards the Limits of Subsecond X-ray Tomographic Microscopy of PEFC [J].* ECS Trans. 80(8), 395-402 (2017).

・Prof. H. Zhang, R. Wu, *H. Xu et al., *A simple spray reaction synthesis and characterization of hierarchically porous SnO2 microspheres for an enhanced dye sensitized solar cell* [J]. RSC Adv., 7, 12446-12454 (2017).

National Patents [China]

・Prof. M. Fu, H. Zhang, *H. Xu, L. Yan. Annular gas-liquid interface jigging magnetic separation device [P]. Chinese Patent Grant: CN102441489A (2013), National Patent Bureau, Beijing, China.

・Prof. H. Zhang, *H. Xu, M. Fu, L. Yan. *Gas-liquid interface jigging magnetic separation controllable annular device capable of continuously operating* [P]. Chinese Patent Grant: CN102441490B (2013), National Patent Bureau, Beijing, China.

・X. Zhou, *H. Xu, Prof. H. Jiang, X. Qi. *Ultrasonic-photocatalytic oxidation coupled fruit and vegetable cleaning device* [P]. Chinese Patent Grant: CN202311136U (2012), National Patent Bureau, Beijing, China.

TALKS

Selected Talks

・236th Electrochemical Society (ECS) Annual Meeting. Atlanta, USA (2019).

・8th Int. Conference on Fundamentals and Development of Fuel Cells. Nantes, France (2019).

・6th European PEFC & Electrolyser Forum. Lucerne, Switzerland (2017).

HONORS AND AWARDS

International & Domestic

・2018 **Poster Prize Award**, *ModVal 2018 Conference Committee, Aarau, Switzerland.*

・2015 Erasmus+ Scholarship, *European Education & Culture Executive Agency.*

・2012 Finalist in TECO Green Tech Contest, *TECO Foundation, Taipei.*

・2012 **Bronze** in 8th CHALLENGE CUP Business Plan Competition, *Ministry of Edu. of China.*

・2012 Innovation Scholarship, *BJTU, Beijing, China.*

・2010 Learning Scholarship (for 3 years), *BJTU, Beijing, China.*

・2010 Excellent Member of Student Union, *BJTU*, Beijing, China

TECHNICAL SKILLS

Programming & Softwares

・Python for big data analysis, image processing; Matlab for modelling

・3DSlicer; ImageJ; LaTex; Mathmatica; Inventor; AutoCAD; SQL; Adobe PS; Final Cut Pro

LANGUAGES AND HOBBIES

・English (fluent, C1), Chinese (native, C2), German (basic, A2), French (basic, A2)

・Photography (https://xgraphy.github.io), Video Editing, hiking, Table Tennis, Chinese Cuisines

SIGNATURE

Xu, Hong (徐泓)