

# Scientific Curriculum Vitae

April 2020

## Zbigniew Rozynek

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## Education and work experience

- 10/2019 - present Associate professor, Faculty of Physics, AMU, Poznań, Poland
- 08/2018 - present Co-founder and CSO of a start-up company, CADENAS, Poznań, Poland
- 09/2018 - 08/2019 Fulbright scholar, SEAS, Harvard University, Cambridge, USA
- 09/2015 - 09/2019 Post-doc, Faculty of Physics, AMU, Poznań, Poland
- 05/2015 - 05/2017 Co-founder and CSO of a start-up company, XTPL, Wrocław, Poland
- 09/2013 - 08/2015 Post-doc, Institute of Physical Chemistry, PAS, Warsaw, Poland
- 10/2011 - 10/2013 Post-doc, Dept. of Physics, NTNU, Trondheim, Norway
- 09/2007 - 10/2011 PhD candidate, Dept. of Physics, NTNU, Trondheim, Norway
- 09/2006 - 09/2007 Early Stage Researcher, Austrian Research Center, Profactor, Austria
- 01/2006 - 06/2006 Master's thesis, Adv. Tech. Inst., Surrey University, Guildford, UK
- 08/2004 - 06/2006 Master student, Dept. of Physics, LiU, Linköping, Sweden
- 09/1999 - 06/2004 Bachelor student, Inst. of Mathematics and Physics, UTP, Bydgoszcz, Poland
- 06/2012 - 08/2012 Visiting researcher, Dept. of Mech. Eng., PUC-Rio, Rio de Janeiro, Brazil
- 03/2012 - 04/2012 Visiting researcher, Dept. of Physics, UH, Havana, Cuba
- 02/2010 - 07/2015 Several visits at IFE, Kjeller, Norway
- 12/2007 - 05/2015 Several visits at UiO, Oslo, Norway
- 12/2007 - 12/2012 Several visits at MAX-Lab, Lund, Sweden
- 07/2007 - 03/2012 Several visits at ESRE, Grenoble, France

## Research projects

„*Electric field driven propulsion and collective dynamics of homogeneous and patchy colloidal capsules*”, 2 years

Source of financing: European Commission (H2020-MSCA-IF-2016), Project coordinator

„*Mechanical properties, specific release and motility of patchy colloidosomes*”, 3 years

Source of financing: The Polish National Science Centre (OPUS), Principal Investigator

„*The development of an innovative process for the preparation of a new generation of TCF layers...*”, 3 years

Source of financing: The Polish National Centre for Research and Development (FAST TRACK), Project co-investigator

„*Mechanical properties and instability of Pickering films and emulsions*”, 2 years

Source of financing: The Polish National Science Centre (FUGA), Principal Investigator

„*A new approach to fabricating various colloidal shells and Pickering emulsions*”, 2 years

Source of financing: The Foundation for Polish Science (HOMING PLUS), Principal Investigator

„*Sorption and Migration of CO<sub>2</sub> in Porous Media*”, 2 years

Source of financing: The Research Council of Norway (CLIMIT), Project co-investigator

„*Interconnected Physical Phenomena as Manifested in Nano-layered Silicates*”, 4 years

Source of financing: The Research Council of Norway (FRINAT), Project co-investigator

## Publications

(Web of Science) *h*-index: **15**, sum of times cited: **663** without self-citations: **561**

(Google Scholar) *h*-index: **16**, Times cited: **860**

Average citations per item: **16.4**, IF per publication: **4.6**

1. T Kubiak, J Banaszak, A Józefczak and Z. Rozynek, Direction-specific release from capsules with homogeneous or Janus shells using an ultrasound approach.  
*ACS Appl. Mater. Interfaces*, **12**, 13, 15810-15822 (2020)
2. A Mikkelsen and Z. Rozynek, Mechanical properties of particle films on curved interfaces probed through electric field induced wrinkling of particle shells.  
*ACS Appl. Mater. Interfaces* **11**, 32, 29396–29407 (2019)
3. Z. Rozynek, K Khobaib and A Mikkelsen, Opening and closing of particle shells on droplets via electric fields and its applications.  
*ACS Appl. Mater. Interfaces* **11**, 25, 22840–22850 (2019)
4. R Bielas, Z. Rozynek and A Józefczak, Ultrasound control of oil-in-oil Pickering emulsions preparation.  
*J. Phys. D: Appl. Phys.* **53**, 085301 (2019)
5. Z. Rozynek, R Bielas and A Józefczak, Efficient formation of oil-in-oil Pickering emulsions with narrow size distributions by using electric fields.  
*Soft Matter* **14**, 5140–5149 (2018)
6. A Mikkelsen, K Khobaib, F.K. Eriksen, K.J. Måløy and Z. Rozynek, Particle-covered drops in electric fields: Drop deformation and surface particle organization.  
*Soft Matter* **14**, 5442–5451 (2018)
7. A. Mikkelsen, A. Kertmen, K. Khobaib, M. Rajňák, J. Kurimský and Z. Rozynek, Assembly of 1D granular structures from sulfonated polystyrene microparticles.  
*Materials* **10(10)**, 1212 (2017)
8. F. Dutka, Z. Rozynek and M. Napiórkowski, Continuous and discontinuous morphological transitions between capillary bridges on a beaded chain pulled out from a liquid.  
*Soft Matter* **13**, 4698–4708 (2017)
9. A. Mikkelsen, Z. Rozynek, K. Khobaib, P. Dommersnes and J.O. Fossum: Transient deformation dynamics of particle laden droplets in electric field.  
*Colloid Surface A* **532**, 252–256 (2017)
10. Z. Rozynek, M. Han, F. Dutka, P. Garstecki, A. Józefczak and E. Lujten: Formation of printable granular and colloidal chains through capillary effects and dielectrophoresis.  
*Nat. Commun.* **8**, 15255 (2017)
11. E C Santos, Z. Rozynek et al.: Ciprofloxacin intercalated in fluorohectorite clay: Identical pure drug activity & toxicity with higher adsorption & controlled release rate.  
*RSC Advances*, **7**, 26537 (2017)
12. A. Mikkelsen, P. Dommersnes, Z. Rozynek, A. Gholamipour-Shirazi, M. Carvalho and J.O. Fossum: Mechanics of Pickering drops probed by electric field–induced stress.  
*Materials* **10(4)**, 436 (2017)
13. A. Mikkelsen, J. Wojciechowski, M. Rajňák, J. Kurimský, K. Khobaib, A. Kertmen, Z. Rozynek: Electric field-driven assembly of sulfonated polystyrene microspheres.  
*Materials* **10(4)**, 329 (2017)
14. A. Józefczak, K. Kaczmarek, M. Kubovčíková, Z. Rozynek, T. Hornowski: The effect of magnetic nanoparticles on the acoustic properties of tissue-mimicking agar-gel phantoms.  
*J. Magn. Magn. Mater.* **431**, 172–175 (2017)
15. Z. Rozynek, M. Kaczmarek-Klinowska and A. Magdziarz: Assembly and Rearrangement of Particles Confined at a Surface of a Droplet, and Intruder Motion in Electro-Shaken Particle Films.  
*Materials* **9(8)**, 679 (2016)
16. Z. Rozynek and A. Józefczak: Patchy colloidosomes – an emerging class of structures.  
*Eur. Phys. J. ST.* **225**, 743–758 (2016)
17. A. Józefczak, K. Kaczmarek, T. Hornowski, M. Kubovčíková, Z. Rozynek, M. Timko, A. Skumiel: Magnetic nanoparticles for enhancing the effectiveness of ultrasonic hyperthermia.  
*Appl. Phys. Lett.* **108**, 263701 (2016)

18. A. Rivera, L. Valdés, J. Jiménez, I. Pérez, A. Lam, E. Altshuler, L. Ménorval, J.O. Fossum, E. Hansen, Z. Rozynek Smectite as Ciprofloxacin Delivery System: Intercalation and Temperature-Controlled Release Properties. *Appl. Clay Sci.* **124-125**, 150–156 (2016)
19. R. Castberg, Z. Rozynek, K.J. Måløy, E.G. Flekkøy: Electric alignment of plate shaped clay aggregates in oils. *Frontiers in Physics* **4**:1 (2016)
20. L. Michels, J.O. Fossum, Z. Rozynek, et al.: Intercalation and Retention of Carbon Dioxide in a Smectite Clay promoted by Interlayer Cations. *Sci. Rep.* **5**:8775 (2015)
21. Z. Rozynek, A. Mikkelsen, P. Dommersnes and J.O. Fossum: Electroformation of Janus and Patchy Capsules. *Nat. Commun.* **5**, 3945 (2014)
22. Z. Rozynek, P. Dommersnes, A. Mikkelsen, L. Michels and J.O. Fossum: Electrohydrodynamic controlled assembly and fracturing of thin colloidal particle films confined at drop interfaces. *E. Phys. J. ST*, **223**, 1859–1867 (2014)
23. G. Grassi, L. Michels, Z. Rozynek, et al.: Cation exchange dynamics confined in a synthetic clay mineral. *Eur. Phys. J. ST* **223**, 1883–1893 (2014)
24. Z. Rozynek et al.: Organoclay polypropylene nanocomposites under different electric field strengths. *Appl. Clay Sci.* **96**, 67–72 (2014)
25. P. Dommersnes, Z. Rozynek, et al.: Active structuring of colloidal armour on liquid drops. *Nat. Commun.* **4**, 2066–2066, (2013)
26. Z. Rozynek, R. Castberg, J. O. Fossum and A. Mikkelsen: In-situ monitoring of local bulk water contents and orientational order in paraffin/clay nanocomposites. *J. Mat. Res.* **28**, 1349–1355, (2013)
27. Z. Rozynek, et al.: Electric-field-induced structuring and rheological properties of kaolinite and halloysite. *Appl. Clay Sci.* **77-78**, 1–9, (2013)
28. H. Mauroy, Z. Rozynek et al.: Oxygen-controlled phase segregation in poly(N-isopropylacrylamide)/Laponite nanocomposite hydrogels. *Langmuir* **29**, 371–379, (2012)
29. Z. Rozynek et al.: Dipolar ordering of clay particles in various carrier fluids. *Rev. Cub. Fis.* **29**, 1E37, (2012)
30. B. Wang, Z. Rozynek et al.: Guided self-assembly of nanostructured titanium oxide. *Nanotechnology* **23**, 075706, (2012)
31. Z. Rozynek, B. Wang, J. O. Fossum and K. D. Knudsen: Dipolar structuring of organically modified fluorohectorite clay particles. *Eur. Phys. J. E* **35**, 9, (2012)
32. Z. Rozynek, et al.: Structuring from nanoparticles in oil-based ferrofluids. *Eur. Phys. J. E* **34**, 28, (2011)
33. Z. Rozynek et al.: Electric Field Induced Structuring in Clay-Oil Suspensions: New Insights from WAXS, SEM, Leak Current, Dielectric Permittivity, and Rheometry. *J. Phys.: Condens. Matter* **22**, 324104 (2010)
34. M. Zhou, Y. Gao, B. Wang, Z. Rozynek, J. O. Fossum, X. Yu and S. Raaen: Carbonate-Assisted Hydrothermal Synthesis of Nanoporous CuO. *Eur. J. Inorg. Chem.* **2010**, 729-734 (2010)
35. M. Zhou, B. Wang, Z. Rozynek et al.: Minute synthesis of extremely stable gold nanoparticle. *Nanotechnology* **20**, 505606 (2009)
36. B. Wang, M. Zhou, Z. Rozynek and J. O. Fossum: Electrorheological properties of organically modified nanolayered laponite: Influence of intercalation, adsorption and wettability. *J. Mater. Chem.* **19**, 1816 (2009)

## Most recent contributions:

Total number of presentations: **37**

Invited talks: **9**, Oral presentations: **15**, Poster presentations: **13**

Feb 2020, Szczyrk, Poland (**poster presentation**)

49th Winter School on Wave and Quantum Acoustics

"Direction-specific release from capsules with homogeneous or Janus shells using an ultrasound approach"

Jun 2019, Boston, USA (**poster presentation**)

TechConnect World

"Formation of printable granular and colloidal chains through capillary effects and dielectrophoresis"

Mar 2019, Boston, USA (**oral presentation and poster**)

APS March Meeting

"Single-particle thick microstructure printing via synergetic action of electric-field assembly, capillary and electrostatic interactions"

"Probing mechanical properties of particle shells formed on droplets by electric field-induced wrinkling"

Nov 2018, Boston, USA (**oral presentation**)

MRS Fall Meeting

"Formation of printable granular and colloidal chains through capillary effects and dielectrophoresis"

July 2018, Poznań, Poland (**poster presentation**)

