

**List of scientific  
achievements  
(appendix 5b)**

**PhD Patrycja Przygodzka**

**Institute of Medical Biology  
Polish Academy of Sciences, Lodz, Poland**

**Lodz, 2023**

**List of scientific or artistic achievements which present a major contribution  
to the development of a specific discipline**

*Information contained herein should clearly refer to two different periods, i.e. the period prior to the award of the PhD degree and the period between the conferment of the PhD degree and the award of the post-doctoral degree of doctor habilitated.*

**I. INFORMATION ON SCIENTIFIC OR ARTISTIC ACHIEVEMENTS SET OUT IN ART. 219 PARA 1. POINT 2 OF THE ACT**

1. Cycle of scientific articles related thematically, pursuant to art. 219 para 1. point 2b of the Act;

*In the case of co-authored works, it is recommended that the applicant and his/her collaborators present a declaration of their substantive (expressed NOT as a percentage) contribution to every work [e.g. author of a research hypothesis, research initiator, performed specific research (e.g. performed specific experiments, designed and compiled questionnaires etc.), performed result analysis, prepared a manuscript of an article and other]. The author's contribution, including the applicant's contribution, should be described in detail so as to make it possible to precisely assess his/her contribution and role in the creation of each of the works.*

**a) The title of scientific achievement**

**„Identification of new molecular factors regulating cancer cell invasiveness of colorectal cancer cells”**

A cycle of five scientific articles related thematically published after the conferment of PhD degree.

**b) Scientific articles included in the achievement**

*All articles were published after the conferment of the PhD degree.*

1.		
Authors <i>*corresponding author</i>	Przygodzka Patrycja*, Papiewska-Pajak Izabela, Bogusz Helena, Kryczka Jakub, Sobierajska Katarzyna, Kowalska M. Anna., Boncela Joanna	
Title	Neuromedin U is upregulated by Snail at early stages of EMT in HT29 colon cancer cells.	
Journal Volume/article ID	Biochimica et Biophysica Acta (BBA) - General Subjects Elsevier B.V.; Nov;1860(11 Pt A):2445-2453	
Year and type	2016	research article
Score	IF = 4,702	MNiSW = 35
DOI	10.1016/j.bbagen.2016.07.012	
Citation number, Web of Science (core collection)	21	
<ul style="list-style-type: none"><li>I am the author of one of the research hypotheses that neuromedin U is engaged in the epithelial-to-mesenchymal transition in colorectal cancer cells.</li><li>I had a leading role in experimental work: taking part in the generation of the cellular model (HT29 stable clones overexpressing Snail), characterization of the clones (cell immunofluorescence staining and confocal imaging, cell functional tests as clonogenic and anoikis assay), designing and performing neuromedin U studies (real-time PCR, ELISA).</li><li>I collected and prepared material for transcriptomic analysis and I summarised and analysed the results.</li><li>I had a leading role in designing and preparing a manuscript of an article, as well as in the discussion with the reviewers as a corresponding author.</li></ul>		

2.

Authors <i>*corresponding author</i>	Przygodzka Patrycja*, Papiewska-Pajak Izabela, Bogusz-Koziarska Helena, Sochacka Ewelina, Boncela Joanna, Kowalska M. Anna	
Title	Regulation of miRNAs by Snail during epithelial-to-mesenchymal transition in HT29 colon cancer cells.	
Journal Volume/article ID	Scientific Reports Springer Nature; Feb 15;9(1):2165	
Year and type	2019	research article
Score	IF = 3,998	MNiSW = 140
DOI	10.1038/s41598-019-39200-7	
Citation number, Web of Science (core collection)	20	
<ul style="list-style-type: none"><li>I am the author of one of the research hypotheses that Snail can modulate the microRNA cargo of extracellular vesicles.</li><li>I took part in the generation of the cellular model ( HT29 stable clones overexpressing Snail).</li><li>I optimized the microRNA isolation method, collected material for transcriptomic analysis, and summarised and analysed the results.</li><li>I planned the research concerning Snail regulation of miR192/194 expression and designed and performed chromatin immunoprecipitation.</li><li>I had a leading role in designing and preparing a manuscript of an article, as well as in the discussion with the reviewers as a corresponding author.</li></ul>		

3.

Authors <i>*corresponding author</i>	Przygodzka P.*, Soboska K., Sochacka E., Boncela J.	
Title	Neuromedin U: A Small Peptide in the Big World of Cancer.	
Journal Volume/article ID	Cancers MDPI; 2019, 11, 1312	
Year and type	2019	review
Score	IF = 6,126	MNiSW = 140
DOI	10.3390/cancers11091312	
Citation number, Web of Science (core collection)	14	
<ul style="list-style-type: none"><li>• I initiated the idea to review the role of NMU in cancer and I planned the article structure.</li><li>• I did literature research and analysed databases to find NMU expression and production regulation.</li><li>• I designed and prepared the manuscript.</li></ul>		

4.		
Authors <i>*corresponding author</i>	Przygodzka P.*, Sochacka E., Soboska K., Pacholczyk M., Papiewska-Pająk I., Przygodzki T., Płociński P., Ballet S., De Prins A., Boncela J.	
Title	Neuromedin U induces an invasive phenotype in CRC cells expressing the NMUR2 receptor.	
Journal Volume/article ID	Journal of Experimental & Clinical Cancer Research BMC; Sep 7;40(1):283	
Year and type	2021	research article
Score	IF = 11,161	MNiSW = 140
DOI	10.1186/s13046-021-02073-8	
Citation number, Web of Science (core collection)	1	
<i>The article was the effect of the studies performed in the Sonata Bis 6 project.</i> <ul style="list-style-type: none"><li><i>I am the author of the research hypothesis, I defined the goals and assigned the tasks</i></li><li><i>I decided on the methodology and most of the protocols used.</i></li><li><i>I summarised and interpreted gene expression analysis, chose a cell line panel for the project, and took part in the gene expression optimization and analysis (real-time PCR). I optimized and analysed data concerning the calcium mobilization study and analysed Integrins expression (flow cytometry).</i></li><li><i>I designed and had a leading role in preparing a manuscript of an article and I discussed with the reviewers as a corresponding author.</i></li></ul>		

5.		
Authors <i>*corresponding author</i>	Przygodzka P.*, Soboska K., Sochacka E., Pacholczyk M., Braun M., Kassassir H., Papiewska-Pająk I., Kiełbik M., Boncela J.	
Title	Neuromedin U secreted by colorectal cancer cells promotes a tumour supporting microenvironment.	
Journal Volume/article ID	Cell Communication and Signaling BMC; (2022) 20:193	
Year and type	2022	research article
Score	IF = 7,525	MNiSW = 140
DOI	https://doi.org/10.1186/s12964-022-01003-1	
Citation number, Web of Science (core collection)	0	
<i>The article was the effect of the studies performed in the Sonata Bis 6 project.</i> <ul style="list-style-type: none"><li><i>I am the author of the research hypothesis, I defined the goals and assigned the tasks</i></li><li><i>I decided on the methodology and most of the protocols used.</i></li><li><i>I performed IHC of NMU in CC tissue, summarised and interpreted gene expression analysis, chose and designed a cell model for the project, performed cell immunofluorescence staining and confocal imaging, and took part in the gene expression optimization and analysis (real-time PCR).</i></li><li><i>I designed and had a leading role in preparing a manuscript of an article and I discussed with the reviewers as a corresponding author.</i></li></ul>		

**Scientometric information (achievement) from the year of publication**

<b>IF</b>	<b>35,024</b>
<b>Points by KBN/MNiSW/MEiN</b>	<b>595</b>
<b>Citations</b> (ISI Web of Science Core Collection)	<b>57</b>

## II. INFORMATION ON SCIENTIFIC OR ARTISTIC ACTIVITY

1. List of published scientific monographs (including the monographs not mentioned in section I.1).  
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2. List of published chapters in scientific monographs.

Pawłowska Z., Jerczyńska H., **Barańska P.**, Walkowiak B., Cierniewski C.S. Detection of changes in cellular proteins profile: proteomics approach.  
The chapter in the monography NANODIAM, ed. PWN, 17, 206-218 (2006)  
<https://wydawnictwo.pwn.pl/Ksiazki/Medycyna/Nanodiam>  
*I analyzed proteomic data and took part in the manuscript preparation.*  
*(Monograph published before the conferment of the PhD degree.)*

3. Information about membership in editorial boards preparing scientific monographs for publication.  
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4. List of articles published in scientific journals (including the articles not mentioned in section I.2).

### Articles published before the conferment of the PhD degree

1. Pawłowska Z., Jerczyńska H., Szemraj J., **Barańska P.**, Świątkowska M., Cierniewski C.S. Natriuretic peptides reduce plasminogen activator inhibitor-1 expression in human endothelial cells. Cellular & Molecular Biology Letters, 7(4), 1153-1157 (2002); PMID: 12511982  
*I contributed to the study by designing and performing cellular functional tests. I was involved in the manuscript preparation.*
2. **Barańska P.**, Jerczyńska H., Pawłowska Z. Czynniki wzrostu śródbłona naczyń - budowa i funkcje. Postępy Biochemii, 51(1), 12-21 (2005); PMID: 16209337  
*I did the literature research and prepared the manuscript.*
3. Pawłowska Z., **Barańska P.**, Jerczyńska H., Koziolkiewicz W., Cierniewski C.S. Heat shock proteins and other components of cellular machinery for protein synthesis are up-regulated in vascular endothelial cell growth factor-activated human endothelial cells. Proteomics, 5(5), 1217-1227 (2005); doi:10.1002/pmic.200400983  
*I contributed to the study by adjusting the method of human primary endothelial cell isolation and cell culture. I prepared samples for proteomic analyses and performed most of the functional tests with endothelial cells. I was involved in the manuscript preparation*
4. Jerczyńska H., **Barańska P.**, Walkowiak B., Koziolkiewicz W., Pawłowska Z. Growth of endothelial cells at surfaces of selected biomaterials. Engineering of Biomaterials, 43-44, 21-24 (2005)  
*I contributed to the study by designing the method of human endothelial cell culture on different biomaterials. I analyzed the data and I was involved in the manuscript preparation.*
5. **Barańska P.**, Jerczyńska H., Pawłowska Z., Koziolkiewicz W., Cierniewski C.S. Expression of integrins and adhesive properties of human endothelial cell line EA.hy 926. Cancer Genomics & Proteomics, 2(5), 265-270 (2005); PMID: 31394624  
*I contributed to the study by performing isolation and culture of human primary endothelial cells. I prepared samples for proteomic analyses and performed most of the functional tests. I was involved in the manuscript preparation*
6. Komorowski J., Jerczyńska H., Siejka A., **Barańska P.**, Ławnicka H., Pawłowska Z., Stępień H. Effect of thalidomide affecting VEGF secretion, cell migration, adhesion and capillary tube formation of human endothelial EA.hy 926 cells. Life Sciences, 78, 2558-2563 (2006); doi:10.1016/j.lfs.2005.10.016  
*I contributed to the study by performing most of the functional tests such as proliferation, adhesion, and capillary structure formation. I was involved in the manuscript preparation.*

Articles published after the conferment of the PhD degree:

7. Papiewska-Pająk I., Boncela J., **Przygodzka P.**, Cierniewski C.S. Autocrine effects of VEGF-D on endothelial cells after transduction with AD-VEGF-D(DeltaNDeltaC). *Experimental Cell Research*, Apr 1;316(6), 907-914 (2010); doi: 10.1016/j.yexcr.2010.01.014; PMID: 20096685  
*I was involved in the data analysis. I edited and reviewed the manuscript.*
  
8. **Przygodzka P.**, Ramstedt B., Engel T., Larsson G., Wilczynska M. Bomapin is a redox-sensitive nuclear serpin that affects responsiveness of myeloid progenitor cells to growth environment. *BMC Cell Biology*, 11, 30 (2010); doi: 10.1186/1471-2121-11-30  
*I contributed to the study by adjusting the method of cell culture and performing and analyzing most of the cellular functional tests. I performed cell cycle analysis by flow cytometry, western immunoblotting analyses, ELISA, and immunoprecipitation. I designed the method of fluorescence staining of cells and performed fluorescence imaging and image analysis. I was involved in manuscript preparation.*
  
