

Curriculum vitae



Personal information

<i>Name</i>	Rokas
<i>Surname</i>	Žalneravičius
<i>Address</i>	Tvankstos st. 12-35, Vilnius, Lithuania
<i>Phone No.</i>	+37063431029
<i>E-mail</i>	rokas.zalneravicius@gmc.vu.lt ; rzalneravicius@gmail.com
<i>Nationality</i>	Lithuanian
<i>Date of birth</i>	03-10-1990
<i>Gender</i>	Male

Education

- | | |
|------------------|--|
| 2015-2020 | <ul style="list-style-type: none">➤ PhD in chemistry at the Vilnius university joint PhD program with the Center for Physical Sciences and Technology, Institute of chemistry, department of Nanomaterials and materials science. Sauletekio av. 3, LT-10257 Vilnius, Lithuania.
Thesis: "Synthesis, characterization and antimicrobial activity of metallic and semiconductor nanoparticles". |
| 2013-2015 | <ul style="list-style-type: none">➤ Chemistry of Nanomaterials Master degree studies at Vilnius University, Universiteto st. 3, LT-01513 Vilnius, Lithuania.
Thesis: "Fabrication by AC Deposition and Antimicrobial Properties of Pyramidal-Shaped Cu₂O-TiO₂ Heterostructures" |
| 2009-2013 | <ul style="list-style-type: none">➤ Bioengineering Bachelor degree studies at Vilnius Gediminas Technical University. Sauletekio av. 11, LT-10223 Vilnius, Lithuania.
Thesis: "Study of antimicrobial properties of alumina foils decorated with silver nanowire array " |
| 2005-2009 | <ul style="list-style-type: none">➤ Junior physicists school „Photon“, Siauliai University, Vilniaus st. 141, LT-76353, Siauliai |
| 1996-2009 | <ul style="list-style-type: none">➤ Siauliai University gymnasium (average education). Dainu st. LT-78236 Siauliai, Lithuania |

Work experience

- 2022.10-current** ➤ Company: Institute of Biochemistry, Life Sciences center, Vilnius university
Company Website: <https://www.gmc.vu.lt/>
Position: Senior research associate
- 2020.03-current** ➤ Company: Center for Physical Sciences and Technology, Institute of Chemistry, Department of Nanomaterials and materials science.
Company Website: <http://www.ftmc.lt/>
Position: Researcher
- 2017.10-2020.03** ➤ Company: Center for Physical Sciences and Technology, Institute of Chemistry, Department of Nanomaterials and materials science.
Company Website: <http://www.ftmc.lt/>
Position: Junior researcher
- 2017.09-present** ➤ Company: Vilnius Gediminas technical university, Faculty of Fundamentals sciences, Department of Chemistry and Bioengineering
Company Website: <http://www.vgtu.lt/index.php?lang=2>
Position: Lecturer
- 2013.09-2017.09** ➤ Company: Center for Physical Sciences and Technology, Institute of Chemistry, Department of Nanomaterials and materials science.
Company Website: <http://www.ftmc.lt/>
Position: Engineer
- 2012.03-2013.08** ➤ Company: Center for Physical Sciences and Technology, Institute of Chemistry, Department of Nanomaterials and materials science.
Company Website: <http://www.ftmc.lt/>
Position: Technician
- 2011.06-2011.07** ➤ Company: Institute of Biochemistry, Vilnius, Lithuania
Company Website: <http://www.bchi.vu.lt/>
Position: Research Trainee

Carried out projects

- 2022 12 - current** Postdoctoral Fellowship funded by the Research Council of Lithuania under the No.: P-PD-22-079. Project budget: **90 000** Eur. Supervisor – dr. Marius Dagys
- 2022 10 - current** Development of biosensor research and engineering competence and technology transfer centre (BIOSENSE) No. 01.2.2-CPVA-K-703-03-0010. Project funded by European Regional Development Fund according to the supported activity „Research Projects Implemented by World-class Researcher Groups” under Measure No. 01.2.2-CPVAK-703. Project budget: **997 000** Eur. Project leader: dr. Marius Dagys.