NanoTech Poland 2018

"Mechanical properties of patchy granular capsules and their ultrasound-triggered rupturing"

Feb 2018, Szczyrk, Poland (**invited talk**)

47th Winter School on Wave and Quantum Acoustics

"Drops with particles: physical mechanisms for particle assembly"

Sept 2017, Poznań, Poland (**invited talk**)

Modern Trends in Physics Research

"Granular and colloidal 1D structures: Physics and applications"

Sept 2017, Wrocław, Poland (**poster presentation**)

44 Zjazd Fizyków Polskich

"Mechanical properties of patchy Pickering drops"

"Quincke rotation of particle laden drops"

"Propulsion of particle laden droplets in electric fields"

Jun 2017, Poznań, Poland (**oral presentation**)

NanoTech Poland 2017

"Formation of printable granular and colloidal chains through capillary effects and dielectrophoresis"

Mar 2017, Geilo, Norway (**poster presentation**)

The Geilo School - Physics Inspired by Living Matter, IFE, Geilo, Norway

"Formation of printable granular and colloidal chains through capillary effects and dielectrophoresis"

Sept 2016, Białowieża, Poland (**poster presentation**)

LXIII Otwarte Seminarium z Akustyki

"Mechanical properties and instability of Pickering droplets probed by electric field-induced stress and ultrasonic spectroscopy"

Nov 2015, Ostrava, Czech Rep (**invited talk**)

Autumn Seminar by Czech Clay Mineral Society

"A 30 min story about behaviour of clay particles in different physical systems"

Jan 2015, Warsaw, Poland (**invited talk + poster presentation**)

Mikrosymposium sprawozdawcze

"A 20 min story about particles' misbehavior on a surface of a droplet"

"A simple approach to forming long conductive pearl-chains by utilizing dipolar and capillary interactions"

July 2014, Wrocław, Poland (**oral presentation**)

4th National Conference on Nano- and Micromechanics Program

"Electroformation of Janus and patchy capsules"

Feb 2014, Rio de Janeiro, Brazil (**invited talk + poster presentation**)

3rd International Workshop on Complex Physical Phenomena in Materials

"EHD controlled assembly and fracturing of thin colloidal particle films confined at drop interfaces"

"Janus colloidal shells by microfluidics: Preliminary results on shell fabrication and sintering"

Sept 2013, Rome, Italy (**poster presentation**)

International Soft Matter Conference

"New approach to fabricating Janus and Patchy colloidal shells"

July 2013, Brasilia, Brazil (**invited talk**)

International Mini-Workshop on Multi-Component Soft and Complex Fluids

"Clay-based active eye pupil-like structure"

May 2013, Reykjavik, Iceland (**invited talk**)  
 Workshop on Soft Matter Physics and Biomembranes  
 "New approach to fabricating Janus and Patchy particles"

April 2013, Warszawa, Poland (**Initiator and workshop organizer**)  
 "1<sup>st</sup> NTNU-PAN workshop on Soft and Complex Matter Physics"

January 2013, Copenhagen, Denmark (**oral presentation**)  
 10th Nordic Workshop on Scattering from Soft Matter  
 "Intercalation and Retention of CO<sub>2</sub> in Synthetic Fluorohectorite Clay at Near-Ambient Conditions "

December 2012, Recife, Brazil (**oral presentation**)  
 Mini-workshop on Complex Flows and Turbulence  
 "Active structuring of colloidal armour on liquid drops"

November 2012, Boston, USA (**oral presentation**)  
 MRS Fall Meeting  
 "Electric-Field-Induced Colloidal Assemblies on Drop Interfaces"

September 2012, Prague, Czech Republic (**oral presentation**)  
 6th Mid-European Clay Conference (MECC2012)  
 "Dipolar ordering of clay particles in various carrier fluids"

June 2012, Bari, Italy (**poster**)  
 EUROSOL 2012 - Soil Science for the Benefit of Mankind and Environment  
 "Soil clay oil suspensions subjected to electric fields"

March 2012, Havana, Cuba (**oral presentation and posters**)  
 MarchCOMeeting'12  
 "Self-organization from Electrically Polarized Clay Particles"  
 "Clay-based drug adsorption and delivery: WAXS studies of drug intercalation and release"

January 2011, Kjeller, Norway (**poster**)  
 Eighth Nordic Workshop on Scattering from Soft Matter  
 "WAXS studies of Clay/Paraffin Composites"

December 2010, Recife, Brazil (**oral presentation**)  
 International Workshop on Complex Physical Phenomena in Materials  
 "Electric-field induced alignment of modified Na-fluorohectorite clay particles"

December 2010, Boston, USA (**oral presentation**)  
 MRS Fall Meeting  
 "Electric-field induced alignment of modified Na-fluorohectorite clay particles"

October 2010, Trondheim, Norway (**art exhibition**)  
 "Complex Art", Z. Rozynek and colleagues from the complex group.