9. Boncela J., **Przygodzka P.**, Papiewska-Pająk I., Wyroba E., Osinska M., Cierniewski C.S. Plasminogen activator inhibitor type 1 interacts with alpha3 subunit of proteasome and modulates its activity. *Journal of Biological Chemistry*, Feb 25;286(8), 6820-6831 (2011); doi: 10.1074/jbc.M110.173781; PMID: 21135093  
*I designed the method of fluorescence staining of cells, and performed cell imaging by confocal microscopy, and image analysis. I edited and reviewed the manuscript.*
  
10. **Przygodzka P.**, Boncela J., Cierniewski C.S. Matrin 3 as a key regulator of endothelial cell survival. *Experimental Cell Research*, Apr 1;317(6), 802-811 (2011); doi:10.1016/j.yexcr.2010.12.009  
*I contributed to the research by designing the study, preparing and performing the experiments (immunoblotting, immunoprecipitation, matrin 3 expression silencing by siRNA, cellular functional tests, immunofluorescence staining, confocal microscopy, cell cycle analysis by flow cytometry). I analyzed the data. I was involved in manuscript preparation and in the discussion with the reviewers.*
  
11. Boncela J., **Przygodzka P.**, Papiewska-Pająk I., Wyroba E., Cierniewski C.S. Association of plasminogen activator inhibitor type 2 (PAI-2) with proteasome within endothelial cells activated with inflammatory stimuli. *Journal of Biological Chemistry*, Dec 16;286(50), 43164-43171 (2011); doi: 10.1074/jbc.M111.245647; PMID: 21976669  
*I contributed to the study by adjusting the method of cell culture, designing and performing cell transfection, designing the method of fluorescence staining of cells, and performing fluorescence imaging by confocal microscopy with image analysis. I was involved in manuscript preparation.*
  
12. Boncela J., **Przygodzka P.**, Wyroba E., Papiewska-Pająk I., Cierniewski C.S. Secretion of SerpinB2 from endothelial cells activated with inflammatory stimuli. *Experimental Cell Research*, May 1;319(8), 1213-1219 (2013); doi: 10.1016/j.yexcr.2013.02.018  
*I contributed to the study by adjusting the method of cell culture and performing cellular tests with inhibitors. I edited and reviewed the manuscript.*
  
13. Mena M.P., Papiewska-Pająk I., **Przygodzka P.**, Kozaczuk A., Boncela J., Cierniewski C.S. NFAT2 regulates COX-2 expression and modulates the integrin repertoire in endothelial cells at the crossroads of angiogenesis and inflammation. *Experimental Cell Research*, Jun 10;324(2), 124-136 (2014); doi: 10.1016/j.yexcr.2014.03.008  
*I performed integrins expression analysis on endothelial cells with data analysis. I was involved in manuscript preparation. I was involved in manuscript preparation.*

14. Kielbik M., Szule I., Brzezińska M., Bednarska K., **Przygodzka P.**, Sułowska Z., Nowak M., Klink M. Nitric oxide donors reduce the invasion ability of ovarian cancer cells in vitro. *Anticancer Drugs*, Nov; 25(10), 1141-1151 (2014); doi: 10.1097/CAD.0000000000000149  
*I performed metalloprotease expression analysis. I edited and reviewed the manuscript.*
15. Michalski M., St Swierzko A., Lukasiewicz J., Man-Kupisinska A., Karwaciak I., **Przygodzka P.**, Cedzynski M. Ficolin-3 activity towards the opportunistic pathogen, *Hafnia alvei*. *Immunobiology*, Jan; 220(1), 117-123 (2015); doi: 10.1016/j.imbio.2014.08.012  
*I contributed to the study by performing cell fluorescence imaging by confocal microscopy with image and scan analysis. I edited and reviewed the manuscript.*
16. Kaźmierczak-Barańska J., Pęczek Ł., **Przygodzka P.**, Cieślak M.J. Downregulation of striatin leads to hyperphosphorylation of MAP2, induces depolymerization of microtubules and inhibits proliferation of HEK293T cells. *FEBS Letters*, Jan 16; 589(2), 222-230 (2015); doi: 10.1016/j.febslet.2014.12.003  
*I contributed to the study by performing cell fluorescence imaging by confocal microscopy with image and scan analysis. I edited and reviewed the manuscript.*
17. Przygodzki T., Talar M., **Przygodzka P.**, Watała C. Inhibition of cyclooxygenase-2 causes a decrease in coronary flow in diabetic mice. The possible role of PGE2 and dysfunctional vasodilation mediated by prostacyclin receptor. *Journal of Physiology and Biochemistry*, Sep; 71(3), 351-358 (2015); doi: 10.1007/s13105-015-0415-y  
*I contributed to the study by performing immunoblotting with data analysis. I was involved in manuscript preparation.*
18. Lewkowicz N., Mycko M.P., **Przygodzka P.**, Ćwiklińska H., Cichalewska M., Matysiak M., Selmaj K., Lewkowicz P. Induction of human IL-10-producing neutrophils by LPS-stimulated Treg cells and IL-10. *Mucosal Immunology*, Mar; 9(2), 364-378 (2015); doi: 10.1038/mi.2015.66  
*I contributed to the study by performing cell fluorescence imaging by confocal microscopy with image and scan analysis. One of the images was chosen for the cover of the journal. I edited and reviewed the manuscript.*
19. Stasiak M., Boncela J., Perreau C., Karamanou K., Chatron-Colliet A., Proult I., **Przygodzka P.**, Chakravarti S., Maquart F.X., Kowalska M.A., Wegrowski Y., Brézillon S. Lumican Inhibits SNAIL-Induced Melanoma Cell Migration Specifically by Blocking MMP-14 Activity. *PLoS One*, Mar 1; 11(3):e0150226 (2016); doi: 10.1371/journal.pone.0150226  
*I took part in the generation of the cellular model used in the study, HT29 stable clones overexpressing Snail. I analyzed the morphology of clones and Snail expression. I was involved in manuscript preparation.*
20. **Przygodzka P.**, Papiewska-Pajak I., Bogusz H., Kryczka J., Sobierajska K., Kowalska M.A., Boncela J. Neuromedin U is upregulated by Snail at early stages of EMT in HT29 colon cancer cells. *Biochimica et Biophysica Acta (BBA) - General Subjects*, Nov; 1860(11 Pt A):2445-2453 (2016) doi: 10.1016/j.bbagen.2016.07.012  
*The contribution is described in section I.1.b.*
21. Kryczka J., **Przygodzka P.**, Bogusz H., Boncela J. HMEC-1 adopt the mixed amoeboid-mesenchymal migration type during EndMT. *European Journal of Cell Biology*, Jun; 96(4), 289-300 (2017); doi: 10.1016/j.ejcb.2017.04.002  
*I was involved in cell fluorescence imaging by confocal microscopy.*

