

## CURRICULUM VITAE

### PERSONAL INFORMATION

Andrei Honciuc, Ph.D.  
Senior Scientist (CS II)  
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Google Scholar ID: Andrei Honciuc



### EDUCATION

09/2001 – 08/2006 PhD in Chemistry, The University of Alabama, USA  
10/1997 – 06/2001 Diploma Chemistry & Physics, Universitatea “Al. I. Cuza”, Romania  
09/1993 - 09/1997 High School Baccalaureate, Colegiul Național “Roman-Vodă”, Roman, Romania

### EMPLOYMENT HISTORY

01/2020 – present Senior Scientist (CSII), "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania  
03/2014 – 10/2019 Professor and head of research group „New Materials“, Institute of Chemistry & Biotechnology, Zurich University of Applied Sciences (ZHAW), Switzerland  
05/2011-03/2014 Chemist, Laboratory leader and Manager R&D, BASF SE, Ludwigshafen, Germania  
02/2009-04/2011 Alexander von Humboldt postdoctoral fellow of the Alexander von Humboldt Foundation, Friedrich-Alexander University, Erlangen, Germany  
10/2006-02/2009 Research assistant (postdoc), Chemical Engineering Department, University of Colorado, Boulder, USA

### AWARDS & ACCOLADES

2007 Outstanding Graduate Student Award, University of Alabama, USA  
2008 Outstanding Dissertation Award, University of Alabama, USA  
2008 Award of merit, University of Alabama, USA  
2009 Humboldt Fellowship, from Alexander von Humboldt Foundation, Germania  
2014 Metrohm Foundation Endowment, Metrohm Foundation, Switzerland

**SCIENTIFIC ACTIVITY:** 32 peer review journal articles, 1 book chapter (Springer), 1 book (Elsevier), ca. 40 patents and published patent applications, Hirsch-index 17, 597 citations (Web of Science, 02.06.2021)

## **CHAired CONFERENCE**

“Polymer, Colloids and Interfaces” Section of Swiss Chemical Society, Fall National Meeting, 15.09.2016, Irchel Campus, University of Zurich

## **TEACHING ACTIVITIES**

- “Nanotechnology and Functional Surfaces” 2015 – 2019 (ZHAW)
- “General Chemistry” Laboratory Course 2014 – 2019 (ZHAW)
- “Colloids: Fundamentals and Practical Applications” SEPAWA Summer school training for -formulators and students in the industry, 31.08.-04.09.2015 (ZHAW)
- “Scanning Electron Microscopy and its Application in Powder Analytics” SEPAWA Summer school training for formulators and students in the industry, 05.09.-09.09.2016 (ZHAW)

## **SUPERVISED STUDENTS AND POSTDOCTORANDS**

Students: Dac Ngan Nguyen Giang (2019), Oliver Pauli (2019), Tristan Kipfer (2018), Gioele Moll (2018), Simon Burgener (2017), Michel Gion Flurin (2016), Anto Udovicic (2016), Lorena Moll (2015), Roman Zambail (2015)

Postdoctorands: Voichita Mihali PhD (2016 – 2020), Chengjun Kang PhD (2016-2018), Dalin Wu PhD (2015 – 2018), Vanessa Rullaud PhD (2015-2016), Manolis Tzirakis PhD (2014-2015)

Co-supervised students: Yong Zen Tan (2015-2016) and Thien Ahn Trinh (2015), with Assoc. Prof. Jia-wei Chew from Nanyang Technical University (NTU), Singapore

## **PROJECT MANAGEMENT EXPERIENCE**

2022-2024 “Employing “PEmPTech” in the Synthesis of Ion-Imprinted Polymer Architectures for Metal Ion Extraction from Wastewaters and Hydro Mining” (PEmPTech), Role: director/coordinator, financed by the Romanian Ministry of Research, Innovation and Digitalization, Budget: 1200000 RON, <https://icmpp.ro/projects/17/about.php?id=55>

2022-2024 “Tranzistor cu efect de câmp organic flexibil și nanostructurat pentru detecție UV-vis” (FLEXOFET), Beneficiary National Institute of Materials Physics (INCDFM), Partner institution ICMPP, Role: director partner team ICMPP, financed by the Romanian Ministry of Research, Innovation and Digitalization, Budget ICMPP: 170000 RON, <https://infim.ro/en/project/tranzistor-cu-efect-de-camp-organic-flexibil-si-nanostructurat-pentru-detectie-uv-vis/>

2022-2024 “Semiconducting Nanocomposites Based on Conjugated Polymers and Multifunctional Janus Nanoparticles as Novel Type of Filler” (PolySEM), Role: senior member, financed by the Romanian Ministry of Research, Innovation and Digitalization, Budget: 450000 RON, <https://icmpp.ro/projects/17/about.php?id=62>

2021-2022 “NanoTraPPED” – Development of a Method for Measuring the Surface Energy of Nanoparticles, Role: director/coordinator, Project Nr. 200021\_188465, financed by Swiss National Science Foundation, Budget total: 136'000 CHF, <https://data.snf.ch/grants/grant/188465>

2019-2020 “Development of high-performance surfactants”, Role: director/coordinator, financed de AdvanSix Inc., USA, Budget: 195000 CHF

2016 “High-performance oxygen-sensing layers based on nanoparticles“, Role: director of the partner team, Project Nr. 19112.1 PFSATW-NM financed by the Commission for Technology and Innovation, Switzerland, Budget ZHAW: 16000 CHF, <https://www.aramis.admin.ch/Beteiligte/?ProjectID=39063>

2015-2018 “Intensified by Design® for the intensification of processes involving solids handling” H2020 – SPIRE – 2015 - IbD Intensified by Design GA -680565, Role: project member WP4, beneficiary Iris Technology Solutions, Sociedad Limidada, financed by European Commission, Total Budget: 10986653 Euro, Budget ZHAW: 966563 CHF, <https://cordis.europa.eu/project/id/680565>

**ACTIVE MEMBERSHIPS:** American Chemical Society

**LANGUAGES** English (fluent), German (fluent), Romanian (native)

**OTHER COMPETENCES:** Labview, Python, digital electronic circuits

## BOOKS

- Andrei Honciuc, “Chemistry of Functional Materials Surfaces and Interfaces: Fundamentals and Applications”, **2021**, 1<sup>st</sup> Edition, Elsevier, 1-298, ISBN: 9780128210598
- Andrei Honciuc, Mirela Honciuc, eds., Morphological Design and Synthesis of Nanoparticles, MDPI, Basel, **2024**, ISBN: 978-3-7258-0395-8

## BOOK CHAPTER

- Andrei Honciuc „*Amphiphilic Janus Particles at Interfaces*” in „*Flowing Matter*” Edited by Federico Toschi, Ignacio Pagonabaraga, Nuno Araujo, Marisol Ripoll and Marcello Sega, Springer, 2018

## SELECTED ARTICLES (peer reviewed)

- C. Kang; A. Honciuc\* "Self-Assembly of Janus Nanoparticles into Transformable Suprastructures" *J. Phys. Chem. Lett.*, **2018**, 9 (6), 1415–1421
- C. Kang, A. Honciuc\* "Influence of Geometries on the Assembly of Snowman-Shaped Janus Nanoparticles" *ACS Nano* **2018**, 12(4), 3741-3750, DOI: 10.1021/acsnano.8b00960
- C. Kang; A. Honciuc\* “Growth of Nano- Microcolloidal Architectures from Janus Seeds by ATRP” *Chem. Mater.*, **2018**, DOI: 10.1021/acs.chemmater.8b02946
- C. Kang, A. Honciuc\* “Versatile Tri-Block Janus Nanoparticles: Synthesis and Self-Assembly”, *Chem. Mater.* **2019**, 31, 5, 1688-1695

- V. Mihali & A. Honciuc\* “Evolution of Self-Organized Microcapsules with Variable Conductivities from Self-Assembled Nanoparticles at Interfaces” ACS Nano **2019**, 13, 3, 3483-3491
- A. Honciuc, A.-M. Solonaru, M. Honciuc, Pickering Emulsion Polymerization Technology—Toward Nanostructured Materials for Applications in Metal Ion Extractions from Wastewaters, ACS Appl. Polym. Mater. **2023**, 5, 8012–8022. <https://doi.org/10.1021/acsapm.3c01267>.
- A. Honciuc, A.-M. Solonaru, M. Honciuc, Water-Floating Hydrogel Polymer Microsphere Composites for Application in Hydrological Mining of Cu(II) Ions, Nanomaterials **2023**, 13. <https://doi.org/10.3390/nano13192619>.
- A. Honciuc, M. Honciuc, A.-M. Solonaru, Reversible Cu-Nanoparticle Formation in Soft Hydrogel Composites: Towards Write-Erase Displays and Fluorescence Detection, Journal of Colloid and Interface Science **2024**, 668 37–49. <https://doi.org/10.1016/j.jcis.2024.04.147>.

## SELECTED PATENTS

- Klipp, A. Honciuc, C.-Y. Yang “The Use of Surfactants Having at Least Three Short-Chain Perfluorinated Groups in Formulations for Photo Mask Cleaning” **US9891520 B2**, 13.02.2018;
- A. Klipp, A. Honciuc, G. Oetter, C. Bittner “Use of Compositions Comprising a Surfactant and a Hydrophobizer for Avoiding Pattern Collapse When Treating Patterned Materials with Line-Space Dimensions of 50 nm or Below” **US 9557652 B2**, 31.01.2017;
- A. Klipp, A. Honciuc, G. Oetter, C. Bittner “Compositions for Anti-Pattern Collapse Treatment Comprising Gemini Additives” European patent **EP 2872948 B1**, 11.10.2017
- B. Christian; O. Guenter; A. Honciuc, A Klipp, S. Braun “Defect Reduction Rinse Solution Containing Ammonium Salts of Sulfoesters” **US 10538724 B2**, 21.01.2020
- E Asirvatham, A Honciuc, V Mihali, “Siloxane derivatives of amino acids having surface-active properties” – **US11008348B2**, 2021, Publication Date: 25 February 2021
- E. Asirvatham, A. Honciuc, V. Mihali, “Branched Amino Acid Surfactants”, **US11,897,834 B2**, 13.02.2023
- E. Asirvatham, A. Honciuc, V. Mihali, “Amino Acid Surfactants”, **US11,731,937 B2** 22.08.2023

20.05.2024

*Andrei Honciuc*