August 2010, Budapest, Hungary (**oral presentation**)  
 5th Mid-European Clay Conference  
 "Electric-field induced alignment of modified Na-fluorohectorite clay particles"

January 2010, Helsinki, Finland (**poster**)  
 7th Nordic Workshop on Scattering from Soft Matter  
 "X-ray Scattering Study of a Clay/Gelatine Hybrid Electrorheological Elastomer"

December 2009, Boston, USA (**oral presentation and poster**)  
 MRS Fall Meeting  
 "Wide Angle X-Ray Scattering Studies of Guided Assembled Organoclay Electro-rheological Suspensions"  
 "Structural Changes in Polymer/Clay Melted Nanocomposites Induced by Electric Field"

June 2009, Italy (**oral presentation**)  
 14th International Clay Conference  
 "Dynamic Column Formation of Na-Fluorohectorite Clay Particles: Wide Angle X-Ray Scattering and Rheological Studies"

August 2008, Dresden, Germany (**oral presentation**)  
 11th Conference on Electrorheological Fluids and Magnetorheological  
 "Dynamic column formation in Na-FLHC clay particles: Wide angle X-ray scattering and rheological studies"

## Awards

### Rector Award for scientific achievements in 2017

Adam Mickiewicz University, Oct 2018

Team Award for scientific achievements

### Fulbright Scholarship (Senior Award Program)

Polish-US Fulbright Commission, Oct 2016

Awarded a 9-month long scholarship to work at the Harvard University, Cambridge, USA

**Rector Award for scientific achievements in 2016**

Adam Mickiewicz University, Oct 2017

Team Award for scientific achievements

**The Best Lecturer Award**

The Children's University, Oct 2015

Awarded the best lecturer of 2015 at the Children's University

**Research Award for Young Scientists**

IPC of the Polish Academy of Sciences, May 2015

Laureate of the "Young researchers IPC PAS" competition

**Poster award**

The Geilo School, Norway, Mar 2015

"A simple approach to forming long conductive pearl-chains by utilizing dipolar and capillary interactions"

**Poster award**

Mikrosymposium Sprawozdawcze, Warsaw, Poland, Jan 2015

"A simple approach to forming long conductive pearl-chains by utilizing dipolar and capillary interactions"

**Stipendship (for 3 years)**

Ministry of Science and Higher Education in Poland, Sept 2014

Best talented young researchers in Poland

**Poster award**

Workshop on Soft Matter Physics and Biomembranes, Reykjavik, Iceland, May 2013

"New approach to fabricating Janus and Patchy particles"

**Poster award**

Soft Matter Physics & Complex Flows, Lofoten, Norway, May 2012

"Soil clay oil suspensions subjected to electric fields"

**Finalist**

AIP Seed Capital competition, Warsaw, June 2011

AIP Seed Capital is a seed fund operating in association with the Academic Incubators of Entrepreneurship

**Scientific workshops & training courses**

Mar 2019, Harvard University, Cambridge, MA, USA

"Diversity: A Workshop and Forum of Ideas"

Jan 2019, Harvard University, Cambridge, MA, USA

"Science Undergraduate Mentoring Workshop: handling challenging situations & celebrating achievements, embracing diversity, equity, and inclusion, and supporting student science writing"

Mar 2017, IFE, Geilo, Norway

"The Geilo School - Physics Inspired by Living Matter"

Nov 2015, Foundation for Polish Science, Warsaw, Poland

"On mentoring and coaching in science"

Apr 2015, Econnect Communication, Wroclaw, Poland

"Presenting of research results using Web 2.0 tools"

Mar 2015, IFE, Geilo, Norway

"The Geilo School - Cooperative particles: Patchy colloids, active matter and nanofluids"

Nov 2014, Vitae, Cracow, Poland

"Public Engagement for Scientists"