22. Piątek P., Domowicz M., Lewkowicz N., **Przygodzka P.**, Matysiak M., Dzitko K., Lewkowicz P. C5a-Preactivated Neutrophils Are Critical for Autoimmune-Induced Astrocyte Dysregulation in Neuromyelitis Optica Spectrum Disorder *Frontiers in Immunology*, July 23 (2018); doi.org/10.3389/fimmu.2018.01694  
*I contributed to the study by performing cell fluorescence imaging by confocal microscopy with image and scan analysis. I edited and reviewed the manuscript.*
23. **Przygodzka P.**, Papiewska-Pajak I, Bogusz-Koziarska H, Sochacka E, Boncela J, Kowalska MA Regulation of miRNAs by Snail during epithelial-to-mesenchymal transition in HT29 colon cancer cells. *Sci Rep.* 2019 Feb 15;9(1):2165. doi: 10.1038/s41598-019-39200-7  
*The contribution is described in section I.1.b.*
24. Lewkowicz N., Piątek P., Namiecinska M., Domowicz M, Bonikowski R., Szemraj J., **Przygodzka P.**, Stasiolek M. and Lewkowicz P. Naturally Occurring Nervonic Acid Ester Improves Myelin Synthesis by Human Oligodendrocytes. *Cells*, 8, 786 (2019); doi:10.3390/cells8080786  
*I contributed to the study by performing cell fluorescence imaging by confocal microscopy with image and scan analysis. I edited and reviewed the manuscript.*
25. Piątek P., Namiecinska M., Domowicz M., **Przygodzka P.**, Wiczorek M., Michlewska S., Lewkowicz N., Tarkowski M. and Lewkowicz P. MS CD49d+CD154+ Lymphocytes Reprogram Oligodendrocytes into Immune Reactive Cells Affecting CNS Regeneration. *Cells*, 8, 1508 (2019); doi:10.3390/cells8121508  
*I contributed to the study by performing cell fluorescence imaging by confocal microscopy with image and scan analysis. I edited and reviewed the manuscript.*
26. **Przygodzka P.**, Soboska K., Sochacka E., Boncela J. Neuromedin U: A Small Peptide in the Big World of Cancer. *Cancers*, 11, 1312 (2019); doi:10.3390/cancers11091312  
*The contribution is described in section I.1.b.*
27. Szulc-Kielbik I., Kielbik M., **Przygodzka P.**, Brzostek A., Dziadek J., and Klink M. Mycobacterium tuberculosis Requires Cholesterol Oxidase to Disrupt TLR2 Signalling in Human Macrophages. *Mediators of Inflammation*, Article ID 2373791, (2019); doi.org/10.1155/2019/2373791  
*I contributed to the study by designing and performing TRAF6 expression silencing by siRNA in THP-1 cells. I was involved in manuscript preparation.*
28. Papiewska-Pajak I., Krzyzanowski D., Katela M., Rivet R., Michlewska S., **Przygodzka P.**, Kowalska M.A. and Brézillon S. Glypican-1 Level Is Elevated in Extracellular Vesicles Released from MC38 Colon Adenocarcinoma Cells Overexpressing Snail. *Cells*, 9, 1585 (2020); doi:10.3390/cells9071585  
*I analyzed the gene expression by real-time PCR. I was involved in manuscript preparation.*
29. Sobierajska K., Ciszewski W. M., Macierzynska-Piotrowska E., Klopocka W., **Przygodzka P.**, Karakula M., Pestka K., Wawro M.E. and Niewiarowska J. The New Model of Snail Expression Regulation: The Role of MRTFs in Fast and Slow Endothelial–Mesenchymal Transition. *International Journal of Molecular Sciences*, 21, 5875 (2020); doi:10.3390/ijms21165875  
*I analyzed the gene expression by real-time PCR. I edited and reviewed the manuscript.*

30. Papiewska-Pajak I., **Przygodzka P.**, Krzyzanowski D., Soboska K., Szulc-Kielbik I., Stasikowska-Kanicka O., Boncela J., Wagrowska-Danilewicz M. and Kowalska M.A. Snail Overexpression Alters the microRNA Content of Extracellular Vesicles Released from HT29 Colorectal Cancer Cells and Activates Pro-Inflammatory State In Vivo. *Cancers*, 13, 172 (2021); <https://doi.org/10.3390/cancers13020172>

*I contributed to the study by analyzing the results of sequencing of microRNA isolated from extracellular microvesicles. I was involved in manuscript preparation.*

31. **Przygodzka P.**, Sochacka E., Soboska K., Pacholczyk M., Papiewska-Pajak I., Przygodzki T., Płociński P., Ballet S., De Prins A., Boncela J. Neuromedin U induces an invasive phenotype in CRC cells expressing the NMUR2 receptor. *Journal of Experimental & Clinical Cancer Research* Sep 7;40(1), 283 (2021); doi: 10.1186/s13046-021-02073-8

*The contribution is described in section I.1.b.*

32. **Przygodzka P.**, Soboska K., Sochacka E., Pacholczyk M., Braun M., Kassassir H., Papiewska-Pajak I., Kielbik M., Boncela J. Neuromedin U secreted by colorectal cancer cells promotes a tumour-supporting microenvironment. *Cell Communication and Signaling* volume 20, Article number: 193 (2022); <https://doi.org/10.1186/s12964-022-01003-1>

*The contribution is described in section I.1.b.*

5. List of project, engineering and design as well as technological achievements (including the achievements not mentioned in section I.3).

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6. List of public realizations of works of art (including the works not mentioned in section I.3).

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7. Information on presentations given at national or international scientific or arts conferences, including a list of lectures delivered upon invitation and plenary lectures.

### Lectures

1. Pawlowska Z., **Baranska P.**, Jerczynska H., Koziolkiewicz W., Cierniewski C. S. *Detection of changes in cellular proteins profile: proteomics approach*. 2<sup>nd</sup> Summer School "Biomedical applications of carbon surfaces", Wysowa, September 2004.
2. **Baranska P.**, Jerczynska H., Koziolkiewicz W., Pawlowska Z., Cierniewski C.S. *Heat shock protein and other factors involved in protein synthesis are activated in human endothelial cells by VEGF. Proteomic analyses*. Seminary: „Mass spectrometry in proteome analysis” Warszawa, June 2005.

