

# Andrzej Gładysiak, Ph.D.



## Scientific experience

11.2020–now

### **Post-doc in Chemical Engineering**

Columbia University in the City of New York, United States of America  
supervisor: Prof. Ah-Hyung Alissa Park

- [20] [A. Gładysiak](#), G. Rim, T. G. Feric, and A.-H. A. Park, Chemistry and design principles of metal–organic frameworks based materials for CO<sub>2</sub> capture, *in preparation*.

10.2015–12.2019

### **PhD in Chemistry and Chemical Engineering**

École polytechnique fédérale de Lausanne, Sion, Switzerland  
supervisors: Dr. Kyriakos C. Stylianou and Prof. Berend Smit

- [19] [A. Gładysiak](#), S. M. Moosavi, L. Sarkisov, B. Smit, and K. C. Stylianou, Guest-dependent negative thermal expansion in a lanthanide-based metal–organic framework, *CrystEngComm*, **21**, 5292–5298, (2019).
- [18] [A. Gładysiak](#), T. N. Nguyen, R. Bounds, A. Zacharia, G. Itskos, J. A. Reimer, and K. C. Stylianou, Temperature-dependent interchromophoric interaction in a fluorescent pyrene-based metal–organic framework, *Chem. Sci.*, **10**, 6140–6148, (2019).
- [17] [A. Gładysiak](#), T. N. Nguyen, M. Spodaryk, J.-H. Lee, J. B. Neaton, A. Züttel, and K. C. Stylianou, Incarceration of Iodine in a Pyrene-Based Metal–Organic Framework, *Chem. Eur. J.*, **25**, 501–506, (2019).
- [16] [A. Gładysiak](#), K. S. Deeg, I. Dovgaliuk, A. Chidambaram, K. Ordiz, P. G. Boyd, S. M. Moosavi, D. Ongari, J. A. R. Navarro, B. Smit, and K. C. Stylianou, Biporous Metal–Organic Framework with Tunable CO<sub>2</sub>/CH<sub>4</sub> Separation Performance Facilitated by Intrinsic Flexibility, *ACS Appl. Mater. Interfaces*, **10**, 36144–36156, (2018).
- [15] [A. Gładysiak](#), T. N. Nguyen, S. L. Anderson, P. G. Boyd, R. G. Palgrave, J. Bacsá, B. Smit, M. J. Rosseinsky, and K. C. Stylianou, Shedding Light on the Protonation States and Location of Protonated N Atoms of Adenine in Metal–Organic Frameworks, *Inorg. Chem.*, **57**, 1888–1900, (2018).
- [14] [A. Gładysiak](#), T. N. Nguyen, J. A. R. Navarro, M. J. Rosseinsky, and K. C. Stylianou, A Recyclable Metal–Organic Framework as a Dual Detector and Adsorbent for Ammonia, *Chem. Eur. J.*, **23**, 13602–13606, (2017).
- [13] S. L. Anderson, [A. Gładysiak](#), P. G. Boyd, C. Ireland, P. Miéville, D. Tiana, B. Vlaisavljevich, P. Schouwink, W. van Beek, K. J. Gagnon, B. Smit, and K. C. Stylianou, Formation pathways of metal–organic frameworks proceeding through partial dissolution of the metastable phase, *CrystEngComm*, **19**, 3407–3413, (2017).

10.2010–06.2015

### **BSc and MSc in Chemistry, *maxima cum laude***

Adam Mickiewicz University in Poznań, Poland  
supervisor: Prof. Andrzej Katrusiak

- [12] W. Cai, [A. Gładysiak](#), M. Anioła, V. J. Smith, L. J. Barbour, and A. Katrusiak, Giant Negative Area Compressibility Tunable in a Soft Porous Framework Material, *J. Am. Chem. Soc.*, **137**, 9296–9301, (2015).