Oct 2014, Webinars

Several short trainings by Thomson Reuters

Mar 2013, IFE, Geilo, Norway

"The Geilo School - Soft Matter Confinement: From Biology to Physics"

Apr 2011, IFE, Geilo, Norway

"The Geilo School - Cooperative Phenomena in Flows"

Sep 2009, Houm AS - Anton Paar, Drammen, Norway

"Rheology workshop"

July 2009, University of Aarhus, Aarhus, Denmark and DESY Hamburg, Germany

"NordForsk Research Training Course on the Application of X-ray Synchrotron Radiation in Chemistry, Physics and Biology"

Aug 2008, Diamond, Oxford, UK

"Applications of Synchrotron Radiation Techniques in Earth and Environmental Science"

June 2008, MAX-Lab, Lund, Sweden

"Nordic and European Summer School - X-ray Research for the Future using Ultra Brilliant Sources"

## Reviews

### Research articles

Lab on a chip (x1) Angewandte Communications (x1)  
Acta Polonica (x2) CMSE 2016 – proceedings (x1)  
Nanomaterials (x2) Soft Matter (x5) Materials (x2)  
Polymers (x1) Smart Materials and Structures (x1)  
Fluids (x1), Compr. Rev. Food Sci. Food Saf. (x1)

### Research proposals

NAWA, the Polish National Agency for Academic Exchange (x6)

## Organizing/assisting in international conferences/workshops

May 2012, Svolvær, Lofoten, Norway (scientific workshop)  
„International Workshop on Soft Matter Physics & Complex Flows”  
Assisting in organizing

March 2012, Havana, Cuba (scientific workshop)  
„MarchCOMeeting’12: Complex matter physics: materials, dynamics and patterns”  
Assisting in organizing

April 2013, Warszawa, Poland (scientific workshop)  
„1<sup>st</sup> NTNU-PAN workshop on Soft and Complex Matter Physics”,  
Initiator and the main organizer

## Public engagement

Mar 2018, OSKA, workshop for student organized at AMU, Poznań (jury member)

Jan 2017, Workshop for high school students at AMU, Poznań (lecturer)  
"From science to business" "Od nauki do działania"

June 2015, Children University (lecturer)  
"Do all liquids flow? "

April 2011, EBEC Nordic (jury member)  
Annual engineering competition organized by the Board of European Students of Technology

### *Selected news articles*

July 2018, Science Trends  
„Slow-Release of Two Classical Antibiotics: Finding The Matrix Right Under Your Feet”

May 2017, Science Newline  
"International Team Solves Mystery of Colloidal Chains"

May 2017, ECN Magazine  
"Fast, Simple Way To Create Two-Dimensional Electronic Circuits"

Jan 2017, FNP  
"Rozmowy na 25-lecie Fundacji na rzecz Nauki Polskiej"

May 2015, Nauka w Polsce  
"Glina przyszłości magazynowania CO2?"

April 2015, Science20  
"Clay Works For Capturing CO2"

June 2014, RedOrbit  
"Janus Capsules Easily And Affordably Produced For First Time"

June 2014, ScienceDaily  
"Janus capsules, miniature hollow structures, produced easily at low cost"

June 2014, Phys.Org  
"Shaken, not stirred – mythical god's capsules please"

June 2014, RMF24  
"Nie słyszałeś o kapsułach Janusa? Polski fizyk odkrył, jak je tworzyć"

June 2014, Nauka w Polsce  
"Polscy naukowcy znaleźli sposób na kapsuły Janusa"

July 2013, Spacemart news  
"Designer droplets open new possibilities"

June 2013, NTNU front page news  
"Designer droplets open new possibilities"

## Membership

- 01/2009 - present Member of the Materials Research Society, USA, [MRS](#)  
01/2015 - present Member of the Club of the Foundation for Polish Science, [Klub-FNP](#)  
12/2014 - present Member of the Polish Acoustical Society, [PTA](#)

## Teaching activities

TFY4220 - Solid State Physics, NTNU-Trondheim, assisting in teaching and conducting laboratory classes  
TFY4185 - Measurement Techniques, NTNU-Trondheim, assisting in teaching and conducting laboratory classes  
TFY4155 - Electricity and Magnetism, NTNU-Trondheim, assisting in teaching and conducting laboratory classes  
In total, more than 1000 hours.