### Results presented during conferences

#### Before the conferment of the PhD degree

1. Jerczynska H., Pawlowska Z., Szemraj J., **Baranska P.**, Swiatkowska M., Cierniewski C.S. Wpływ peptydów natriuretycznych na ekspresję inhibitora aktywatora plazminogenu typu I (PAI-1) w komórkach śródbłonia ludzkiego. Konferencja Acta Angiologica, 8, 53, 2002, Kraków 2002; poster
2. Pawlowska Z., Jerczynska H., Szemraj J., **Baranska P.**, Swiatkowska M., Cierniewski C.S. Natriuretic peptides reduce plasminogen activator inhibitor-1 expression in endothelial cells by the inhibition of its promoter activity. European Life Scientist Organisation (ELSO) Congress, Nicea 2002; poster

3. Jerczynska H., Pawlowska Z., Szemraj J., **Baranska P.**, Swiatkowska M., Cierniewski C.S. Inhibition of PAI-1 promoter activity by C-type peptide in human endothelial cells. International Symposium on Promotion of International Cooperation in Eastern and Southern Europe in the Field of Medicinal Biotechnology, 58, Lodz 2002; poster
4. **Baranska P.**, Pawlowska Z., Jerczynska H. Cierniewski C.S. The role of vascular endothelial growth factor in an early phases of proangiogenic changes in human endothelial cells. XIXth Congress of the International Society on Thrombosis and Haemostasis, Birmingham 2003; CD067, J. Thromb. Haemost., suppl. 1 July 2003; poster
5. Pawlowska Z., Jerczynska H., **Baranska P.**, Swiatkowska M., Cierniewski C.S. Downregulation of PAI-1 expression by natriuretic peptides is mediated by MAPK cascade in human endothelial cells. XIXth Congress of the International Society on Thrombosis and Haemostasis, Birmingham 2003, P1275, J. Thromb. Haemost., suppl. 1 July 2003; poster
6. **Baranska P.**, Jerczynska H., Koziolkiewicz W., Pawlowska Z., Cierniewski C.S. Induction of the angiogenic phenotype in HUVEC by VEGF. Acta Bioch. Pol., 50, 185, suppl. 1/2003; poster
7. Pawlowska Z., **Baranska P.**, Jerczynska H., Koziolkiewicz W., Cierniewski C.S. Cellular machinery for protein synthesis is highly upregulated in VEGF-activated human endothelial cells. IV Interdisciplinary Euroconference on Angiogenesis. p51, Helsinki, Finland 2004; poster
8. Pawlowska Z., **Baranska P.**, Jerczynska H., Koziolkiewicz W., Cierniewski C. S. Upregulation of cellular machinery for protein synthesis upon activation of human endothelial cells by VEGF. 29th Meeting of the Federation of the European Biochemical Societies, Warsaw, 2004, Europ. J. Biochem. The FEBS Journal, 271, suppl. 1, 2004; poster
9. Jerczynska H., **Baranska P.**, Pawlowska Z., Walkowiak B. Growth of endothelial cells at surfaces of selected biomaterials. 2nd Summer School: Biomedical applications of carbon surfaces. 10, 2004, 21st - 25th of September 2004, Lodz / Wysowa; poster
10. Pawlowska Z., Komorowski J., Jerczynska H., Siejka A., **Baranska P.**, Lawnicka H., Stepień H. Thalidomide Affects Early Phases of VEGF Stimulated Angiogenesis in Human Endothelial Cells. a/ The FEBS Journal, 272, suppl. 1, 043P, Budapest 2005 b/ J. Thromb. Haemost., 3, suppl. 1, P0555, Sydney 2005; poster
11. Walkowiak B., Jerczynska H., **Baranska P.**, Koziolkiewicz W., Pawlowska Z. Interaction of endothelial cells with selected biomaterials causes changes in protein expression profile. The FEBS Journal, 272, suppl. 1, Budapest 2005; poster
12. Walkowiak B., Jerczynska H., **Baranska P.**, Koziolkiewicz W., Pawlowska Z. Protein expression profile of endothelial cells is changed by contact with selected biomaterials. Konferencja Biologii Komórki, Łódź 2005, Folia Histochemica et Cytobiologica, 43, suppl. 1, S5/2, 2005; poster

After the conferment of the PhD degree:

13. **Przygodzka P.**, Olausson B., Tengell T., Larsson G., Wilczynska M. Bomapin Is a Redox-regulated Serpin which Stabilizes Retinoblastoma Protein during Apoptosis and Increases Proliferation of Leukemia Cells. XIth International Workshop on Molecular and Cellular Biology of Plasminogen Activation, Satsjobaden, Sztokholm, Sweden 2007; poster