2020.09-2022.08	Development of scientific competencies of scientists, other researchers and students through practical research activities, Postdoctoral fellowship funded by the European Social Fund under the No 09.3.3-LMT-K-712-19-0155. Project budget: 85 008.28 Eur. Supervisor – prof. habil. dr. Arūnas Ramanavičius
2018.09-2019.02	Support for part-time doctoral studies from the Lithuanian national agency Education Exchanges Support Foundation. Project No.: DD-2018-LT-1594. Location: Malmö University, Biofilms research centre for biointerfaces, Sweden. Supervisor: prof. dr. Tautgirdas Ruzgas
2018.09-2018.10	Development of Competences of Scientists, other Researchers and Students through Practical Research Activities, European Social Fund under the No 09.3.3-LMT-K-712-07-0075
2018.09-2018.09	Enhancing researchers international competences" TYKU II" Agency for Science, Innovation and Technology No TYKU2-01-066.
2018.05-2018.06	Scientific internship at the Malmö University, Malmö, Sweden “Nanoplatelet MoS ₂ coatings and nanoparticles for H ₂ O ₂ detection” Supervisor – prof. dr. Tautgirdas Ruzgas
2018.04-2018.04	Development of Competences of Scientists, other Researchers and Students through Practical Research Activities, European Social Fund under the No 09.3.3.-LMT-K-712-06-0158.
2017.04-2017.05	Scientific internship at the Malmö University, Malmö, Sweden “Nanostructured electrodes for detection of reactive oxygen species and H ₂ O ₂ ” Supervisor – prof. dr. Tautgirdas Ruzgas
2014.07-2014.09	Additional practice during the master studies No VP1-2.2-ŠMM09-V-01-005, Synthesis and characterization of copper oxide. This project was supported by European Union and Republic of Lithuania. Supervisors: dr. Artūras Žalga and dr. Arūnas Jagminas
2013.09-2013.12	Promotion of Students’s Scientific Activities. Study of antimicrobial properties of alumina foils decorated with silver nanowire array. Funded by Research Council of Lithuania. Supervisor: dr. Arūnas Jagminas
<u>Computer skills</u>	“Microsoft Office“, “AutoCAD“, “SigmaPlot“, “Maple“, “Matlab“, “Comsol“, “Photoshop“, “Mathcad“, “OriginPro“, “Match”, “Edraw Max”, “ChemSketch”.
<u>Technical skills and competences</u>	Zahner zennium electrochemical workstation for CV, SIM, EIS, CE, POL, PVI measurement and data analysis; Rigaku smartlab X-ray diffraction measurement and data analysis; AFM, TEM, SEM, EDX, XPS, FTIR, MS, RAMAN data analysis;

Personal characteristics

Attentive, fast learning, hardworking, careful, determined, patient, flexible, communicative, successful dealing with people, not afraid of taking challenges.

Languages

	Understanding	Speaking	Writing
Russian	A1	A1	A1
English	B2	B2	B2
German	B1	B1	B1

Teaching experience

Bachelor students who already defended the bachelor thesis:
Kotryna Semėnaitė, Bioengineering, VGTU (defended in 2018)
Laura Kalvaitytė, Bioengineering, VGTU (defended in 2019)
Arminas Mikūta, Bioengineering, VGTU (defended in 2019)
Vilius Benedikas, Bioengineering, VGTU (defended in 2020)
Timur Šakurov, Chemistry, VU (defended in 2021)

Trainings

- Development of Competences Skills, 2016 (See Certificate No. VU-MID-2016-125)
- Enhancing the practical skills and competence for preparing the international MTEPI project and their coordination and management, 2018 (See Certificate No. 25)
- Elsevier seminar: how to choose a good journal wisely? 2018 (See Certificate)
- Value proposition. What is it and how to create it? 2018 (See Certificate No. MVG-MID-2018-135)

Science Dissemination

During the conference of high school students “Look at the nature 2016” the lecture about MoS₂ nanomaterial and their application for water splitting was given for the student of Siauliai university gymnasium (See Certificate)

Reviewer experience

51st International Physics Olympiad IPhO Lithuania 2021; Responsibility: Marker

Bachelor’s and master’s students from Vilnius University, Faculty of Chemistry and Geosciences final thesis reviewer. Activity: 2020-present

Member of scientific expert committee of the best master thesis competition in 2018.

Bachelor’s and master’s students from Vilnius Gediminas technical university final thesis reviewer. Activity: 2017-2020.