During my work at the Institute of Physical Chemistry of the Polish Academy of Science in Warsaw (2013-2015) and at Adam Mickiewicz University in Poznań, Poland (2015-2018) I supervised and co-supervised several PhD and Master's students, and also voluntarily have been giving facultative lectures for both Bachelor and Master's students.

In October 2015, I had a pleasure to teach at the Children's University in Warsaw, and I was awarded the best lecturer of 2015 at the Children's University.

## Supervisor/mentor for PhD and Master's students of physics/chemistry

- 2016 - Khobaib Khobaib (PhD candidate)  
*Properties of homogenous and inhomogeneous colloidal and granular shells*
- 2018 - Rafał Bielas (PhD candidate)  
*Pickering emulsions by electric fields and ultrasounds*
- 2016 - 2019 Katarzyna Kaczmarek (PhD candidate)  
*Magnetic nanoparticles for enhancing the efficiency of magneto-ultrasonic heating*
- 2017 - 2018 Joanna Banaszak (MSc)  
*Ultrasound wave induced fracturing of granular capsules*
- 2017 - 2017 Marta Obrempalska (MSc)  
*Formation of Pickering droplets by E-fields, monitored by ultrasonic waves*
- 2015 - 2016 Jarosław Wojciechowski (MSc)  
*The influence of chemical modification of PS micro-particles on their E-field-induced organization*
- 2015 - 2015 Kamil Kacprzak (MSc)  
*Self-guiding of colloidal particles on liquid interfaces*
- 2014 - 2015 Marzena Prus (MSc)  
*New methods for fabricating Janus shells*
- 2014 - 2014 Anna Kalicka (MSc)  
*Formation of patchy colloidal capsules and their pharmaceutical applications*



## Patents, commercialization and start-up related activities

### Patents

1. F. Granek, Z. Rozynek, Method for forming structures upon substrate, involves increasing separation between first and second electrodes by moving second electrode away from first electrode to extend elongate structure towards second electrode. Paten międzynarodowy, WO2017162696 (A1) published on 28.09.2017. Patent in force in many countries, pending decision in several other countries.
2. Z. Rozynek, A. Magdziarz, (PL) Sposób wytwarzania emulsji Pickeringa, emulsja Pickeringa i jej zastosowanie, (EN) Method for efficient fabrication of Pickering emulsion, Pickering emulsion and its applications. 25P42641PL00, submitted to the Polish Patent Office on 30.05.2018.
3. Z. Rozynek, A. Magdziarz, (PL) Sposób wytwarzania ścieżki koralikowej na powierzchni substratu, system do wytwarzania takiej ścieżki i jej zastosowania oraz zestaw, (EN) Method of fabrication of pearl-necklace particle micropaths on substrates and their applications. 25P42709PL00, Polish patent in force (18.02.2020).
4. Z. Rozynek, A. Magdziarz, Process of fabricating a beaded path on the surface of a substrate, a system for fabricating such a path, use thereof, and a kit. PCT applicaiton, WO2020027673 (A1) published on 06.02.2020. Pending decision.

### Work experience

- 08/2018 - present co-founder and CSO, CADENAS, Poznań, Poland
- 01/2019 - 05/2019 team member, PETRICHOR, Cambridge, MA, USA
- 05/2015 - 05/2017 co-founder and CSO, XTPL, Wrocław, Poland

### Workshops/Trainings

Mar - May 2019

"President's Innovation Challenge", **Harvard University**, Cambridge, MA, USA

Feb - May 2019

"Venture Incubation Program - Harvard innovation labs", **Harvard University**, Cambridge, MA, USA

Jan 2019

"How to grow ideas or start a company", **Harvard Innovation Labs**, Boston, MA, USA

Jan 2019

"Nuts and Bolts of New Ventures – 2019", **MIT Course**, Cambridge, MA, USA

Sep 2018

"To develop and support the startup ecosystem", **Startup Boston**, Boston, MA, USA

Mar 2018

"From research to business", **European Patent Office**, Webinars

Nov 2013

"How to use the commercial potential of the ideas created as results of the research", **Fastrac**, Poznan, Poland

### Conferences/Trade shows

Oct 2019 - Made in Wrocław, Wrocław, Poland

Oct 2019 - InterNanoPoland, Katowice, Poland

Jun 2019 - TechConnect World, Boston, USA