

Name of the advisor: Jacek Ryl**Academic title: Ph.D., D.Sc. Eng.**Orcid ID number: <https://orcid.org/0000-0002-0247-3851>**Department of Electrochemistry, Corrosion and Materials Engineering****Faculty of Chemistry****Gdańsk University of Technology****Phone: 535316882****E-mail: jacek.ryl@pg.edu.pl****Personal web page: www.pg.edu.pl/5b82873fe6_jacek.ryl****Disciplineⁱ chemical sciences, materials engineering****Bibliometric indicators**

| | | |
|----|---|--------------------------|
| 1. | Number of journal publications in WoS/ Scopus | 69 (WoS) / 72 (Scopus) |
| 2. | Citations (WoS/Scopus) excluding self-citations | 495 (WoS) / 547 (Scopus) |
| 3. | Hirsch index (WoS/Scopus) | 15 (WoS) / 17 (Scopus) |
| 4. | Hirsch index in Google Scholar | 18 |
| 5. | Citations in Google Scholar | 887 |

1. The number of PhD students who have graduated under your supervision: 1

2. The number of PhD students currently supervised: 0

3. Are you currently accepting new PhD students:

a. Polish Yes

b. Foreign Yes

Research interests or topics offered for PhD research (no more than 2000 characters)ⁱⁱ

My scientific work is primarily focused on studies related with functional materials degradation and/or functionalization with emphasis on impedance spectroscopy studies of non-stationary electrode processes and surface engineering. In the field of corrosion science I am specialized with surface modification through utilization of corrosion inhibitors and local corrosion processes i.e. pitting, intergranular, erosion. The topic of PhD research may also be related with applied electrochemistry, where the effect of heterogeneous structure on material's properties is my primary focus. The factors such as non-uniform adsorption, geometry, crystallographic orientation or grain boundary effects have high influence on the response of electrochemical sensors, supercapacitors etc. The PhD studies may also be related with the development of the Dynamic Electrochemical Impedance Spectroscopy technique for utilization in corrosion monitoring, protein sensors, waste water treatment and others. Besides electrochemistry I am specialized in physic-chemical surface characterization through SEM/EDX, XPS, AES, EBSD, ellipsometry and others, which should be utilized in the PhD research.

PhD Advisor form

Funding or special equipment needed to carry out a PhD project ⁱⁱⁱ:

1. Is funding available for experimental work: No
2. Is the equipment needed to complete a PhD project available in your lab/department: Yes

Most recent publications in WoS/SCOPUS journal – no more than 5 published after 1.01.2017

| No | Authors/title/journal | Journal IF/Quartile – for WoS and SNIP/ CiteScore for SCOPUS | Publication year |
|----|---|--|------------------|
| 1. | J. Wysocka, S. Krakowiak, J. Ryl, Evaluation of citric acid corrosion inhibition efficiency and passivation kinetics for aluminium alloys in alkaline media by means of dynamic impedance monitoring, <i>Electrochimica Acta</i> | IF 5.116, Q1, CiteScore 5.01 (95%), SNIP 1.101 | 2017 |
| 2. | J. Ryl, J. Wysocka, M. Cieslik, H. Gerengi, T. Ossowski, S. Krakowiak, P. Niedzialkowski, Understanding the origin of high corrosion inhibition efficiency of bee products towards aluminium alloys in alkaline environments, <i>Electrochimica Acta</i> | IF 5.116, Q1, CiteScore 5.01 (95%), SNIP 1.101 | 2019 |
| 3. | A. Zielinski, M. Cieslik, M. Sobaszek, R. Bogdanowicz, K. Darowicki, J. Ryl, Multifrequency Nanoscale Impedance Microscopy (m-NIM): A novel approach towards detection of selective and subtle modifications on the surface of polycrystalline boron-doped diamond electrodes, <i>Ultramicroscopy</i> | IF 2.929, Q1, CiteScore 3.06 (90%), SNIP 1.317 | 2019 |
| 4. | J. Ryl, L. Burczyk, A. Zielinski, M. Ficek, A. Franczak, R. Bogdanowicz, K. Darkowick, Heterogeneous oxidation of highly boron-doped diamond electrodes and its influence on the surface distribution of electrochemical activity, <i>Electrochimica Acta</i> | IF 5.116, Q1, CiteScore 5.01 (95%), SNIP 1.101 | 2018 |
| 5. | K. Siuzdak, M. Ficek, M. Sobaszek, J. Ryl, M. Gnyba, P. Niedzialkowski, N. Malinowska, J. Karczewski, R. Bogdanowicz, Boron enhanced growth of micron-length carbon based nanowalls: A route towards high rates electrochemical biosensing, <i>ACS Applied Materials and Interfaces</i> | IF 8.097, Q1, CiteScore 8.15 (94%), SNIP 1.543 | 2017 |

Most recent externally funded projects you were involved in – no more than 3

| No | Project title, the name of the Princ. Investigator (PI) and the institution the project was carried out | Year awarded | Role in the project |
|----|--|--------------|---------------------|
| 1. | Electrochemical modification of boron doped diamond (BDD) thin films, PI: Jacek Ryl, Gdansk University of Technology, Faculty of Chemistry | 2016 | PI |
| 2. | Study of the influence of green inhibitors on the corrosion of aluminum alloys, PI: Jacek Ryl, Gdansk University of Technology, Faculty of Chemistry | 2017 | PI |

PhD Advisor form

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|----|---|------|---|
| 3. | Semiconductive structured diamond nanolayers for opto-electro-sensory systems, PI: Robert Bogdanowicz, Gdansk University of Technology, Faculty of Electronics, Telecommunication and Informatics | 2012 | R |
|----|---|------|---|

Additional relevant information – (no more than 1600 characters)^{iv}

The supervised PhD student, Lukasz Burczyk, received his doctorate with honors in 2018, during the PhD studies he was the laureate of the proquality scholarship as well as Rector's scholarship.

ⁱ You may select up to two disciplines out of 12 disciplines represented in the Doctoral School

ⁱⁱ Observe the limit of not more than 300 words

ⁱⁱⁱ Leave only one answer

^{iv} Add any other relevant information eg. awards for PHD students whom you supervised (no more than 200 words)