



Jakub M. Milczarek PhD

An analytical chemist with expertise in forensic and heritage sciences
A highly competent professional with problem solving & management skills
An experienced lecturer and science communicator



April 7th, 1980



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<http://milczarek.eu>



WORK EXPERIENCE

Assistant Professor

Łódź University of Technology
Faculty of Biotechnology and Food Sciences
10.2015 - Present | Łódź, Poland

UX Specialist

OnTheGoSystems
04.2015 - Present | On-line

Research Scientist, Lecturer

Jagiellonian University
Paper Degradation Laboratory
01.2012 - 05.2015 | Kraków, Poland

Scientific, Business & UX Consultant

IT & Scientific Companies
01.2012 - 03.2015 | Poland

Associate Programme 2014 Participant

Organisation for the Prohibition
of Chemical Weapons
07.2014 - 10.2014 | Netherlands, UK & Singapore

Member of the Scientific Council

Foundation for Science Development
03.2012 - 01.2013 | Poland

Project Manager, UX Specialist

WP-Expert
07.2010 - 12.2012 | Kraków, Poland

Guest Lecturer

Kraków University of Technology
10.2011 - 02.2012 | Kraków, Poland

Guest Lecturer

University of Łódź
10.2011 - 02.2012 | Łódź, Poland

Project Manager

Diagnostyka
12.2009 - 09.2010 | Kraków, Poland

IT Specialist

Institute of Forensic Research
11.2007 - 06.2009 | Kraków, Poland

Research Scientist (PhD Candidate)

Institute of Forensic Research
Department of Criminalistics
10.2004 - 06.2009 | Kraków, Poland

President of Student Section

Polish Chemical Society
(President) 12.2003 - 12.2006 | Poland
(Vice-President) 12.2002 - 12.2003 | Poland

Research Scientist (Intern)

Landeskriminalamt Polizei Berlin
06.2005 | Berlin, Germany



PROFESSIONAL SKILLS

Fields of expertise:

- Forensic Science
- Trace Evidence
- Chemical Weapons Convention
- Heritage Science
- University Teaching
- Science Popularisation

Laboratory skills:

1 - Theory, 2 - Practice, 3 - Research, 4 - Proficiency

CZE, MEKC	●●●●	Py-GC/MS	●●●●●
FT-IR	●●●●	SEC	●●●●●
GC/MS	●●●●●	SEM/EDX	●●●●●
HPLC	●●●●	TD-GC/MS	●●●●●
Hyperspectral Imaging	●●●●	UV - Vis	●●●●●
Mass Spectrometry	●●●●	Voltammetry	●●●●●
Optical Microscopy	●●●●	XRF	●●●●●

Soft skills:

- Project Management
- