

**Documentation for the application
for the initiation of the habilitation procedure**

SELF - PRESENTATION

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Warszawa 2016

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1 PERSONAL DATA

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 Phone: 22 623 32 52
 Researcher ID: J-2859-2013
 ORCID: <http://orcid.org/0000-0003-3319-3024>

2 DIPLOMAS AND SCIENTIFIC DEGREES

- 2003** | **Central Institute for Labour Protection-National Research Institute**
Obtaining the degree of doctor of technical sciences in the discipline of environmental engineering
 Thesis title: Methods of enzymatic derivatization in high performance liquid chromatography of selected environmental pollutants
 supervised by Prof. dr. Marek Trojanowicz
- 1993** | **University of Warsaw, Faculty of Chemistry**
 master 's degree in chemistry,
 Thesis title: The determination of traces of aluminum in the pharmaceutical by inversion voltamperometry method
 supervised by Prof. dr hab. Stanisław Rubel
- 1988** | **Technical School of Chemistry No. 3 in Warsaw**
 Obtaining a diploma technician analyst

3 HISTORY OF EMPLOYMENT

- 2004 - 2016** | *Head of Laboratory of Chromatographic Methods*
Central Institute for Labour Protection-National Research Institute,
Department of Chemical, Aerosols and Biological Hazards
- 2004 - 2016 | *Lecturer*
Central Institute for Labour Protection-National Research Institute
- 1995 - 2004 | *Assistant*
Central Institute for Labour Protection-National Research Institute
- 1993 - 1995 | *Chemist*
Central Institute for Labour Protection-National Research Institute

M. Szewczyńska

4 SELF - PRESENTATION – COURSE OF SCIENTIFIC WORK AND SCIENTIFIC ACHIEVEMENTS WITH THE EXCEPTION OF THE RESULTS RELATED WITH HABILITATION THESIS

In 1988, I started 5-year Master's degree studies at the Faculty of Chemistry at the University of Warsaw. I prepared my Master's thesis entitled "*Oznaczanie śladów glinu w preparatach farmaceutycznych metodą woltamperometrii inwersyjnej*" (*Determination of aluminium traces in pharmaceutical preparations by way of inverse voltammetry*) at the Laboratory of Applied Analytical Chemistry under the supervision of Professor Stanisław Rubel, PhD. Results of the thesis were published in Fresenius' Journal of Analytical Chemistry [1] in 1995.

In August 1993, I started working at the Central Institute for Labour Protection – National Research Institute (CIOP), at the Laboratory of Chromatographic Methods. In the years 1993–1996, I conducted research related to the development of analytical methods for the determination of chemicals in the air in the work environment, adjusted to meet the hygienic standard values in force. In my research, I employed a variety of methods for collecting air samples at work stations and methods for their preparation for analysis, using various chromatographic techniques [32, 33]. Research conducted at that time allowed me to become familiar with the work environment and conditions at work establishments. In the following years, results of these studies provided the basis for development of 8 Polish Standards.

Under the supervision of Małgorzata Pośniak, PhD, (Laboratory Head), I also participated in research projects related to the determination of chemicals emitted into the air during the processing of phenol formaldehyde resins [2]. I was also involved in the development of research procedures as well as the preparation of the laboratory for introduction of a quality system, and its accreditation. In the years 1995–1997, I participated in a Polish–Swedish project related to the establishment of an educational centre and development of a training programme on occupational safety and health; since 1997, I have been a lecturer at the Centre for Education at the Central Institute for Labour Protection – National Research Institute. I lecture on the subject of chemical factors in the work environment, exposure assessment and occupational risk assessment. I also conduct practical classes in methods for collecting air samples, and chemical analysis using chromatographic techniques.

I have presented the results of my research on chemical substances at scientific conferences related to both work environment hazards and analytical chemistry, and at other chromatography seminars. This helped me begin collaboration with Professor Bogusław Buszewski, PhD, of the Nicolaus Copernicus University in Toruń, and with his team. Professor Buszewski was then and is now a member of the Scientific Council at the Central Institute for Labour Protection – National Research Institute, and a consultant at the Department of Chemical, Biological and Aerosol Hazards. As Professor Buszewski was so good as to share his knowledge with me during numerous consultations, I was able to enhance my analytical skills as well as extend and improve my knowledge of chromatography. This, in turn, I used in my professional career and during the development and implementation of projects. Currently, since 2016, I have had the pleasure of continuing cooperation with Professor Buszewski also as a member of the Team of Chromatography and Related Techniques at the Committee on Analytical Chemistry of the Polish Academy of Sciences (PAN).

Having taken up the position of assistant lecturer at the Laboratory of Chromatographic Methods (1995), I started scientific cooperation with Professor Marek Trojanowicz, PhD, head of the Laboratory of Chromatographic Methods and Flow Analysis. This cooperation was related to high-performance liquid chromatography and modern methods for the detection of organic compounds. In 1999, at the Central Institute for Labour Protection – National Research Institute, I was admitted to a PhD degree programme on the “Methods for enzymatic derivatisation in high-performance liquid chromatography of selected environmental pollutants” under the supervision of Professor Trojanowicz. I conducted the research at the Faculty of Chemistry, University of Warsaw. In experiments, I initially used the flow injection analysis (FIA) system. For such a system, I optimised the conditions for the determination of phenols using enzymatic derivatisation in reactors with enzymes immobilised on porous glass. I determined a method for enzyme immobilisation in a constructed biosensor which was used for amperometric enzymatic detection in high-performance liquid chromatography. I also conducted research into the use of biosensors with diamine oxidase in flow analysis and high-performance liquid chromatography for the determination of biogenic amines [3–6]. I defended my PhD thesis, and was awarded a distinction, in 2003. The thesis also received an Award of the 2nd Degree in the National Contest for the Improvement of Working Conditions in the field of scientific research.

In 2002–2004, as part of the 1st Phase of the Long-term Programme entitled “*Adjustment of working conditions in Poland to European Union standards*”, I co-authored a paper concerning occupational exposure of iron foundry workers, which was repeatedly published [35, 38].

In 2004, I switched to the position of Assistant Professor, and was appointed Head of the Laboratory of Chromatographic Methods at the Central Institute for Labour Protection – National Research Institute.

In 2005, a significant publication of mine came out, which I consider to be the summary of the first stage of my professional career [7]. This publication presents new analytical possibilities in the use of biosensors as detectors in high-performance liquid chromatography, and an opportunity for the transfer of such systems to testing in various environments, for different analyses and with various samples.

In the second stage of research work, my professional interest was initially related to the identification and determination of dioxins and furans in the work environment, and the possibilities for their analysis. The development of this interest has been significantly contributed to by Professor Adam Grochowalski of the Krakow University of Technology, and Professor Juan Conesa of the University of Alicante. Thanks to the Professors’ assistance and knowledge, and to the possibility of cooperation with them, I have managed to become equipped with appropriate apparatus, train employees, and adapt, in terms of the facilities provided, certain laboratories being part of the Laboratory of Chromatographic Methods for the determination of trace amounts of highly toxic chemicals in the air. In 2003–2007, I was in charge of research which formed part of statutory activities of the Central Institute for Labour Protection – National Research Institute, entitled: “*Badania polichlorowanych dibenzodioksyn, dibenzofuranów i innych związków halogenoorganicznych w gazach i popiołach ze spalarni odpadów*” (*Testing on polychlorinated dibenzodioxins, dibenzofurans and other halogenated organic compounds in gases and ashes from waste incineration plants*), and of a research project entitled: “*Badanie wysokotoksycznych organicznych zanieczyszczeń środowiska emitowanych z niekontrolowanych źródeł spalania z wykorzystaniem technik sprzężonych i metod chromatograficznych*” (*Testing on highly toxic organic environmental pollutants emitted from uncontrolled sources of combustion using coupled techniques and chromatographic methods*), implemented as part of the 2nd stage of the Long-term

Programme entitled “*Adjustment of working conditions in Poland to European Union standards*”. These projects allowed me to become highly familiar with trace analysis techniques, extraction methods, and the enrichment and multi-step purification of environmental samples. During that period, I improved my knowledge of gas chromatography techniques using a quadrupole mass spectrometer or a mass spectrometry detector with multi-stage particle fragmentation. I presented results of the studies in a number of publications [9, 10, 13, 34, 36, 37, 39].

Since 2008, my subsequent tasks/projects have concerned qualitative and quantitative tests and the assessment of exposure to harmful chemicals released in various engineering processes. Initially, these were processes of high-temperature metalworking, generating finely dispersed particulate matter. In them I focused on the analysis of polycyclic aromatic hydrocarbons emitted into the air as well as of volatile organic compounds, aldehydes and ketones. Polycyclic aromatic hydrocarbons were also the subject of research in a project concerning the testing of overall exposure to UV radiation and chemical agents in the work environment of workers of asphalt plants and pavement laying companies [30, 38]. In 2008–2010, I was also the main contractor in a project entitled “*Ocena zagrożeń chemicznych pracowników firm budowlanych układających nawierzchnie dróg*” (*Assessment of chemical hazards to workers of pavement laying construction companies*), financed by the Social Insurance Institution (ZUS) as part of the “Improvement of Working Conditions” contest.

I also became involved in the trend of research related to the use of high-performance liquid chromatography for the determination of active substances emitted into the air in the work environment during the production of pharmaceutical preparations. This involved cooperation with Professor Krystyna Pyrzyńska, PhD, and Associate Professor Magdalena Biesaga of the Faculty of Chemistry at the University of Warsaw. I also acted as supervisor for an MSc thesis for the first time, and the research conducted led to joint publications [8, 42–44]. Cooperation with Professor Pyrzyńska and the Laboratory of Flow Analysis team continues to this day, the effect of which has been 6 MSc theses completed at the Central Institute for Labour Protection – National Research Institute under my supervision. I also continued dealing with issues related to pharmaceutical substances when participating in a project in the 3rd stage of the Long-term Programme (2014–2016) entitled “Improvement of safety and working conditions”. At that time, I developed methods for the determination of 4 cytostatics in the air in the work environment, which were used for testing barrier properties of fabrics used for protective clothing and gloves [30, 52].

In parallel with the issues associated with pharmaceuticals, I conducted research in which I had had scientific interest since 2008, namely chemical analysis of particulate matter fractions emitted from various sources. Due to widespread occurrence in both the natural and work environment, and its harmful effects on human health, particulate matter, or aerosol, remains an interesting research subject. Hence, in the years 2008–2016, I was the main development contractor or co-contractor of 6 projects related to the separation into fractions with different aerodynamic diameters, and chemical analysis of selected fractions of particulate matter emitted into the environment from various anthropogenic sources and engineering processes. This research allowed me to introduce new probes to the analysis of the work environment. They enable the separation of particulate matter fractions, and the selection of techniques of extraction of the chemicals adsorbed onto them. The papers published in these years have been included in a series of publications providing a basis for the post-PhD habilitation thesis. In addition, I published methods for the determination of the substances I have been testing in particulate matter (in aerosol) in the *Podstawy i Metody Oceny Środowiska Pracy* journal, which is a publication of the Interministerial Committee for

Maximum Limit Concentrations and Levels of Agents Harmful to Health in the Work Environment [51, 52, 54].

In 2008–2010, I took advantage of my analytical experience related to the determination of chemicals (i.e. volatile organic compounds and carbonyl compounds) and used it in the work carried out at the Institute, *inter alia* relating to assessment of occupational exposure of employees of cleaning companies, hairdressing salons and beauty parlours, and painting conservators [16, 22, 45, 47].

Participation in a project implemented under the seventh framework programme for research, technological development and demonstration activities (FP7, 2007–2013), in the specific programme COOPERATION supporting international research cooperation in the thematic area of Nano Knowledge, nanotechnologies, materials, and new production technologies, allowed me to return to the subject of sensors. The project was entitled INgENIOuS (Innovative Nanostructured Optochemical Sensors), and concerned the assessment and validation of prototypes of a newly developed nanosensor for the detection of benzene, toluene, and xylene, as well as polycyclic aromatic hydrocarbons. Study results were presented at a conference, and published in reviewed conference materials [31].

In 2008–2016, I was a member of the Scientific Council of the Central Institute for Labour Protection – National Research Institute.

Since 2014 I have been the topical editor of the *Bezpieczeństwa Pracy – Nauka i Praktyka* journal listed in Part B of the List of Scientific Journals of the Ministry of Science and Higher Education.

I have presented the findings of my research work (including those related to the post-PhD habilitation thesis) at 27 national and 12 international conferences.

I have presented my expertise in the methods for collecting air samples, chromatographic analysis, and the assessment of exposure and of the risk posed by chemical agents in the work environment in 10 topical brochures published by the Central Institute for Labour Protection – National Research Institute, in popular science publications [39, 40], and in publications included in sector-oriented journals [14, 25].

In addition to the main trend in my research, I have issued expert opinions and carried out commissioned work for the industry, research laboratories, and other institutions. The above-mentioned work concerned the qualitative and quantitative determination of harmful chemicals in the work environment, assessment of exposure to these agents, and development of determination methods. A list of selected work tasks is attached to my academic record.

H. Bzeworska

4.1 PROFESSIONAL AND SCIENTIFIC INTERESTS

My professional and scientific interests concern:

- development of techniques of high-performance liquid chromatography, gas chromatography, and ion chromatography for the analysis of chemical agents in the work environment, with particular reference to carcinogenic agents;
- application of chromatographic and mass spectrometry methods for identification and determination of chemicals (mainly volatile organic compounds) in the work environment as well as in office and residential premises;
- application of liquid chromatography with various detection methods for determination of organic compounds in samples of air and particulate matter, including polycyclic aromatic hydrocarbons, carbonyl compounds, and carcinogenic substances used as active substances in the production of pharmaceutical preparations;
- use of new probes for sampling relevant fractions of particulate matter;
- assessment of occupational exposure and reduction in occupational risk associated with the occurrence of harmful chemical agents in the work environment.

4.2 SCIENTIFIC ACHIEVEMENTS

Scientific publications (total):	30
before a doctoral degree:	6
after a doctoral degree:	24
Popular science:	23
Publications in peer-reviewed conference proceedings:	1
Polish Standards:	8
Presentations at the conference (total):	39
at national conferences:	27
at international conferences:	12

M. Szwarczyńska

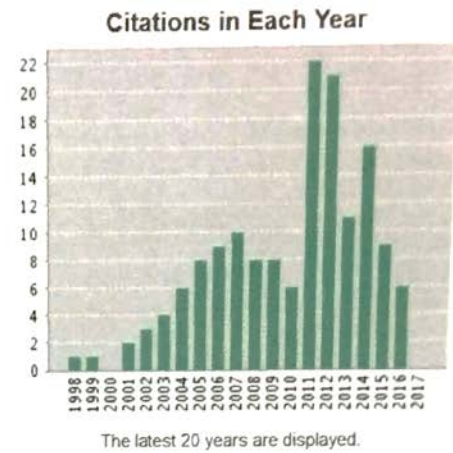
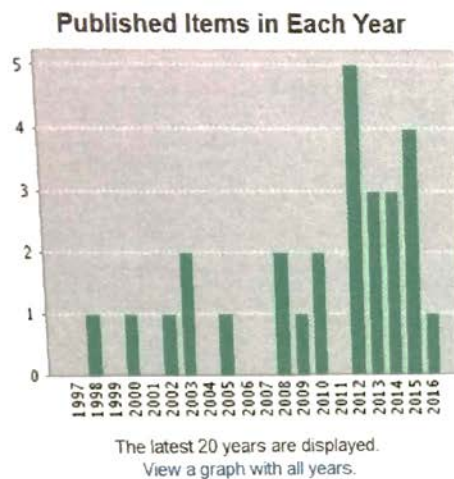
4.2.1 Overall Journal Citation Reports (JCR) impact factor per publication year

IF= 31,47

4.2.2 Index web of Science

(23 October 2016)

Indeks H_{wos} = 7



Results found: 28

Sum of the Times Cited [?]: 151

Sum of Times Cited without self-citations [?]: 140

Citing Articles [?]: 147

Citing Articles without self-citations [?]: 138

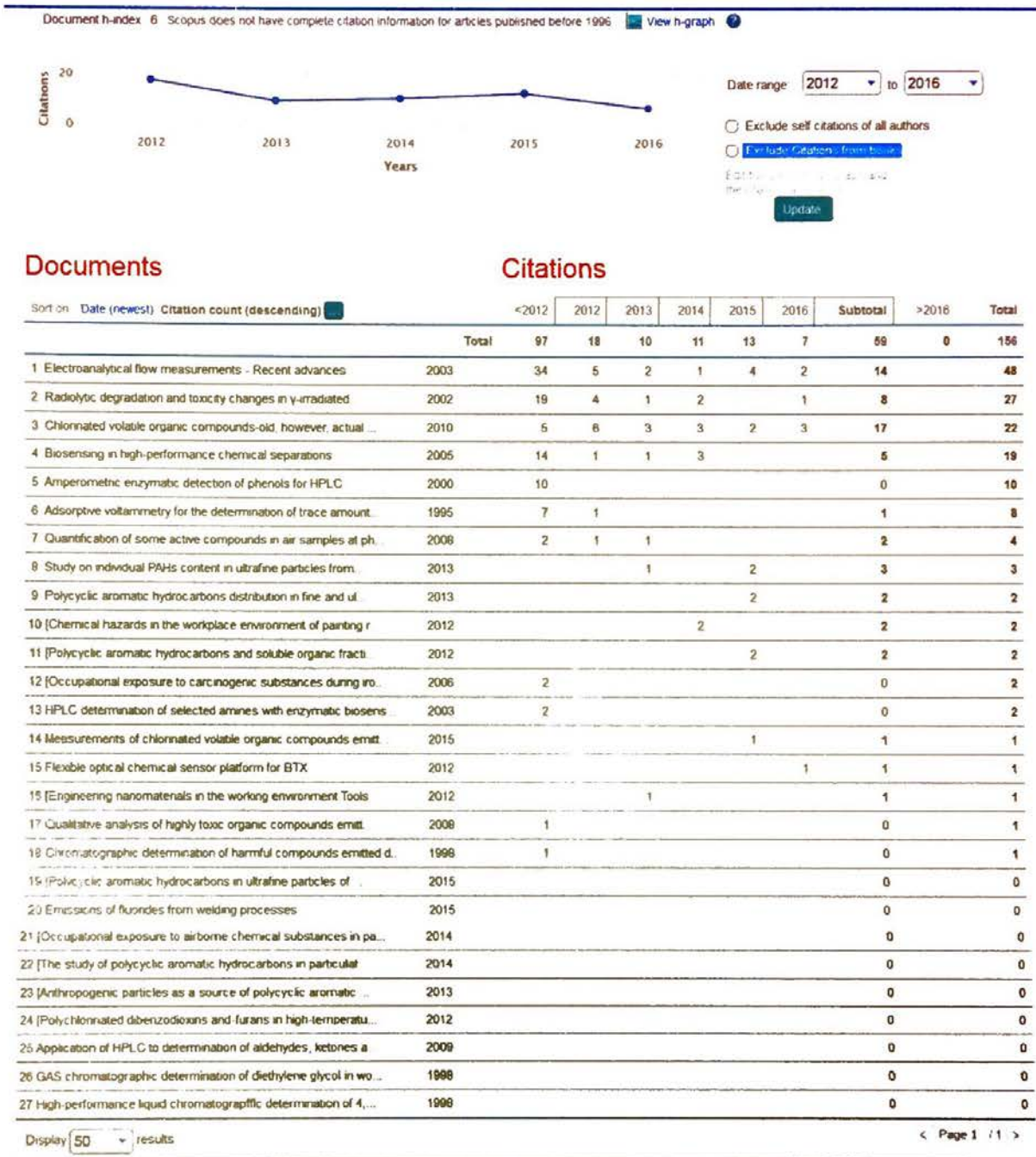
Average Citations per Item [?]: 5.39

h-index [?]: 7

M. Brzozowski

CENTRALNY INSTYTUT OCHRONY PRACY
- PAŃSTWOWY INSTYTUT BADAWCZY
BIBLIOTEKA
00-701 Warszawa, ul. Czerniakowska 16
28.10.2016

4.2.3 Analysis of citations by Scopus



M. Grewarqnila

CENTRALNY INSTYTUT OCHRONY PRACY
 - PAŃSTWOWY INSTYTUT BADAWCZY
 BIBLIOTEKA
 00-701 Warszawa ul. Czerniakowska 16
 za zgodność Specjalist
 28.10.2016.

5 LIST OF OTHER (NOT BELONGING TO THE ACHIEVEMENTS MENTIONED IN POINT 4) PUBLISHED WORKS OF SCIENTIFIC RESEARCH ACHIEVEMENTS AND INDICATORS

5.1 LIST OF SCIENTIFIC WORKS PUBLISHED BEFORE DOCTORATE IN THE DATABASE JOURNAL CITATION REPORTS (JCR)

L.p	Author(s), date of issue, title, journal or publishing house, volume, pages	Impact Factor
1.	M. Karpiuk, M. Politowicz , E. Stryjewska, S. Rubel <i>Adsorptive voltammetry for determination of aluminium in blood serum derived products,</i> Fresenius' Journal of Analytical Chemistry, 351, 7 (1995), 693-695 DOI: 10.1007/BF00323353	IF₁₉₉₅=1,065
	In the work I've been involved planning experiments. I made measurements. I made charts and graphs. My estimated percentage contribution is 40%.	
2.	M. Pośniak, M. Politowicz <i>Chromatographic determination of harmful compounds emitted during hardening of phenol-formaldehyde resine,</i> Chemia Analityczna, 43 (2), (1998), 241- 255	IF₁₉₉₈=0,542
	In the work I've been involved in planning the experiments. I made a part of the measurement. My estimated percentage contribution is 45 %.	
3.	M. Szewczyńska , M. Trojanowicz <i>Amperometric enzymatic detection of phenols for HPLC</i> Chemia Analityczna 45 (5), (2000), 667 - 679	IF₂₀₀₀=0,689
	In the work I've been involved in the formulation of the research problem and planning experiments. I made all the measurements. I made charts and graphs. I took part in preparing the publication. My estimated percentage contribution is 65%.	
4.	M. Trojanowicz, P. Drzewicz, P. Pańta, W. Głuszewski, G. Nałęcz-Jawecki, A. Sawicki, M.H.O. Sampa, H. Oikawa, S.I. Borrely, M. Czaplicka, M. Szewczyńska , <i>Radiolytic degradation and toxicity changes in γ-irradiated solution of 2,4-dichlorophenol.</i> Radiation Physics and Chemistry 65 (4-5), (2002), 357- 366. DOI: 10.1016/S0969-806X(02)00336-5	IF₂₀₀₂=0,738
	In the work I've been involved in carrying out part of the measurements. My estimated percentage contribution is 25%.	

5.	M. Trojanowicz, M. Szewczyńska , M. Wcisło, <i>Electrochemical Flow Measurements. Recent Advances</i> Electroanalysis, 15 (5-6), (2003), 347 – 365 DOI: 10.1002/elan.200390041	IF₂₀₀₃= 1,811
In the work I took part in preparing the material for publication. My estimated percentage contribution is 35%.		
6.	M. Szewczyńska , M. Wcisło, M. Trojanowicz, J. Saar, D. Compagnone, <i>HPLC determination of selected amines with enzymatic biosensor for amperometric detection.</i> Chemia Analityczna, 48, (2003), 591 - 606	IF₂₀₀₃=0,415
In the work I've been involved in the formulation of the research problem and planning experiments. I have measured by liquid chromatography. Developed results for publication. My estimated percentage contribution is 65%.		
Overall values for selected papers 1-6		IF=5,26

5.2 LIST OF SCIENTIFIC WORKS PUBLISHED AFTER DOCTORATE IN THE DATABASE JOURNAL CITATION REPORTS (JCR)

L.p	Author(s), date of issue, title, journal or publishing house, volume, pages	Impact Factor
7.	M. Trojanowicz, M. Szewczyńska <i>Biosensing in high-performance chemical separations</i> Trends in Analytical Chemistry, 24(2), (2005), 92-106 DOI: 10.1016/j.trac.2004.11.008	IF₂₀₀₅=4,088
I participated in the preparation of amines determination results presented in the manuscript in the part concerning the use of enzymatic biosensor detection in liquid chromatography. I collected the materials for publication and participated in describing them. My share estimate at 50%.		
8.	A. Osytek, M. Biesaga, K. Pyrzynska, M. Szewczyńska <i>Quantification of some active compounds in air samples at pharmaceutical workplaces by HPLC.</i> Journal of Biochemical and Biophysical Methods, 70 (2008) 1283-1286 DOI: 10.1016/j.jbbm.2007.10.003	IF₂₀₀₈=1,994

- The work developed measuring conditions, and I made some measurements and other supervised. I participated in the preparation of materials for publication and participated in the discussion. My estimated percentage contribution is 50%.
9. **M. Szewczyńska**, E. Dobrzyńska, M. Pośniak
Qualitative Analysis of Highly Toxic Organic Compounds Emitted from Uncontrolled Combustion Sources Using GC-MS/MS. **IF₂₀₀₈=0,564**
 Chemia Analalityczna 53 (1), (2008), 59-70
- In the work I participated in the formulation of the research problem and planning experiments. I developed measuring conditions, and I made some measurements and other supervised. I developed results for publication. My estimated percentage contribution is 60%.
10. **M. Szewczyńska**, E. Dobrzyńska, M. Pośniak
Application of HPLC for determination of aldehydes, ketones and polycyclic aromatic hydrocarbons in air samples collected from uncontrolled combustion sources using HPLC. **IF₂₀₀₉=0,702**
 Chemia Analalityczna 54, (2009), 349- 366
- In the work I participated in the formulation of the research problem and planning experiments. I developed measuring conditions, and I made some measurements and other supervised. I worked out the results for publication. My estimated percentage contribution is 60%.
11. E. Dobrzyńska, B. Buszewski, **M. Szewczyńska**, M. Pośniak
Chlorinated Volatile Organic Compounds - Old, however, actual analytical and toxicological problem. **IF₂₀₁₀= 3,25**
 Critical Reviews in Analytical Chemistry, 40 (1), (2010), 41-57
 DOI: 10.1080/10408340903547054
- I took part in preparing the text of the manuscript is stated in the section on analytical methods. My share estimate at 35%.
12. J. Baraniecka, K. Pyrzyńska, M. Szewczyńska, M. Pośniak, E. Dobrzyńska
Emission of polycyclic aromatic hydrocarbons from selected processes in steel works. **IF₂₀₁₀=3,723**
 Journal of Hazardous Materials 183, (2010), 111-115
 DOI: 10.1016/j.jhazmat.2010.06.120
- I planned I study, I took part in sampling for analysis. Directly I supervised the measurements carried out. I took part in the preparation of publications. I am the author for correspondence. My estimate for the percentage of 55%.
13. E. Dobrzyńska, **M. Szewczyńska**, M. Pośniak
Polychlorinated dibenzodioxins and -furans in high-temperature metalwork **IF₂₀₁₂=0,344**
 Przemysł Chemiczny 91 (6), (2012), 1229 - 1233
- In this work I made some experiments, I participated in preparing the material for publication. My estimated percentage contribution is 40%.
14. M. Pośniak, E. Dobrzyńska, **M. Szewczyńska**
Engineering nanomaterials in the working environment Tools for risk assessment **IF₂₀₁₂= 0,344**

- Przemysł Chemiczny 91 (4), (2012), 1229 – 1233
- In the work I participated in preparing the material for publication in the field of tools for risk assessment. My estimated percentage contribution is 45%.
15. **M. Szewczyńska**, M. Pośniak
Polycyclic aromatic hydrocarbons and soluble organic fraction in fine particles from solid fraction of biodiesel exhaust fumes] **IF₂₀₁₂=0,391**
 Medycyna Pracy, 63(6), (2012), 659–666
- In the work I participated in preparing the material for publication.. My estimated percentage contribution is 80%.
16. A. Jeżewska, **M. Szewczyńska**
Chemical hazards in the workplace environment of painting restorer. **IF₂₀₁₂=0,391**
 Medycyna Pracy 2012; 63(5), (2012), 547–558
- In the work I participated in conducting part of the measurements, participated in the study results. My estimated percentage contribution is 30%.
17. **M. Szewczyńska**, M. Pośniak, E. Dobrzyńska, K. Pyrzyńska, J. Baraniecka
Polycyclic aromatic hydrocarbons distribution in fine and ultrafine particles emitted from diesel engine to the air. **IF₂₀₁₃=0,6**
 Polish Journal of Environmental Studies, 22 (2), (2013), 553-560
- I planned and performed the part of the measurement by high performance liquid chromatography, other measurements directly supervised. I made the interpretation of results. I prepared materials for publication. I am the author for correspondence. My estimated percentage contribution is 55%.
18. **M. Szewczyńska**, M. Pośniak, E. Dobrzyńska
Study on Individual PAHs Content in Ultrafine Particles from Solid Fractions of Diesel and Biodiesel Exhaust Fumes. **IF₂₀₁₃= 0,622**
 e-Journal of Chemistry Volume 2013 (2013),
 Article ID 528471, 10 pages
 DOI: 10.1155/2013/528471
- I planned, immediately conducted and supervised the measurements. I moved interpretation of the test results. I prepared materials for publication. I am the author of correspondence. My estimated percentage contribution is 60%.
19. **M. Szewczyńska**, M. Pośniak
Anthropogenic particles as a source of polycyclic aromatic hydrocarbons in high-temperature processes. **IF₂₀₁₃=0,367**
 Przemysł Chemiczny 94 (4), (2013), 553 - 560
- My contribution to the work consisted of planning and carrying out part of the measurement and monitoring of others. Meeting and the study and interpretation of results. I wrote the publication. I am the author for correspondence. My estimated percentage contribution is 75%.*

20. **M. Szewczyńska**, M. Pośniak
Polycyclic aromatic hydrocarbons in ultrafine particles of diesel exhaust fumes - the use of ultrafast liquid chromatography. **IF₂₀₁₄=0,397**
 Medycyna Pracy 65(5), (2014), 601-608
DOI: 10.13075/mp.5893.00024
I planned the study, performed the part of the measurement, and the other directly supervised. Established conditions for chromatographic analysis. I developed results and wrote the publication. I am the author of correspondence. My estimated percentage contribution is 85%.
21. **M. Szewczyńska**, J. Kowalska, M. Pośniak
The study of polycyclic aromatic hydrocarbons in particulate fractions emitted by office printers and copiers. **IF₂₀₁₄=0,397**
 Medycyna Pracy, 65(6), (2014), 733-741
I planned research, make measurements. I developed results and wrote the publication. I am the author for correspondence. My percentage estimate on 80%.
22. A. Jeżewska, **M. Szewczyńska**, A. Woźnica
Occupational exposure to airborne chemical substances in paintings conservators. **IF_{2014/15}=0,397**
 Medycyna Pracy, 65(1), (2014), 33-41
In the work I participated in conducting part of the measurements, I participated in the development and results. My estimated percentage contribution is 20%.
23. J. Kowalska, **M. Szewczyńska**, M. Pośniak
Measurements of chlorinated volatile organic compounds emitted from office printers and photocopiers **IF_{2014/15}=2,828**
 Environmental Science and Pollution Research 22(7), (2015), 5241 - 5252
 DOI: 10.1007/s11356-014-3672-3
In the work I participated in the formulation of the research problem and planning experiments. I performed some measurements. My estimated percentage contribution is 30%.
24. **M. Szewczyńska**, E. Pağowska, K. Pyrzyńska
Emissions of fluorides from welding processes. **IF_{2014/2015}=2,02**
 Journal of Environmental Science (China) 1 (37), (2015), 179-83.
 DOI: 10.1016/j.jes.2015.03.024.
I planned research, and directly supervising their execution. I set conditions for ion chromatography analysis method. Developed results. I am the author for correspondence. My estimated percentage contribution is 55%.
25. E. Dobrzyńska, M. Pośniak, **M. Szewczyńska**
The ChemPyl database on chemical and aerosol hazards **IF₂₀₁₅= 0,399**
 Przemysł Chemiczny 94 (11), (2015), 2022-2026
 DOI:10.15199/62.2015.11.25
In the work I participated in preparing the material for publication. My estimated percentage contribution is 20%.

26.	<p>M. Szewczyńska, M. Pośniak <i>The study of thoracic and inhalable fractions of sulfuric acid in various technological processes</i> Przemysł Chemiczny 94/10 (2015), 1000-1004</p> <p>My contribution to this work consisted of planning and carrying out part of the measurement and monitoring of others. Meeting and the study and interpretation of results. I wrote the publication. I am the author of correspondence. My estimated percentage contribution is 70%.</p>	IF₂₀₁₅=0,399
27.	<p>M. Szewczyńska, M. Pośniak <i>Assessment of workers' exposure to wood dust in the polish furniture industry</i> Medycyna Pracy - accepted for publication</p> <p>My contribution to the work consists of designing and graphical presentation of results. I participated in correspondence with reviewers. My estimated percentage contribution is 35%.</p>	IF₂₀₁₆=0,401
28.	<p>M. Szewczyńska, J. Dąbrowska, K. Pyrzyńska <i>Polycyclic aromatic hydrocarbons in the particles emitted from the diesel and gasoline engines</i> Polish Journal of Environmental Studies, 2/2017 vol. 26</p> <p>I planned the study, performed the part of the measurement, and the other directly supervised. I established conditions and took part in the collection of environmental samples for analysis. I developed results, and participated in their interpretation. I prepared the material for publication. I am the author of correspondence. My percentage estimate at 65%.</p>	IF_{2016/2015}=0,79
29.	<p>M. Szewczyńska, M. Pośniak, E. Pągowska <i>Determination of thoracic and inhalable fraction of sulfuric acid(vi) in workplace air.</i> Medycyna Pracy, 4(67), 2016, 509-515 DOI: 10.13075/mp.5893.00402</p> <p>I planned the study, performed the part of the measurement, and the other directly supervised. I established conditions and I participated in the collection of environmental samples for analysis. I developed results, and participated in their interpretation. I prepared the material for publication. I am the author of correspondence. My estimated percentage contribution is 70%.</p>	IF₂₀₁₆=0,401
30.	<p>S. Krzemińska, M. Pośniak, M. Szewczyńska <i>Use of personal protective equipment In exposure to cytostatics</i> Medycyna Pracy, accepted for publication</p> <p>In the work I participated in collecting and preparing material for publication. My estimated percentage contribution is 25%.</p>	IF₂₀₁₆=0,401
Overall values for selected papers 1-13		IF= 26,21

5.2.1 List of reviewed conference materials

31. J. Diego Arias Espinoza¹, V. Sazhnikov., S.Sabik, D.Ionov., E. Smits.,S. Kalathimekkad., G.Van Steenberge., M. Alfimov, M.Posniak., E.Dobrzynska, **M.Szewczyńska**, K. Benczek., H.Schoo, *Flexible optical chemical sensor platform for BTX*, Procedia Engineering, 47, (2012), 607- 610, DOI: 10.1016/j.proeng.2012.09.220

In the work I participated in the formulation of the research problem and planning experiments. I performed some measurements. My estimated percentage contribution is 10%.

5.3 MONOGRAPHS, SCIENTIFIC PUBLICATIONS IN INTERNATIONAL JOURNALS OR NATIONAL OTHER THAN CONTAINED IN THE DATABASE REFERRED TO IN POINTS 5.1 AND 5.2:

5.3.1 List of popular-scientific papers

32. **M.Politowicz**, M. Pośniak
Gas chromatography determination of diethylene glycol in workplace air.
Acta Chromatographica, no. 8, (1998), 154-161
- My contribution to the preparation of this work is 70% and relates to the execution of experimental work and writing work.
33. **M. Politowicz** , M. Pośniak
High performance liquid chromatography determination of 4,6-dinitro-2-isopropylphenol w workplace air.
Acta Chromatographica, no. 8, (1998), 113-121
- My contribution to the preparation of this work is 70% and relates to the execution of experimental work and writing work.
34. **M. Szewczyńska**, M. Pośniak, A. Jeżewska
Risk assessment of dioxins environment and methods of their determination in the exhaust gas and atmospheric air..
Bromat. Chem. Toksykol, XXXIV, 4, 267, (2001), 267-275.
- My contribution to the preparation of this work is 65% ii concerns planning and supervision of experimental work and writing work.
35. Makhniashvili, **M. Szewczyńska**, E. Ekiert.
Cast iron - chemical hazards.
Bezpieczeństwo Pracy 12 ,(2004), 14-16.
- I supervised part of the study, I participated in the discussion of results. My contribution estimate at 20%.
36. **M. Szewczyńska**, E. Ekiert, Z. Makles
Dioksyny w procesach spalania odpadów medycznych.
Bezpieczeństwo Pracy 9, (2005), 5-8.

- My contribution to the preparation of this work is 70% ii concerns planning and supervision of experimental work and writing work.
37. **M. Szewczyńska**, E. Ekiert, M. Pośniak
Uncontrolled combustion processes - as a source of dioxin formation
Bezpieczeństwo Pracy 1 ,(2006), 8-12.
- My contribution to the preparation of this work is 70% ii concerns planning and supervision of experimental work and writing work.
38. I. Makhniashvili, **M. Szewczyńska** , E. Ekiert,
Occupational exposure to carcinogens in the foundry iron.
Medycyna Pracy 57(2), (2006), 133 — 138,
- I supervised part of the study, I participated in the discussion of results. My contribution estimate at 30%.
39. E. Dobrzyńska , **M. Szewczyńska**
Applications of GC-MS/MS technique for determination of dioxins in air samples collected from different types of combustion processes.
Organohalogen compounds, 69, (2007), 1333-1336
- I supervised part of the study, I participated in the discussion of results My contribution estimate at 50%.
40. M. Pośniak, **M. Szewczyńska**, A. Wolska, P. Głogowski
Total exposure to ultraviolet radiation and chemical substances irritant, allergenic effect and the photosensitizing agent.
Prace Instytutu Elektrotechniki, Warszawa, 2010, zeszyt 245,
- I supervised part of the study, I participated in the discussion and development of results. My contribution estimate at 20%.
41. Z. Makles, **M. Szewczyńska**,
Writing resources as a source of chemical hazards.
Bezpieczeństwo Pracy - nauka i praktyka 7-8, (2010) 38-42,
- My contribution to the preparation work estimate at 50% and is the preparation of materials for publication.
42. **M. Szewczyńska**, A. Osytek, M. Pośniak, M. Galwas-Grzeszkiewicz,
N-Hydroxyurea - determination method
Podstawy i Metody Oceny środowiska Pracy Numer 1 (63), (2010), 155-162
- My contribution to the preparation of this work is 70% ii concerns planning and supervision of experimental work and writing work.
43. **M. Szewczyńska**, A. Osytek, M. Pośniak, M. Galwas-Grzeszkiewicz
Sulpiride - determination method.
Podstawy i Metody Oceny środowiska Pracy Numer 1 (63), (2010), 2015-212
- My contribution to the preparation of this work is 70% ii concerns planning and supervision of experimental work and writing work.

44. **M. Szewczyńska**, A. Osytek, M. Pośniak, M. Galwas-Grzeszkiewicz
Dyphylline - determination method.
Podstawy i Metody Oceny środowiska Pracy Numer 1 (63), (2010), 131-137
My contribution to the preparation of this work is 70% and concerns planning and supervision of experimental work and writing work.
45. **M. Szewczyńska**, E. Dobrzyńska, M. Pośniak,
Chemical hazards in the working environment cleaning staff.
Bezpieczeństwo Pracy - Nauka I Praktyka nr 2 (461), (2010), 7-9
My contribution to the preparation of this work is 80% and concerns planning and supervision of experimental work and writing work.
46. J. Kowalska, **M. Szewczyńska**, M. Pośniak,
Emissions of chemicals with office printing and duplicating equipment.
Medycyna Środowiskowa - Environmental Medicine, 15(4), (2012), 123-128
My contribution to the implementation of this work I define 30% and consisted of participation and describing experimental work.
47. **M. Szewczyńska**, E. Dobrzyńska, M. Pośniak, A. Jeżewska
Chemical agents in hairdressing.
Bezpieczeństwo Pracy - Nauka I Praktyka 1/ 11, 14-18, 2011.
My contribution to the preparation of this work is 75% and concerns planning and supervision of experimental work and writing work.
48. A. Wolska, M. Pośniak, **M. Szewczyńska**
Natural UV and phototoxic chemicals - risk assessment.
Bezpieczeństwo Pracy - Nauka I Praktyka 13-17, 2011
My contribution to the preparation of this work is 30% and applies to conduct part of the experimental work and interpretation of results.
49. **M. Szewczyńska**, M. Pośniak
Collection small fraction of aerosols for the analysis of chemical pollutants in the workplace.
Analityka, 4/2013, 42-45
My contribution to the preparation of this work is 80% and concerned the gathering material and writing work.
50. E. Dobrzyńska, **M. Szewczyńska**
The selection of sorbents for enrichment of analytes in air samples collected in workplaces.
Analityka 1/2015, 60-62
My contribution to the preparation of this work is 60% and concerned the gathering material and writing work..
51. **M. Szewczyńska**, E. Pągowska, M. Pośniak, K. Pyrzyńska
Fluoride. Determining fluorides in the inhalable and respirable aerosol fraction in the working environment with ion chromatography.

Podstawy i Metody Oceny Środowiska Pracy, 2014, 3(81) , s. 71-88

My contribution to the preparation of this work is 60%. I am planning and supervision of experimental work, optimization methods of ion chromatography and sampling and writing work.

52. **M.Szewczyński**, M. Pośniak, S. Krzemińska

Cisplatin. Determination in workplace air with high performance liquid chromatography

Podstawy i Metody Oceny Środowiska Pracy, . 1(87), (2016), 47-64.

My contribution to the preparation of this work is 60%. I am planning and supervision of experimental work, optimization methods of ion chromatography and sampling and writing work.

53. **M.Szewczyński**, M. Pośniak

The determination of carcinogenic polycyclic organic substances in the fraction of fine particles emitted into the environment during the operation of motor vehicles

Podstawy i Metody Oceny Środowiska Pracy, 3(89), (2016)163-183

My contribution to the preparation of this work is 70%. I am planning and supervision of experimental work, optimization methods of ion chromatography and sampling and writing work.

54. **M.Szewczyński**, M. Pośniak

The verification methods for the extraction of thoracic fraction sulfuric acid(VI) and validation the ion chromatography method.

Podstawy i Metody Oceny Środowiska Pracy, acceptet for publication

My contribution to the preparation of this work is 80%. I am planning and supervision of experimental work, optimization methods of ion chromatography and sampling and writing work.

M. Szewczyńska

5.3.2 List of Polish Standards

PN-Z-04022-2:1996	Air purity protection. The study content of dichlorobenze. Determination of ortho and para-dichlorobenzene in workplace air by gas chromatography.
PN-Z-04155-5:1996	Air purity protection. The study butyl alcohol. Determination of tert-butyl alcohol at the workplace with gas chromatography.
PN-Z-04128/4:1996	Air purity protection. Study content of nitrotoluene. Determination of 2,4-dinitrotoluene at workplace by gas chromatography.
PN-Z-04128-5:1996	Air purity protection. Study content of nitrotoluene. Determination of 2,4,6-trinitrotoluene at work place by gas chromatography.
PN-Z-04275-2:2000	Air purity protection. The study content of dinitrofenoli. Determination of 4,6-dinitro-2-isopropylphenol at workplace by high performance liquid chromatography.
PN-Z-04275-1:2000	Air purity protection. The study content of dinitrophenole. Determination of 2,4-, 2,5- and 2,6-dinitrophenol at workplace by high performance liquid chromatography.
PN-Z-04308:2002	Air purity protection. Determination of hydroquinone at work place by high performance liquid chromatography.

5.3.3 List of information brochures

1. I.Makhniashvili, M. Szewczyńska, E. Ekiert, M. Pośniak,
Recommendations for improving working conditions in iron foundries, CIOP-PIB 2006
2. M. Szewczyńska, E. Dobrzyńska, M. Pośniak
Pollution highly toxic organic compounds emitted during the uncontrolled burning of waste, CIOP-PIB 2008
3. M. Szewczyńska, E. Dobrzyńska, M. Pośniak,
Chemical hazards of metals in the processes of high temperature processing, CIOP-PIB 2010
4. M. Pośniak, E. Jankowska, M. Szewczyńska, L. Zapór, A. Brochocka, P. Pietrowski,
Risks exhaust gases of diesel engines, CIOP-PIB 2010
5. M. Szewczyńska, M. Gołofit-Szymczak, D. Roman-Liu, W. Mikulski,
Risks chemical, biological, bio-mechanical and noise in small factories hairdressing and beauty CIOP-PIB 2010
6. M. Pośniaka. A. Wolska, M. Szewczyńska,
Assessment overall exposure to UV radiation and phototoxic chemicals during laying asphalt, CIOP-PIB 2011.

7. M. Szewczyńska, M. Pośniak, E. Dobrzyńska, K. Miranowicz-Dzierżawska
Recommendations to reduce exposure to fine particulate fractions of biodiesel, CIOP-PIB 2013.
8. M. Szewczyńska, M. Pośniak, E. Dobrzyńska, J. Kowalska, J. Surgiewicz
The occurrence of carcinogens in fractions of particles emitted to the environment during the operation of motor vehicles, CIOP-PIB 2016
9. M. Szewczyńska, M. Pośniak
The risk of the presence of chemicals in the inhalable and thoracic fraction for example sulfuric acid, CIOP-PIB 2016
10. M. Pośniak, S. Krzemińska, M. Szewczyńska, A. Brochocka, E. Irzmańska, P. Chęsy, G. Owczarek
Occupational hazards and preventive measures before cytostatic, CIOP-PIB 2016

5.4 LEADERSHIP IN INTERNATIONAL AND NATIONAL RESEARCH PROJECTS AND PARTICIPATION IN SUCH PROJECTS

- | | |
|--------------------|--|
| 2001 - 2002 | Task manager I-04 on the activity of the statutory CIOP-PIB
<i>Method of improving the detection amines in high performance liquid chromatography by use of the enzymatic derivatization.</i> |
| 2003 - 2005 | Task manager I-11 on the activity of the statutory CIOP-PIB
<i>Research polychlorinated dibenzodioxins, dibenzofurans and other compounds halogenoorganicznych in gases and ashes from the incineration of waste.</i> |
| 2005 - 2007 | Project manager 2.A.06 (CIOP-PIB)
<i>The study of toxic organic pollution emitted from uncontrolled combustion sources using combined techniques and chromatographic methods.</i>
The National Program: "Adaptation of working conditions in Poland to European Union standards" Part A: Program implementation of research and development project |
| 2008 - 2010 | Task manager 4.S.26 (CIOP-PIB)
<i>Research Identification and assessment of exposure to harmful organic substances emitted in the process of high-temperature metal cutting generate dust finely dispersed.</i>
The National Program "Improving the safety and working conditions" Phase I, the implementation period 2008-2010 Part A: The implementation of tasks in the field of state services |
| 2008 - 2010 | Task manager 4.S.14 (CIOP-PIB)
<i>Assessment of the exposure of workers cleaning companies to biological and chemical characteristics and the development of procedures for estimating the occupational risks associated with the occurrence of these factors.</i>
The National Program "Improving the safety and working conditions" |