Reviewer of the journal of *Colloids and surfaces b: biointerfaces*

Driving license

B

Awards

2015

MAGNA CUM LAUDE Master degree

2017

Theodor Grotthuss memorial stipend

2017

The best presentation award in FizTech2017 conference

Annexes

Scientific publications
Conference proceedings

SCIENTIFIC PUBLICATIONS

1. **Žalnėravičius R.**, Paškevičius A., Kovger J., Jagminas A. Fabrication by AC Deposition and Antimicrobial Properties of Pyramidal-Shaped Cu₂O-TiO₂ Heterostructures. *Nanomaterials and Nanotechnology*, 2014, DOI: [10.5772/59997](https://doi.org/10.5772/59997) (Q3, IF = 1,6).
2. Jagminas A., **Žalnėravičius R.**, Paškevičius A., Rėza A., Selskienė A. Design, optical and antimicrobial properties of extremely thin alumina films colored with silver nanospecies. *Dalton Transactions*, 2015, 44, 4512-4519, DOI: [10.1039/c4dt03644a](https://doi.org/10.1039/c4dt03644a) (Q1, IF = 4,052).
3. Jagminas A., Naujokaitis A., **Žalnėravičius R.**, Jasulaitiene V., Valušis G. Tuning the Activity of Nanoplatelet MoS₂-Based Catalyst for Efficient Hydrogen Evolution via Electrochemical Decoration with Pt Nanoparticles. *Applied Surface Science*, 2016, 385, 56-62, DOI: [10.1016/j.apsusc.2016.05.094](https://doi.org/10.1016/j.apsusc.2016.05.094) (Q1, IF = 5,155).
4. **Žalnėravičius R.**, Paškevičius A., Kurtinaitienė M., Jagminas A. Size-dependent antimicrobial properties of the cobalt ferrite nanoparticles. *Journal of Nanoparticle Research*, 2016, 18, 300, DOI: [10.1007/s11051-016-3612-x](https://doi.org/10.1007/s11051-016-3612-x) (Q2, IF = 2,009).
5. Jagminas A., Niaura G., **Žalnėravičius R.**, Trusovas R., Račiukaitis G., Jasulaitienė V. Laser Light Induced Transformation of Molybdenum Disulphide-Based Nanoplatelet Arrays. *Scientific reports*, 2016, 6, 37514. DOI: [10.1038/srep37514](https://doi.org/10.1038/srep37514) (Q1, IF = 4,122).
6. Naujokaitis A., **Žalnėravičius R.**, Pakštas V., Arlauskas K., Jagminas A. MoS₂ Nanoplatelet Arrays as a Support for Decoration with Pt Nanoparticles and its Effect on Electrochemical Water Splitting. *Journal of nanomaterials & Molecular nanotechnology*, 2017, 6, 1. DOI: [10.4172/2324-8777.1000208](https://doi.org/10.4172/2324-8777.1000208) (Q has not yet achieved, IF = 3,761).
7. **Žalnėravičius R.**, Paškevičius A., Mažeika K., Jagminas A. Fe(II)-substituted cobalt ferrite nanoparticles against multidrug resistant microorganisms. *Applied Surface Science*, 2018, 435, 141-148 DOI: [10.1016/j.apsusc.2017.11.028](https://doi.org/10.1016/j.apsusc.2017.11.028) (Q1, IF = 5,155).
8. Ramanavičius S., **Žalnėravičius R.**, Drabavičius A., Jagminas A. Shell-Dependent Antimicrobial Efficiency of Cobalt Ferrite Nanoparticles. *Nano-Structures & Nano-Objects*, 2018, 15, 40-47. DOI: [10.1016/j.nanoso.2018.03.007](https://doi.org/10.1016/j.nanoso.2018.03.007) (Q2, IF = has not yet an impact factor).
9. **Žalnėravičius R.**, Gedminas A., Ruzgas T., Jagminas A. Nanoplatelet MoS₂ arrays decorated with Pt nanoparticles for nonenzymatic detection of hydrogen peroxide. *Journal of electroanalytical chemistry*, 2019, 839, 274-282. DOI: [10.1016/j.jelechem.2019.03.032](https://doi.org/10.1016/j.jelechem.2019.03.032) (Q1, IF = 3,218).
10. **Žalnėravičius R.**, Mikalauskaite A., Niaura G., Paškevičius A., Jagminas A. Ultra-small methionine-capped Au⁰/Au⁺ nanoparticles as efficient drug against the antibiotic-resistant bacteria, *Materials Science and Engineering C-Materials for Biological Applications*, 2019, 102, 646-652. DOI: [10.1016/j.msec.2019.04.062](https://doi.org/10.1016/j.msec.2019.04.062) (Q1, IF = 4,959).

11. Bockuviene A., **Žalnėravičius R.**, Sereikaite J. Preparation, characterization and stability investigation of lycopene-chitooligosaccharides complexes. *Food Bioscience*, 2021, 40, 100854-100863, <https://doi.org/10.1016/j.fbio.2020.100854> (Q2, IF = 4.24).
12. **Žalnėravičius R.**, Klimas V., Paškevičius A., Grincienė G., Karpicz R., Jagminas A., Ramanavičius A. Highly efficient antimicrobial agents based on sulfur-enriched, hydrophilic molybdenum disulfide nano/microparticles and coatings functionalized with palladium nanoparticles. *Journal of Colloid and Interface Science*, 2021, 591, 115–128, <https://doi.org/10.1016/j.jcis.2021.01.103> (Q1, IF = 8.128).
13. Švedienė J., Novickij V., **Žalnėravičius R.**, Raudonienė V., Markovskaja S., Novickij J., Paškevičius A. Antimicrobial activity of l-lysine and poly-l-lysine in combination with pulsed electric fields, *Applied Sciences*, 2021, 11, 2708-2720, <https://doi.org/10.3390/app11062708> (Q2, IF = 2.679).
14. **Žalnėravičius R.**, Paškevičius A., Samukaitė-Bubnienė U., Ramanavičius S., Vilkienė M., Mockevičienė I., Ramanavičius A. Microbial fuel cell based on nitrogen-fixing *Rhizobium anhuiense* bacteria. *Biosensors*, 2022, 12, 113-128, <https://doi.org/10.3390/bios12020113> (Q1, IF = 5.743).
15. Shafaat A., **Žalnėravičius R.**, Ratautas D., Dagsys M., Meškys R., Rutkienė R., Gonzalez-Martinez J.F., Neilands J., Björklund S., Stores J., Ruzgas T. Glucose-to-resistor transduction integrated into a radio-frequency antenna for chip-less and battery-less wireless sensing, *ACS Sensors*, 2022, 7, 4, 1222–1234, <https://doi.org/10.1021/acssensors.2c00394> (Q1, IF = 9.618).
16. **Žalnėravičius R.**, Ramanavičius A. Enhancement of Glucose Oxidase-Based Bioanode Performance by Comprising *Spirulina platensis* Microalgae Lysate, *Journal of The Electrochemical Society*, 2022 169 053510, <https://doi.org/10.1149/1945-7111/ac7080> (Q2, IF = 4.386).
17. **Žalnėravičius R.**, Klimas V., Naujokaitis A., Jagminas A., Ramanavičius A. Development of biofuel cell based on anode modified by glucose oxidase, *Spirulina platensis*-based lysate and multi-walled carbon nanotubes, *Electrochimica acta*, 2022, 426, 140689, <https://doi.org/10.1016/j.electacta.2022.140689> (Q1, IF = 7.336).
18. Reinikovaite, V., Zukauskas, S., **Žalnėravičius, R.**, Ratautaite, V., Ramanavicius, S., Bucinskas, V., Vilkiene, M., Ramanavicius, A., Samukaite-Bubniene, U. Assessment of *Rhizobium anhuiense* bacteria as a potential biocatalyst for microbial biofuel cell design, *Biosensors*, 2023, 13, 66 <https://doi.org/10.3390/bios13010066> (Q1, IF = 5.743)

Conferences proceedings

1. **Žalnėravičius R.**, Bružaitė I., Paškevičius A., Jagminas A. *Bacterial activity of extremely thin porous alumina films gold-colored by silver nanowire arrays*. Chemistry and technology of inorganic materials, Kaunas, Lithuania, 2013, 98-103, (PP).
2. **Žalnėravičius R.**, Paškevičius A., Jagminas A. *Fabrication and antimicrobial properties of Cu₂O-TiO₂ heterostructures*. FizTech2014, Vilnius, Lithuania, 2014, (OP).