### **Other publications**

- [11] S. Sudan, A. Gładysiak, B. Valizadeh, J. H. Lee, and K. C. Stylianou, *Inorg. Chem.*, **59**, 9029–9036, (2020).
- [10] T. N. Nguyen, S. V. Eliseeva, A. Gładysiak, S. Petoud, and K. C. Stylianou, *J. Mater. Chem. A*, **8**, 10188–10192, (2020).
- [9] S. Sobczak, A. Pólrolniczak, P. Ratajczyk, W. Cai, A. Gładysiak, V. I. Nikolayenko, D. C. Castell, L. J. Barbour, and A. Katrusiak, *Chem. Commun.*, **56**, 4324–4327, (2020).
- [8] S. L. Anderson, D. Tiana, C. P. Ireland, G. Capano, M. Fumanal, A. Gładysiak, S. Kampouri, A. Rahmanudin, N. Guijarro, K. Sivula, K. C. Stylianou, and B. Smit, *Chem. Sci.*, **11**, 4164–4170, (2020).
- [7] P. G. Boyd, A. Chidambaram, E. García-Díez, C. P. Ireland, T. D. Daff, R. Bounds, A. Gładysiak, P. Schouwink, S. M. Moosavi, M. M. Maroto-Valer, J. A. Reimer, J. A. R. Navarro, T. K. Woo, S. Garcia, K. C. Stylianou, and B. Smit, *Nature*, **576**, 253–256, (2019).
- [6] S. L. Anderson, P. G. Boyd, A. Gładysiak, T. N. Nguyen, R. G. Palgrave, D. Kubicki, L. Emsley, D. Bradshaw, M. J. Rosseinsky, B. Smit, and K. C. Stylianou, *Nat. Commun.*, **10**, 1612, (2019).
- [5] F. P. Kinik, T. N. Nguyen, E. Oveisi, B. Valizadeh, F. Ebrahim, A. Gładysiak, M. Mensi, and K. C. Stylianou, *J. Mater. Chem. A*, **7**, 23830–23837, (2019).
- [4] F. M. Ebrahim, T. N. Nguyen, S. Shyshkanov, A. Gładysiak, P. Favre, A. Zacharia, G. Itskos, P. J. Dyson, and K. C. Stylianou, *J. Am. Chem. Soc.*, **141**, 3052–3058 (2019).
- [3] T. N. Nguyen, G. Capano, A. Gładysiak, F. M. Ebrahim, S. V. Eliseeva, A. Chidambaram, B. Valizadeh, S. Petoud, B. Smit, and K. C. Stylianou, *Chem. Commun.*, **54**, 6816–6819, (2018).
- [2] M. Witman, S. Ling, A. Gładysiak, K. C. Stylianou, B. Smit, B. Slater, and M. Haranczyk, *J. Phys. Chem. C*, **121**, 1171–1181, (2017).
- [1] P. A. Guńka, K. F. Dziubek, A. Gładysiak, M. Dranka, J. Piechota, M. Hanfland, A. Katrusiak, and J. Zachara, *Cryst. Growth Des.*, **15**, 3740–3745, (2015).

### **External courses**

- 08.2018 Crystallography Online: structural tools of the Bilbao Crystallographic Server  
31st European Crystallographic Meeting satellite, Oviedo, Spain
- 10.2017 33rd Ad Hoc Workshop on Jana2006: Modulated structures for chemists  
Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic
- 06.2017 Zurich School of Crystallography  
University of Zurich, Switzerland  
*awarded with the 1st prize for the best young crystallographer*
- 09.2016 Synchrotron Radiation School  
Diamond Light Source, Didcot, UK
- 07.2014 Summer Workshop on Solid State Physics and Chemistry  
Institute of Low Temperature and Structural Research in Wrocław, Poland

### **Conferences**

- 09.2019 Annual Meeting of the Swiss Crystallographic Society (oral presentation [14])
- 07.2019 4th UK Porous Materials Conference (poster presentation [14])
- 09.2018 Annual Meeting of the Swiss Crystallographic Society (poster presentation [15])
- 08.2018 31st European Crystallographic Meeting (poster presentation [12])
- 04.2015 8th Frolic Goats Workshop on High-Pressure X-Ray Diffraction (oral presentation [8])

### **Teaching experience**

co-supervision of the MSc thesis of Mr. Sylvain Sudan (2018/2019)

supervision of laboratory works for BSc students in Chemistry and Chemical Engineering (4 semesters in total)

### **Skills**

experimental techniques, advanced experience: Synthesis of Porous Metal–Organic Frameworks, Organic Synthesis, Crystallization, Single-Crystal X-ray Diffraction Analysis, Powder X-ray Diffraction Analysis, Thermogravimetric Analysis, Infrared Spectroscopy and other solid-state characterization techniques

experimental techniques, basic experience: Scanning Electron Microscopy, Nuclear Magnetic Resonance Spectroscopy, Gas Adsorption Analysis, X-ray Absorption Near Edge Structure Spectroscopy, Extended X-Ray Absorption Fine Structure Spectroscopy

experimental apparatus: Schlenk line, glove box, gas-pressure environment cell [16], diamond-anvil cell

software, crystallography related: CrysAlisPRO, APEX3, XPREP, XP, SHELX, Jana2006, Olex2, Platon, ConQuest, Mercury, Diamond, Eva, FOX, FullProf, ToposPro

software, other: MS Office, OriginPro, ChemDraw, Athena

### **Experience at synchrotron facilities**

European Synchrotron Radiation Facility, Grenoble, France

- BM01, single-crystal and powder X-ray diffraction: 02–03.05.2016; 13–14.07.2016; 30.07–01.08.2016; 29–30.08.2016; 31.10–01.11.2016; 12–14.03.2017; 11–14.04.2017; 03–09.05.2017; 01–06.12.2017; 28–31.01.2018; 09–15.04.2018
- BM31, powder X-ray diffraction: 06–08.11.2016

Diamond Light Source, Didcot, UK

- B18, X-ray absorption spectroscopy: 21–23.04.2017
- I12, high-energy powder X-ray diffraction: 17–19.09.2017

### **Awards**

05.2019	Travel grant of the Swiss Crystallographic Society
04.2018	Chemistry Travel Award by the “Platform Chemistry” of the Swiss Academy of Sciences (SCNAT) and the Swiss Chemical Society (SCS)
10.2015	Medal of the Adam Mickiewicz University in Poznań for the outstanding achievements in science and distinctive participation in life of the University
06.2014	2nd place in the National Crystallographic Olympiad, organized by the Committee of Crystallography of the Polish Academy of Sciences

### **Membership in scientific societies**

Swiss Crystallographic Society

### **Languages**

English (fluent); French (fluent); Russian (communicative); Polish (native)