14. Olausson B., **Przygodzka P.**, Dahl L., Carlsson L., Wilczynska M. The Serpinb8 Is Alternatively Spliced to the Known Long Form and a Novel Short Form. XIth International Workshop on Molecular and Cellular Biology of Plasminogen Activation, Satsjobaden, Sztokholm, Sweden 2007; poster
15. **Przygodzka P.**, Boncela J., Cierniewski C.S. Nuclear matrix protein matrin 3 as a possible nuclear processes regulator. 21st International Union of Biochemistry and Molecular Biology International Congress and 12th Federation of National Societies of Biochemistry and Molecular Biology in the Asian and Oceanian Region Congress of Biochemistry and Molecular Biology: "Biomolecules for Quality of Life" Zjazd Międzynarodowego Towarzystwa Biochemii i Biologii Molekularnej, Szanghaj, Chiny 2009; poster
16. Boncela J., **Przygodzka P.**, Cierniewski C.S. Interaction of PAI-1 and proteasome in endothelial cells. 21st International Union of Biochemistry and Molecular Biology International Congress and 12th Federation of National Societies of Biochemistry and Molecular Biology in the Asian and Oceanian Region Congress of Biochemistry and Molecular Biology: "Biomolecules for Quality of Life" Zjazd Międzynarodowego Towarzystwa Biochemii i Biologii Molekularnej, Szanghaj, Chiny 2009; poster
17. Boncela J., Papiewska-Pajak I., **Przygodzka P.**, Wyroba E., Cierniewski C.S. PAI-1 and PAI-2 inhibit proteasome activity favoring proapoptotic signaling in endothelial cells. XXIII International Congress of the International Society of Thrombosis and Haemostasis, 23-28 lipca 2011, Kyoto, Japonia; poster
18. Mena M.P., Papiewska-Pajak I., Kozaczuk A., Stasiak M., Boncela J., **Przygodzka P.**, Cierniewski C.S. Role of the Nuclear Factor of Activated T cells (NFAT) in Inducing a Pro-angiogenic Profile of Integrin Expression in Endothelial Cells. 2nd Congress of Biochemistry and Cell Biology, 46th Meeting of the Polish Biochemical Society and 11st Conference of the Polish Cell Biology Society; 5-9 września 2011, Kraków, Acta Biochimica Polonica (2011), Vol. 58, suppl. 2, p. 149; poster
19. **Przygodzka P.**, Boncela J., Wyroba E., Papiewska-Pajak I. and Cierniewski C.S. Secretion of PAI-2 from endothelial cells activated with inflammatory stimuli. 22nd International Union of Biochemistry and Molecular Biology & 37th FEBS Congress Seville, Spain September 4–9, 2012 FEBS Letters Volume 279 Supplement 1 September 2012; poster
20. Mena M.P., Kozaczuk A., Papiewska-Pajak I., **Przygodzka P.**, Stasiak M., Boncela J., Cierniewski C.S. Nuclear Factor of Activated T cells (NFAT) as a Switch Inducing a Pro-angiogenic Integrin Profile in Endothelial Cells. 47th Congress of the Polish Biochemical Society and Polish-German Biochemical Societies Joint Meeting, 2012. 11-14 września 2012, Poznań Acta Biochimica Polonica (2012), Vol.59 suppl. 3, p. 131; poster
21. **Przygodzka P.**, Boncela J., Papiewska-Pajak I., Słapek M., Cierniewski C.S. VEGF and PAI-1 in endothelial cells apoptosis: balance between survival and death signals. 38th FEBS Congress: Mechanisms in Biology, Saint Petersburg, Russia, July 6–11, 2013 FEBS Journal, Volume 280, Issue Supplement s1:246; SW03.S13–119; poster
22. Mena M.P., Papiewska-Pajak I., **Przygodzka P.**, Boncela J., Cierniewski C.S. Nuclear Factor of Activated T cells (NFAT) as a key control of endothelial cell phenotype. 38th FEBS Congress: Mechanisms in Biology, Saint Petersburg, Russia, July 6–11, 2013 FEBS Journal, Volume 280, Issue Supplement s1:24; SW01.S1–70; poster

23. Papiewska-Pajak I., Balcerzyk A., Słapek M., Boncela J., **Przygodzka P.**, Bartosz G., Cierniewski C.S. The influence of VEGF-D on redox homeostasis of human endothelial cells. 38th FEBS Congress: Mechanisms in Biology, Saint Petersburg, Russia, July 6–11, 2013 FEBS Journal Volume 280, Issue Supplement s1:246; SW03.S13–118; poster
24. Słapek M., Papiewska-Pajak I., **Przygodzka P.**, Boncela J., Cierniewski C.S., Kowalska M.A. Microvesicles secreted from the colorectal cancer cell line HT29 can transfer into cells constituting metastatic niche. BIO 2014 Congress, Warsaw, Poland, September 9th - 12<sup>th</sup>, Abstracts Supplement 1:55, P2.45; poster
25. Klink M., Kielbik M., Szulc Kielbik I., **Przygodzka P.**, Sulowska Z. Antitumoral activity of Nitric oxide-releasing compounds. IV International workshop on Nitric oxide Institute of Biomedicine of Sevilla (IBiS) Sevilla, Spain March 13-14, 2015; lecture delivered upon invitation (M Klink)
26. **Przygodzka P.**, Papiewska-Pajak I., Kryczka J., Sobierajska K., Kowalska M.A., Boncela J. New players in the early stages of colon cancer metastasis – transcriptional changes orchestrated by SNAIL. The 6th EMBO Meeting 2015, 5-8 September, Birmingham, United Kingdom, A 208, p.92; poster
27. Papiewska-Pajak I., **Przygodzka P.**, Boncela J., Kowalska M.A. Colorectal Cancer Cell Line HT29 Secrete Microvesicles that Can Be Incorporated into Cells Constituting Metastatic Niche.” The 42nd Congress of the International Society of Oncology and Biomarkers „Oncology in the biomarker era: Biology-Diagnostics-Therapy. ISOBM 2015 , 3-7 October, Zakopane; Tumor Biology, volume 36, Issue 1 Supplement, PP-49, poster
28. **Przygodzka P.**, Papiewska-Pajak I., Kryczka J., Sobierajska K., Kowalska M.A., Boncela J. New Players in the Early Stages of Colon Cancer Metastases - Transcriptional Changes Orchestrated by SNAIL. The 42nd Congress of the International Society of Oncology and Biomarkers „Oncology in the biomarker era: Biology-Diagnostics-Therapy” ISOBM 2015 , 3-7 October, Zakopane; Tumor Biology, volume 36, Issue 1 Supplement, PP-53; poster
29. Piątek P., Domowicz M., Lewkowicz N., **Przygodzka P.**, Matysiak M., Dzitko K., Selmaj K.W., Lewkowicz P. Anti-AQP4 autoantibody, C5a, neutrophils and glutamate - four necessary, related components essential for neuromyelitis optica inflammation. Abstract: EP1456; 7th The European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) (joint with ACTRIMS) Meeting 25 - 28 October 2017, Paris, France; poster
30. Krzymińska A., Boncela J., **Przygodzka P.**, Galdyszyńska M., Ciosek J., Drobnik J. Induction of expression changes of the integrin subunit alpha 2 (ITGA2) in human heart fibroblast cultures. Oral presentation S1.8 (Drobnik J); 27th Congress of The Polish Physiological Society, Journal of Physiology and Pharmacology 2017 Sept; vol. 68, suppl.1, p.33; poster
31. Papiewska-Pajak I., **Przygodzka P.**, Michlewska S., Krzyżanowski D., Boncela J., Kowalska M.A. Extracellular vesicles secreted by colorectal cancer cell line HT29 overexpressing Snail can fuse with and activate the cells constituting metastatic niche. BIO 2018 Congress Gdańsk, Poland, September 2018 Acta Biochimica Polonica Vol 65 No S2 (2018): Supplement: Book of Abstracts Link: <https://ojs.ptbioch.edu.pl/index.php/abp/issue/view/42> Congress BIO 2018 Session 17: Tumor Microenvironment in Cancer Progression Page 105 O17.4; poster

32. **Przygodzka P.**, Papiewska-Pajak I., Bogusz H., Boncela J., Kowalska M.A. Snail regulation of microRNAs during epithelial-to-mesenchymal transition in HT29 colorectal cancer cells. BIO 2018 Congress Gdańsk, Poland, September 2018 Acta Biochimica Polonica Vol 65 No S2 (2018): Supplement: Book of Abstracts Link: <https://ojs.ptbioch.edu.pl/index.php/abp/issue/view/42> Congress BIO 2018 Session 17: Tumor Microenvironment in Cancer Progression Page 107 P17.3; poster
  33. Papiewska-Pajak I., **Przygodzka P.**, Michlewska S., Krzyżanowski D., Boncela J., Kowalska M.A. Snail modulates extracellular vesicles-mediated interleukin release by cells constituting premetastatic niche in human colorectal cancer. ISEV2018, Hiszpania, Barcelona 02-06.05.2018 r. (2018) ISEV2018 abstract book, Journal of Extracellular Vesicles Volume 7, 2018 - Issue suppl: ISEV 2018 abstract book Link: <https://www.tandfonline.com/doi/abs/10.1080/20013078.2018.1461450> ISEV 2018 abstract book Page 233 PS07.06; poster
  34. Sochacka E., Soboska K., **Przygodzka P.** Charakterystyka linii komórkowych raka jelita grubego i odbytnicy pod względem ekspresji neuromedyny U. IV Ogólnopolska Konferencja Doktorantów Nauk o Życiu BIOOPEN ŁÓDŹ, 24 – 25.05.2018 r. Poster P.98; poster
  35. Soboska K., Sochacka E., **Przygodzka P.**, Boncela J. Neuromedin U as a potential colorectal cancer microenvironment modulator. European Association for Cancer Research (EACR) 2nd joint EACR-MRS Conference "Seed and Soil - mechanisms of metastasis" 07-09 October 2019 Berlin, Germany; poster session, poster no. 104, Abstract book page 139; poster
  36. Sochacka E., Soboska K., **Przygodzka P.**, Boncela J. Neuromedin U is implicated in colorectal cancer cells invasiveness. European Association for Cancer Research (EACR) 2nd joint EACR-MRS Conference "Seed and Soil - mechanisms of metastasis" 07-09 October 2019 Berlin, Germany; poster session, poster no. 105, Abstract book page 140; poster
  37. Soboska K., Sochacka E., Pacholczyk M., Papiewska-Pajak I., Braun M., Kielbik M., Boncela J., **Przygodzka P.** Neuromedin U as a modulator of CRC microenvironment – induction of colorectal cancer cells and macrophages motility. 18th Biennial Congress of the Metastasis Research Society, November 15 – 17, 2021; poster no. 75; poster
  38. Soboska K., Sochacka E., Pacholczyk M., Papiewska-Pajak I., Braun M., Kassassir H., Kielbik M., Boncela J., **Przygodzka P.** Modulation of colorectal cancer microenvironment by neuromedin U secreted by cancer cells - the importance of functional tumour associated cells in cancer invasiveness research. EACR conference Seed and Soil: In Vivo Models of Metastasis Virtual Event, Worldwide: 25 - 26 January 2022 POSTER NO. 21; poster
8. Information on participation in organizational and scientific committees at national or international conferences, including the applicant's function.

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9. Information on participation in the works of research teams realizing projects financed through national and international competitions, including the projects which have been completed and projects in progress, and information on the function performed in the team.

Project Title and No.	Funding	Project status	Function
Identification of selected proteins involved in induction of proliferative-migratory endothelial cells phenotype” PBZ-KBN-039/PO4/2001 (2001-2004) Medical University of Lodz	Polish Ministry of Scientific Research and Information Science	completed	Investigator
Centre of Excellence in Molecular Medicine MolMed (Medical University of Lodz)	Fifth Framework Programme of the European Community (2003-2005)	completed	Investigator
Physiology and pathology of intracellular serpins in hematopoietic differentiation and leukemia development. Dept. Of Medical Biochemistry and Biophysics, Umea University, 901 87 Umea, Sweden	Cancer Research Found in Norrland, Sweden 2006	completed	Investigator
Structure, physiology and pathology of intracellular serpins: hematopoietic differentiation and leukaemia. Dept. Of Medical Biochemistry and Biophysics, Umea University, 901 87 Umea, Sweden.	Foundation for Collection of Donations at the Medical Faculty, Umeå University Sweden 2006	completed	Investigator
New, internal role of plasminogen activator inhibitors in endothelial cells. 3386/B/P01/2007/33 (2007-2010) Institute for Medical Biology PAS, Lodz.	Polish Ministry of Scientific Research and Higher Education MNiSW	completed	Investigator
Modulation of progenitor endothelial cells angiogenic properties by cancer cells released factors. N301 4392 38 (2010-2013) Medical University of Lodz	Polish Ministry of Scientific Research and Higher Education	completed	Investigator
<b>POMOST – support for pregnant women.</b> POMOST_C/16 01.07.2010 – 3.10.2010	Foundation for Polish Science	completed	<b>Laureate</b>
The study of molecular mechanisms of interactions between human organism – pathogens – environmental factors (InterMolMed).” (2010-2013) Grant no. POIG.01.01.02-10-107/09	Co-financed by the European Regional Development Fund under the Operational Programme Innovative Economy	completed	Investigator

PAI-1 as a regulator of pro- and anti - apoptotic balance in endothelial cells. OPUS no 2001/01/B/NZ3/00194 (2011 - 2015)	The National Science Centre.	completed	Investigator
Early molecular mechanisms in invasive colon cancer cells induced by the genes controlled by the Snail transcription factor. MAESTRO no 2011/02/A/NZ3/00068 (2012 -2017)	The National Science Centre	completed	Investigator
Molecular Mechanisms of Tissue Fibrosis. MOMENTO-NCBiR (ID: 202952) II edition of Norway Grants (2013 - 2016)	The National Centre for Research and Development	completed	Investigator
Dysregulation of miRNA molecules responsible for maturation of oligodendrocyte precursor cells/progenitors (OPCs) as a key element of impaired remyelination in multiple sclerosis. UMO-2014/13/B/NZ6/00235 – NCN (2015 - 2018)	The National Science Centre	completed	Investigator
Recognition of genes associated with H3K4me3 histone protein responsible for polarization of neutrophils into suppressor cells during refractory inflammatory diseases. UMO-2015/17/B/NZ6/04251 – NCN (2016 - 2019)	The National Science Centre	completed	Investigator
Involvement of cholesterol oxidase of Mycobacterium tuberculosis in the modulation of TLR2-dependent signaling pathway in human macrophages and neutrophils. 2014/15/B/NZ6/01565 – NCN (2015 - 2019)	The National Science Centre	completed	Investigator
The impact of the integrin alpha-2 beta-1 on collagen metabolism regulation in atrial fibroblasts. 2015/17/B/NZ5/01382 – NCN (2016 - 2020)	The National Science Centre	completed	Investigator
Neuromedin U, new potential regulator of colorectal cancer metastasis mechanisms. <b>Sonata Bis 6</b> no 2016/22/E/NZ3/00341 – NCN (2016 - 2022)	The National Science Centre	completed	<b>Principal Investigator</b>
The evaluation of SNAIL 1 and SNAIL 2 transcriptional factors' role in the development of ovarian cancer cells' chemoresistance in regard to their invasiveness. 2019/35/D/NZ5/00558 - NCN (2020 – 2023)	The National Science Centre	In progress	Investigator

Prognostic potential of neuromedin U and its receptors in the colorectal cancer, importance in the metastasis. <b>Opus 21</b> - 2021/41/B/NZ5/01147 – NCN (2022-2025)	The National Science Centre	In progress	<b>Principal Investigator</b>
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10. Membership in international or national organizations and scientific societies, including the functions performed by the applicant.

<b>2014 – 2017</b>	Polish Biochemical Society
<b>2021 – 2023</b>	The European Association for Cancer Research (EACR), Membership number: EACR31887
<b>2012 - 2019</b>	Secretary of the Scientific Board of the Institute of Medical Biology Polish Academy of Science

11. Information on internships completed in scientific or artistic institutions, also abroad, including the place, time and duration of the internship and its character.

**Post-doctoral training**

<b>09.2005 – 07.2007</b>	Department of Medical Biochemistry and Biophysics, Umeå University, 901 87 Umeå, Sweden
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12. Membership in editorial committees and scientific boards of journals, including the functions performed by the applicant (e.g. editor-in-chief, chairman of scientific board etc.).

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13. Information on scientific or artistic works reviewed, in particular those published in international journals.

2019	Elsevier	Biomedical Journal	1 article
2020	MDPI	Cancers	3 articles
2020	MDPI	Cells	1 article
2020	Elsevier	Advances in Medical Sciences	1 article
2022	Cell Press	Molecular Therapy - Nucleic Acids	1 article
2022	MDPI	International Journal of Molecular Sciences	1 article

## 14. Information on participation in European or other international programmes.

Project Title and No.	Funding	Project status	Function
Centre of Excellence in Molecular Medicine MolMed (Medical University of Lodz)	Fifth Framework Programme of the European Community (2003-2005)	completed	Investigator
The study of molecular mechanisms of interactions between human organism – pathogens – environmental factors (InterMolMed).” (2010-2013) Grant no. POIG.01.01.02-10-107/09	Co-financed by the European Regional Development Fund under the Operational Programme Innovative Economy	completed	Investigator

## 15. Information on participation in research teams realizing projects other than those defined in section II.9.

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## 16. Information on membership in the teams assessing applications for financing of research projects, applications for scientific awards, applications in other competitions of scientific or didactic character.

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**III. INFORMATION ON COOPERATION WITH SOCIAL AND ECONOMIC ENVIRONMENT**

## 1. List of technological works.

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## 2. Information on cooperation with economic sector.

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## 3. Obtaining the right of industrial property, including the national or international patents granted.

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## 4. Information on implemented technologies.

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## 5. Information on performed expert analyses or other studies prepared on request of public institutions or entrepreneurs.

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## 6. Information on participation in expert and competition teams.

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## 7. Information on artistic projects realized in non-artistic environment.

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**IV. SCIENTOMETRIC INFORMATION**

1. Information on the Impact Factor (in the fields and disciplines in which this parameter is commonly used as a scientometric index).

**List of publications**

research article:	<b>30</b>
review:	<b>2</b>
monography:	<b>1 (PL)</b>
conference communication:	<b>38</b>
• international:	<b>27</b>
• local:	<b>11</b>

IF summary:	<b>129,635</b>
IF of research articles	<b>123,509</b>
IF of research articles as a first author:	<b>34,942</b>
IF of reviews:	<b>6,126</b>

- Citations w/o self-citations:**            **496**        (SCOPUS)  
                                                          **418**        (ISI Web of Science Core Collection)

- h - index:**                      **14**        (SCOPUS)  
                                                 **13**        (ISI Web of Science Core Collection)

- Points by KBN/MNiSW/MEiN**  
the year of publication

summary:	<b>1898</b>
research articles	<b>1753</b>
research articles as a first author:	<b>517</b>
reviews	<b>145</b>

*Information included in section IV should also indicate the database, which was the source of information. When selecting this database specific character of the scientific field and discipline in which the candidate applies for the conferment of the post-doctoral degree of doctor habilitated should be considered as an important factor. The Council of Scientific Excellence informs that in its opinion it is recommended to provide the scientometric data; it is also a widespread practice applied by the applicants seeking academic promotion. It should be stressed, however, that scientometric data included in the applications for the commencement of promotion procedures cannot serve as a criterion for evaluation of the Candidate's scientific work for the entities awarding the PhD and post-doctoral degrees and for the Council of Scientific Excellence itself, or for the bodies running procedures for the award of a degree or title. The primary goal of these entities is expert evaluation of the scientific work of the Candidate seeking academic promotion. The decision on the conferment of the degree or title should not depend on the fact that such data is included.*

- 17 -