3. **Žalnėravičius R.**, Jagminas A. *Anodically oxidation of Ti surfaces and decoration the obtained surfaces with Cu₂O nanoparticles for antimicrobial coatings*. Chemistry and chemical technology, Klaipėda, Lithuania, 2015, 157-161, (OP).
4. **Žalnėravičius R.**, Naujokaitis A., Jagminas A. *Nanoplatelet MoS₂ films decorated with Pt quantum dots for effective hydrogen production*. Chemistry and chemical technology. Vilnius, Lithuania, 2016, (PP).
5. **Žalnėravičius R.**, Jagminas A. *Size-dependent antimicrobial properties of the cobalt ferrite nanoparticles*. 18th International conference, Advanced Materials and Technologies, Palanga, Lithuania, 2016, 51, (PP).
6. **Žalnėravičius R.**, Jagminas A. *Synthesis and antimicrobial activity of CoFe₂O₄ nanoparticles*. FizTech2016, Vilnius, Lithuania, 2016, (OP).
7. **Žalnėravičius R.**, Naujokaitis A., Jagminas A. and Homs N. *Ultra-highly efficient MoS₂/Pt nanoplatelet arrays on Ti substrate for electrocatalytic hydrogen evolution reaction*. 9th International Nanoconference, Advances in Bioelectrochemistry and Nanomaterials, Vilnius, Lithuania, 2016, 43-45, (PP).
8. **Žalnėravičius R.**, Jagminas A. *L-lysine coated Fe-doped magnetic nanoparticles are promising material for multidrug resistant microorganisms threat*. 19th International conference, Advanced Materials and Technologies, Palanga, Lithuania, 2017, 56, (PP).
9. Naujokaitis A., Arlauskas K., **Žalnėravičius R.**, Jagminas A. *Electrochemical decoration of MoS₂ nanoplatelet arrays with Pt quantum dots for high efficient water splitting*. 11th International Conference on Advanced materials & Processing, Edinburgh, Scotland, 2017, 91, (PP).
10. **Žalnėravičius R.**, Jagminas A. *Synthesis, characterization and antimicrobial activity of superparamagnetic CoFe₂O₄ nanoparticles*. FizTech2017, Vilnius, Lithuania, 2017, (OP).
Awarded for the best oral presentation.
11. **Žalnėravičius R.**, Jagminas A., Paškevičius A. *Cobalt ferrite nanoparticles against multi-drug resistant microorganisms*. Biomedical and Life Sciences Meeting Collaborative Conference on Antimicrobial Resistance. Victoria, Canada, 2018, (OP).
12. **Žalnėravičius R.**, Jagminas A., Paškevičius A. *Ultra-small nanoparticles as efficient antibiotics*. 23th ISE topical meeting Electrochemistry for Investigation of Biological Objects: from Functional Nanomaterials to Micro/Nano-Electrodes, Vilnius, Lithuania, 2018, (OP).
13. **Žalnėravičius R.**, Kurtinaitienė M., Paškevičius A., Jagminas A. *Ultra-small Gold Nanoparticles as a Promising Antimicrobial Agent*. Advanced materials and technologies, Palanga, Lithuania, 2018, (PP).

14. **Žalnėravičius R.**, Jagminas A., Kurtinaitienė M., Klimas V., Paškevičius A., *Gold Nanoparticles Against Clinically Isolated Pathogens*, Nano Bio, International conference on nanotechnologies and Bionanoscience, Heraklion, Greece, 2018, (PP).
15. Ruzgas T., Shafaat A., **Žalnėravičius R.**, Pham A.D., Gonzalez J.F., Sotres J. *Plugging redox reactions into wireless devices: RFID-based biosensor tag*, XXV International Symposium on Bioelectrochemistry and Bioenergetics, Limerick, Ireland, 2019, 139 (OP).
16. Thirabowonkitphithan P., Laiwattanapaisal W., **Žalnėravičius R.**, Shafaat A., Neilands J., Jakubauskas D., Ruzgas T. *Wireless sensing of biofilms of medically relevant bacteria and fungi*. 6th International Conference on Bio-Sensing Technology, Kuala Lumpur, Malaysia, 2019, (OP).
17. **R. Žalnėravičius**, A. Jagminas. *Ultra-small Methionine-Capped Au⁰/Au⁺ Nanoparticles as efficient drug against most dangerous bacteria*. 3rd Global summit on Nanotechnology, Nanomedicine & Material science, Barcelona, Spain, 2019, (PP).
18. **R. Žalnėravičius**, M. Ragelytė, V. Klimas, G. Grincienė, R. Karpicz, A. Ramanavičius, A. Jagminas, *Antimicrobial properties of sulphur-enriched, hydrophilic MoS₂ nano/microparticles and heterostructured Pd/MoS₂/Ti coatings*, Chemistry&chemical technology, 2021, Vilnius, Lithuania (PP).