2008 - 2010	<p>Phase I, the implementation period 2008-2010 Part A: The implementation of tasks in the field of state services</p> <p>Task manager 4.S.28 (CIOP-PIB)</p> <p><i>Development of the control system of the chemical, biological, and mechanical noise and risk assessment in plants hairdressing and beauty</i></p> <p>The National Program "Improving the safety and working conditions" Phase I, the implementation period 2008-2010 Part A: The implementation of tasks in the field of state services</p>
2008 - 2010	<p>Joint contractor task 2.R12 (CIOP-PIB)</p> <p>Development of methods for risk assessment with a total exposure to natural UV radiation and chemical agents.</p> <p>The National Program "Improving the safety and working conditions" Phase I, the implementation period 2008-2010 Part B: The realization of research and development projects</p>
2009-2010	<p>The main contractor of the project under contract No. TZ/370/36/09/P/6 24.07.2009. Between ZUS and CIOP-PIB</p> <p>Risk assessment of chemical workers of construction companies laying road surfaces.</p>
2011 - 2012	<p>Task manager I-38 on the activity of the statutory CIOP-PIB</p> <p>Innovative nanoptochemical sensors</p>
2009 -2012	<p>Joint contractor international project</p> <p>Research Project FP7-NMP-2009-SMALL-1 Nanosciences, Nanotechnologies, Materials and new Production Technologies</p> <p><i>Innovative Nanostructured Optochemical Sensors</i></p> <p>WP 5: Evaluation and validation of sensor prototypes</p>
2011 - 2013	<p>Project manager I.B.02 (CIOP-PIB)</p> <p><i>Estimate the chemical composition of ultra-fine particulate fraction of the exhaust biodiesel and their toxic properties by in vitro methods for prevention.</i></p> <p>The National Program "Improving the safety and working conditions" Phase II, the implementation period: 2011-2013, Part B: The implementation of research and development projects</p>
2011 - 2013	<p>Współwykonawca zadania 04.A.07 (CIOP-PIB)</p> <p><i>Ocena narażenia wynikającego z emisji substancji chemicznych z biurowych urządzeń drukujących i powielających.</i></p> <p>The National Program "Improving the safety and working conditions" Phase II, the implementation period: 2011-2013, Part B: The implementation of research and development projects</p>
2013 - 2015	<p>Task manager I-43 on the activity of the statutory CIOP-PIB</p> <p><i>Study fluoride in inhalable and respirable fraction of aerosols in the working environment using ion chromatography.</i></p>
2014 -2015	<p>Joint contractor project under the agreement IPN - Agreement No.9/2016/VP 25.05.2016 r.</p>

- Developing tools without measurement for the assessment of inhalation exposure to occupational carcinogens and recommendations for cancer prevention.*
- 2014 - 2016** Joint contractor task 3.Z.17 (CIOP-PIB)
Evaluation of barrier materials properties for clothing and gloves to protect against cytostatics applied in the form of solutions.
The National Program "Improving the safety and working conditions" Stage III, the implementation period: the years 2014-2016 Part A: The implementation of tasks in the field of state services
- 2014 - 2016** Project manager II.P.06 (CIOP-PIB)
Study on distribution of concentrations of carcinogens in fractions of fine particles emitted during the operation of motor vehicles
The National Program "Improving the safety and working conditions". Stage III, the implementation period: the years 2014-2016 Part B: The implementation of research and development projects
- 2014 - 2016** Project manager II.P.07 (CIOP-PIB)
Determination of thoracic and inhalable liquid aerosol fraction of sulfuric acid as an example in the working environment
The National Program "Improving the safety and working conditions". Stage III, the implementation period: the years 2014-2016 Part B: The implementation of research and development projects
- 2016 - 2017** Task manager I-46 on the activity of the statutory CIOP-PIB
Speciation analysis of chromium in workplace air using ion chromatography with spectrophotometric detection.

M. Brzozowska

5.5 NATIONAL AWARDS FOR SCIENTIFIC ACHIEVEMENTS

- 2004 | Second degree award in National Competition for Improving of Working Conditions (scientific research category) with doctoral dissertation "*Methods of enzymatic derivatization in high performance liquid chromatography of selected environmental pollutants*".
- 2014 | Third prize for the poster for the X International Conference "Ion Chromatography 2014", Zabrze 2014. "*The study of fluorides in the inhalable and respirable fraction of aerosols in the working environment using ion chromatography*"

5.6 PRESENTATIONS AT INTERNATIONAL AND NATIONAL CONFERENCES NATIONAL CONFERENCES

5.6.1 National Conferences

1. M. Pośniak, M. Politowicz, *Emisja substancji szkodliwych w procesie utwardzania żywic fenolowo-formaldehydowych*, Sympozjum nt.: Zagrożenia zdrowotne w środowisku pracy, streszczenia referatów, wydawnictwo IMP, Łódź 1994 r. (poster)
2. M. Pośniak, M. Politowicz, E. Kozieł, *Metody oznaczania mieszanin substancji szkodliwych wydzielających się podczas przetwórstwa tworzyw sztucznych*. III Sympozjum Zagrożenia Zdrowotne w Środowisku Pracy, Wrocław 1995 r. (lecture)
3. M. Pośniak, M. Politowicz, E. Kozieł, *Analiza zanieczyszczeń powietrza na stanowiskach pracy w procesie utwardzania żywic fenolowo-formaldehydowych*. *Analityka w służbie człowieka i środowiska*. V Konferencji Chemii Analitycznej, Gdańsk 1995 r. (poster)
4. M. Pośniak, M. Politowicz, E. Kozieł, I. Machniaszwili, *Chromatograficzne oznaczanie nitropochodnych benzenu w powietrzu na stanowiskach pracy*. VII Ogólnopolskie Seminarium Chromatograficzne Nauka-Przemysł nt. „Nowoczesne techniki w analizie chromatograficznej i przygotowaniu próbek, Lublin 1996 r. (poster)
5. M. Pośniak, M. Politowicz, *Oznaczanie nitrowych pochodnych toluenu metodą chromatografii gazowej*, IV Sympozjum Zagrożenia Zdrowotne w Środowisku Pracy, Łódź 1997 r. (poster)
6. M. Pośniak, M. Politowicz, *Oznaczanie chlorodinitrobenzenów w powietrzu na stanowiskach pracy metodą chromatografii gazowej*, *Chromatografia i inne techniki specjalne w ekoanalizie*, pod red. B Buszewskiego, Materiały IV Ogólnopolskiego Seminarium Chromatograficznego, Toruń 1997 r. (poster)
7. M. Politowicz, M. Pośniak, M. Trojanowicz, *Elektrochemiczna, enzymatyczna detekcja wybranych fenoli w HPLC w układzie z odwróconymi fazami*, *Ekoanalizy w chemii środowiska*, pod red. B Buszewskiego, Materiały V Ogólnopolskiego Seminarium Chromatograficznego, Toruń 1998 r. (poster)
8. M. Politowicz, *Porównanie detekcji spektrofotometrycznej i elektrochemicznej w HPLC przy oznaczaniu hydrochinonu w powietrzu na stanowiskach pracy*, VI Sympozjum Zagrożenia Zdrowotne w Środowisku Pracy, Gdynia 1998 r. (poster)

9. M. Szewczyńska, E. Ekiert, M. Pośniak, *Wykorzystanie GC-MS/MS do oznaczania PCDDs/Fs w próbkach stałych i gazowych pobranych ze spalarni odpadów medycznych*, Seminarium chromatograficzne, „Zastosowanie technik chromatograficznych w analizie środowiskowej i klinicznej”, Łódź 2006 r. (poster)
10. M. Szewczyńska, E. Ekiert, M. Pośniak, *Oznaczanie wysokotoksycznych związków halogenoorganicznych emitowanych z niekontrolowanych źródeł spalania przy zastosowaniu GC-MS/MS*, VII konferencja chromatograficzna, Chromatografia i techniki pokrewne a zdrowie człowieka, Białystok 2006 r. (poster)
11. M. Szewczyńska, E. Dobrzyńska, M. Pośniak, *Identyfikacja substancji chemicznych emitowanych z niekontrolowanych źródeł spalania* II Sympozjum Chromatograficzne „Zastosowanie technik chromatograficznych w analizie środowiskowej i klinicznej” Wydział Chemiczny Politechniki Łódzkiej, Łódź 2007 r. (poster)
12. M. Szewczyńska, E. Dobrzyńska, M. Pośniak, *Oznaczanie WWA, IZO i związków karbonylowych w próbkach powietrza pobieranych podczas niekontrolowanych procesów spalania*, 50 Jubileuszowy Zjazd Polskiego Towarzystwa Chemicznego i Stowarzyszenia Inżynierów i Techników Przemysłu Chemicznego oraz 11 Międzynarodowa Konferencja Chemii Środowiska, Toruń 2007 r. (poster)
13. M. Szewczyńska, E. Dobrzyńska, M. Pośniak, *Badania identyfikacyjne szkodliwych substancji organicznych wydzielających się w wybranych procesach wysokotemperaturowej obróbki metali generujących pyły drobnodispersyjne* IV Konferencja chromatograficzna „Zastosowanie technik chromatograficznych w analizie środowiskowej i klinicznej”, Łódź 2009 r. (poster)
14. J. Baraniecka, K. Pyrzyńska, M. Szewczyńska *Badanie zawartości wielopierścieniowych węglowodorów aromatycznych we frakcjach pyłów emitowanych do powietrza*, XVIII Poznańskie Konwersatorium Analityczne, Poznań 2009 r. (poster)
15. M. Szewczyńska, E. Dobrzyńska, M. Pośniak: *Oznaczanie wielopierścieniowych węglowodorów aromatycznych we frakcjach pyłów drobnodispersyjnych wydzielających się w wybranych procesach wysokotemperaturowej obróbki metali*, Seminarium "Zagrożenia zdrowotne w środowisku pracy" Łódź 2009 r. (poster)
16. M. Szewczyńska, E. Dobrzyńska, M. Pośniak, *Zastosowanie HPLC i GC do oznaczania niebezpiecznych substancji chemicznych emitowanych podczas procesów wysokotemperaturowych* 52. Zjazd Polskiego Towarzystwa Chemicznego i Stowarzyszenia Inżynierów i Techników Przemysłu Chemicznego, Łódź 2009 r. (poster)
17. J. Baraniecka, K. Pyrzyńska, M. Szewczyńska, M. Pośniak, E. Jankowska, *Wielopierścieniowe węglowodory aromatyczne w frakcjach pyłów emitowanych do powietrza w wybranych procesach*, IV Konferencja chromatograficzna „Analityczne zastosowania chromatografii cieczowej”, Warszawa 2009 r. (poster)
18. M. Szewczyńska, E. Dobrzyńska, M. Gołofit-Szymczak, M. Pośniak *Identyfikacja zagrożeń chemicznych i biologicznych w zakładach fryzjersko-kosmetycznych*, Seminarium "Zagrożenia zdrowotne w środowisku pracy" Łódź 2009 r. (poster)
19. M. Szewczyńska, M. Gołofit-Szymczak *Ocena narażenia na szkodliwe czynniki chemiczne i biologiczne na stanowiskach pracy fryzjerek*– Sympozjum PTHP. Łódź 2010 r. (poster)
20. M. Szewczyńska, E. Dobrzyńska, M. Pośniak, *Technika HPLC/FL jako metoda oznaczania WWA we frakcjach pyłów drobnodispersyjnych emitowanych ze spalin biodiesla*, VI Konferencja chromatograficzna „Analityczne zastosowania chromatografii cieczowej”, Warszawa 2011 r. (poster)

21. M. Szewczyńska, E. Dobrzyńska, M. Pośniak, A. Woźnica, *Analiza składu frakcji cząstek stałych emitowanych ze spalin biodiesla*, XIII Sympozjum PTHP pt. „Aktualne problemy w higienie pracy” Łódź 2011 r. (poster)
22. M. Szewczyńska, M. Pośniak, E. Dobrzyńska, *Oznaczanie zawartości wielopierścieniowych węglowodorów aromatycznych w ultradrobnej frakcji cząstek emitowanych ze spalin silników Diesla i biodiesel* IV Ogólnopolski Kongres Inżynierii Środowiska, Lublin 2012 r. (poster)
23. M. Szewczyńska, E. Dobrzyńska, M. Pośniak, A. Woźnica, *Wykorzystanie chromatografii cieczowej do analizy składu frakcji cząstek drobnych emitowanych ze spalin silnika Diesla*, V Sympozjum chromatograficzne n.t. „Zastosowanie technik chromatograficznych w analizie środowiskowej i klinicznej”, Łodzi 2012 r. (plakat)
24. M. Szewczyńska, E. Pągowska, M. Pośniak *Wykorzystanie chromatografii jonowej do oznaczania zawartości frakcji torakalnej kwasu siarkowego w środowisku pracy*, VIII Konferencji „Analityczne zastosowania chromatografii cieczowej, Warszawa 2014 r. (poster)
25. M. Pośniak, M. Szewczyńska, *Fracje aerozoli substancji chemicznych. Pobieranie próbek powietrza do oceny narażenia zawodowego*, XVI Sympozjum nt. Aktualne problemy w higienie pracy, Łódź 2015 r (lecture)
26. M. Szewczyńska, M. Pośniak, *Charakterystyka stężeń substancji rakotwórczych we frakcjach cząstek drobnych w spalinach samochodowych*, V Ogólnopolski Kongres Inżynierii Środowiska, Lublin 2016 r. (lecture)
27. M. Szewczyńska, M. Pośniak *Badanie zawartości frakcji torakalnej we wdychalnej frakcji aerozolu ciekłego w środowisku pracy na przykładzie kwasu siarkowego*, V Ogólnopolski Kongres Inżynierii Środowiska, Lublin 2016 r. (lecture)

5.6.2 International Conferences

1. M. Pośniak, M. Politowicz, E. Kozieł., *Analysis of Chemical Hazards in the Workplace Air during Hardening of Phenol-Formaldehyde Resins*. 25th International Congress on Occupational Health, Stocholm 1996 r. (poster)
2. M. Trojanowicz, A. Jagielska, A. Kierzek, P. Rotkiewicz, M. Politowicz, *Chromatographic and computational approaches to the determination of phenols with tyrosinase biosensors*, 4th workshop of INCO: Multidimensional Information Devices, Biosensors for direct monitoring of environmental pollutants in the field. Spain, Cordoba 1998. (lecture)
3. M. Trojanowicz, P. Drzewicz, P. Pańta, W. Głuszewski, G. Nałęcz-Jawecki, M. Gryz, M. Szewczyńska, M. Czaplicka, *Chromatographic and toxicological studies on decomposition of herbicide 2,4-D In aqueous solutions by gamma irradiation*, 5th National Meeting on nuclear applications (ENAN), 15-20 październik, Rio de Janeiro, Brazylia. (lecture)
4. M. Szewczyńska, P. Drzewicz, M. Trojanowicz, *Reversed-phase HPLC of phenols with electrochemical detection using tyrosinase-based carbon paste biosensor*, 11th International Symposium “Advances and applications of chromatography in industry” 27 – 31 wrzesień 2001, Bratysława, Słowacja. (poster)

5. M. Trojanowicz, M. Szewczyńska, *Enhancement of selectivity and sensitivity in HPLC by the use of amperometric detection with enzymatic biosensors*, 8th International Symposium on Separation Sciences, 8-12 wrzesień 2002, Toruń. (poster)
6. M. Szewczyńska, M. Trojanowicz, D. Compagnone, *Sensitive assay of phenolic compounds and polyamines by RP-HPLC with electrochemical detection employing enzymatic biosensors*, 27th International Symposium on high performance liquid phase separations and related techniques, 15 – 19 czerwiec 2003, Nicea, Francja. (poster)
7. E. Dobrzyńska, M. Szewczyńska, *Applications of GC-MS/MS technique for determination of dioxins in air samples collected from different types of combustion processes*, 3-7 września 2007 Tokyo, Japonia, Dioxin 2007 International Symposium (poster)
8. M. Szewczyńska, E. Dobrzyńska, M. Pośniak *HPLC application for polycyclic aromatic hydrocarbons determination in biodiesel exhaust particles* 29th International Symposium on Chromatography 9-13. 09 Toruń 2012(plakat)
9. M. Szewczyńska, M. Pośniak, E. Dobrzyńska *The use of high liquid performance chromatography for the determination of pahs in the fine particle fraction of diesel exhaust* New Achievements In Chromatography, 19th International Symposium On Separation Sciences 25-28 September 2013, Poreč, Croatia (poster)
- E. Pągowska, M. Szewczyńska, M. Pośniak, K. Pyrzyńska. *Badanie fluorków we frakcji wdychalnej i respirabilnej aerozoli w środowisku pracy z zastosowaniem chromatografii jonowej X Międzynarodowa Konferencja „Chromatografia Jonowa 2014”, Zabrze 2014 r. (poster)*
10. M. Pośniak, M. Szewczyńska, E. Pągowska *Thoracic and inhalable fractions of sulfuric acid aerosol at the workplaces air”* RCTA 2015, the 3rd Iberian Meeting on Aerosol Science and Technology, Elche (Alicante, Spain) 2015. (poster)
11. M. Szewczyńska, M. Pośniak, *The study of polycyclic organic substances in the fine particles fractions emitted from diesel and gasoline engines* RICTA 2015, the 3rd Iberian Meeting on Aerosol Science and Technology, Elche (Hiszpania) 2015 (poster)

M. Szewczyńska

5.7 MEMBERSHIP IN INTERNATIONAL AND NATIONAL ORGANIZATIONS AND SCIENTIFIC SOCIETIES AND EDITORIAL

2016	Member of thematic group -Chromatography and Related Techniques, Committee of Analytical Chemistry, Polish Academy of Sciences
2014 - 2016	Editorial Board, Occupational Safety –Science and Practice, Central Institute for Labour Protection-National Research Institute/Poland
2008 - 2015	Scientific Advisory Board, Central Institute for Labour Protection-National Research Institute/Poland

6 EXCEPTIONAL TEACHING AND DISSEMINATION AND INFORMATION ABOUT COOPERATION HABILITANTA

6.1 EDUCATIONAL ACTIVITIES IN THE CENTRE OF EDUCATIONAL IN CENTRAL INSTITUTE OF LABOUR PROTECTION -NATIONALE RESEARCH INSTITUTE

1995	Educational course and obtaining a certificate: organizing training, preparing training materials and educational packages (organized by the National Institute for Working Life in Solna, Sweden)
1995 - 2016	As employee give lectures and exercises organized by the Education Center at the Central Institute for Labour Protection –National Research Institute Lectures and exercises with the subject: <ul style="list-style-type: none"> • Occupational Safety and health in the range of chemical hazards • Sampling and preparation of samples for analysis, • Chromatographic analysis.

6.2 OTHER FORMS OF TEACHING (OUTSIDE THE INSTITUTE)

2014 - 2015	Scientific and Technical Centre A2K CeNT a.s. - Lectures <ul style="list-style-type: none"> • Analysis of polycyclic aromatic hydrocarbons in the working environment, • Sorption materials in the analysis of air samples.
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6.3 SCIENTIFIC ADVICE TO STUDENTS AND SPECIALIZING PHYSICIANS

2008 - 2016	6 Master Students Laboratory For Flow Analysis and Chromatography/Department of Chemistry, University of Warsaw/Poland
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2014 - 2015 | **1 Undergraduate studies**

Laboratory of Technological Processes/ Faculty of Chemistry/
Warsaw University of Technology/Poland

6.4 ORGANISATION OF SCIENTIFIC MEETINGS

2012 Organizer of Workshop within INGENIOUS Project FP7,
Workshop on nanomaterials in chemical and biomedical applications,
Poland

6.5 LIST OF EXPERTISE AND ANALYTICAL WORKS FOR INDUSTRY

- | | | |
|----|--|--|
| 1. | PRZEMYSŁOWY INSTYTUT MOTORYZACJI
PIMOT,
ul. Jagiellońska 55, 03-301 Warszawa | Determining the concentration of polycyclic aromatic hydrocarbons in the air sample |
| 2. | KINGSPAN SP. Z O.O.,
ul. Przemysłowa 20, 27-300 Lipsko | Determining the concentration of 4,4'-methylene-bis(phenyloisocyanate) in air samples |
| 3. | WYTWÓRNIA SPRZĘTU KOMUNIKACYJNEGO
„PZL-ŚWIDNIK” S.A, Al. Lotników Polskich 1,
21-045 Świdnik | Determining the concentration of 4,4'-methylene-bis (phenyloisocyanate) in air samples |
| 4. | LABORATORIUM BADAWCZE "LABO TEST"
JANINA JAROSZ,
ul. Komandosów 4, 39-200 Dębica | Determination of the concentration of phenol, resorcinol aniline, polycyclic aromatic hydrocarbons and cobalt in air samples. |
| 5. | CENTRUM MEDYCZNE DAMIANA SP. Z O.O.
ul. Wałbrzyska 46, 02-739 Warszawa | Study the contents of halothane in the supplied air samples |
| 6. | O.B.P.P. i W.O.Ś. i B „OIKOS” Sp. Z o.o., ul.
Powstańców Śląskich 8,
55-010 Święta Katarzyna | Determination of PAHs in air samples. |
| 7. | KOMENDA STOŁECZNA POLICJI,
ul. Nowolipie 2, 00-150 Warszawa | Determining the concentration of of acetic acid in the air samples. Determination of the hydrazine concentrations in the samples of air. Determining the concentration of of phenol in air samples |
| 8. | NYCOMED PHARMA SP. Z O.O.,
Al Jerozolimskie 146A,
02-305 Warszawa | Development of method for determination of warfarin sodium in the air at workplaces and performance measurements to assess occupational exposure |
| 9. | Lubelskie Zakłady Przemysłu Skórzanego
PROTEKTOR
ul. Kunickiego 20-24,Lublin | Study the content of 4,4'-methylene-bis (phenyloisocyanate) (MDI) in air at five positions. Study the contents of ethylene glycol in the air at five positions in workplace |

- | | | |
|-----|---|---|
| 10. | INSTYTUT INŻYNIERII MATERIAŁÓW
POLIMEROWYCH I BARWNIKÓW, O/Z
ELASTOMERÓW I TECHNOLOGII GUMY W
PIASTOWIE,
ul. Harcerska 30,
05-820 Piastów | Identification tests of volatile organic
compounds and PAHs in the work environment
of the extruder. |
| 11. | STANGL-POLSKA Sp. z o.o.
ul. Mazowiecka 3, 58-300 Wałbrzych | Performing measurements of the concentration
of volatile organic compounds and carbon
monoxide in four channels ventilating air for
office space in buildings IBC Warsaw ul.
People's Army horn Polnej |
| 12. | ELKON ANDRZEJ NOWAKOWSKI, TADEUSZ
ADAMCZYK, JERZY KOLWICZ,
ul. Czereśniowa 73A
02-457 Warszawa | Measuring the concentrations of harmful
chemicals in the air at selected workplaces in
the service department in the production hall. |
| 13. | TAKEDA PHARMA SP. Z O.O.,
Al. Jerozolimskie 146A
02-305 Warszawa,
Zakład Produkcyjny w Łyszkowicach
ul. Księstwa Łowickiego 12
99-420 Łyszkowice | Measuring the concentrations of levothyroxine
sodium in the air at workplaces in the
manufacturing plant |
| 14. | SKARB PAŃSTWA – SĄD OKRĘGOWY w
Warszawie
Al. „Solidarności” 127
00-898 Warszawa | Carrying out research work environment
indoors II Regional Team of Forensic
Specialists Street Skierniewicka 21 lok. 2 in
Warsaw and outside the building on the
occasion of volatile organic compounds, ie.
Benzene, toluene, xylene. |

M. Grewaryńska

7 Ph.D DIPLOMA



RZECZPOSPOLITA POLSKA

CENTRALNY INSTYTUT OCHRONY PRACY – PAŃSTWOWY INSTYTUT BADAWCZY
W WARSZAWIE

DYPLOM

MGR MAŁGORZATA SZEWCZYŃSKA
URODZONA DNIA 28 STYCZNIA 1968 ROKU W PRZASNYSZUNA PODSTAWIE PRZEDSTAWIONEJ ROZPRAWY DOKTORSKIEJ
POD TYTUŁEM: METODY DERYWATYZACJI ENZYMATYCZNEJ W WYSOKOSPRAWNEJ
CHROMATOGRAFII CIECZOWEJ WYBRANYCH ZANIECZYSZCZEŃ ŚRODOWISKA
ORAZ PO ZŁOŻENIU PRZEPISANYCH EGZAMINÓW
UZYSKAŁA Z WYRÓŻNIENIEM STOPIEŃ NAUKOWY

DOKTORA

NAUK TECHNICZNYCH
W DYSCYPLINIE: INŻYNIERIA ŚRODOWISKANADANY UCHWAŁĄ RADY NAUKOWEJ
CENTRALNEGO INSTYTUTU OCHRONY PRACY – PAŃSTWOWEGO INSTYTUTU BADAWCZEGO
Z DNIA 21 LISTOPADA 2003 ROKUPROMOTOREM W PRZEWODZIE DOKTORSKIM BYŁ
PROF. DR HAB. MAREK TROJANOWICZ
UNIwersytet WarszawskiRECENZENTAMI W PRZEWODZIE DOKTORSKIM BYLI:
PROF. DR HAB. WALENTY SZCZEPANIAK,
UNIwersytet im. Adama Mickiewicza w Poznaniu,
DOC. DR HAB. ZBIGNIEW MAKLES,
CENTRALNY INSTYTUT OCHRONY PRACY – PAŃSTWOWY INSTYTUT BADAWCZY
WARSZAWA 2003PRZEWODNICZĄCY
RADY
NAUKOWEJ

PROF. DR HAB. INŻ. ZBIGNIEW ENGEL

DYREKTOR
CENTRALNEGO INSTYTUTU OCHRONY PRACY
– PAŃSTWOWEGO INSTYTUTU BADAWCZEGO

PROF. DR HAB. MED. DANUTA KORADECKA

NR 13

Za zgodność z oryginałem

data 28.10.2010 SAMODZIELNY REFERENT podpis mgr Paweł Albin

8 CO-AUTHORS' DECLARATIONS FOR THEIR CONTRIBUTION TO THE FORMATION OF PUBLICATIONS –A SUMMARY

Praca	Autorzy				
7. [H1]	M. Trojanowicz	M. Szewczyńska			
	50	50			
11. [H2]	E. Dobrzyńska	B. Buszewski	M. Szewczyńska	M. Pośniak	
	40	20	35	5	
12. [H3]	M. Szewczyńska	J. Baraniecka	K. Pyrzyńska	M. Pośniak	E. Dobrzyńska
	55	25	10	5	5
17. [H4]	M. Szewczyńska	M. Pośniak	E. Dobrzyńska	K. Pyrzyńska	J. Baraniecka
	55	5	5	10	25
18. [H5]	M. Szewczyńska	M. Pośniak,	E. Dobrzyńska		
	60	10	30		
20. [H6]	M. Szewczyńska	M. Pośniak			
	85	15			
21. [H7]	M. Szewczyńska	J. Kowalska	M. Pośniak		
	80	10	10		
24. [H8]	M. Szewczyńska	E. Pągowska	K. Pyrzyńska		
	55	30	15		
28. [H9]	M. Szewczyńska	J. Dąbrowska	K. Pyrzyńska		
	65	20	15		
29. [H10]	M. Szewczyńska	M. Pośniak	E. Pągowska		
	70	15	15		

M. Szewczyńska

9 CO-AUTHORS' DECLARATIONS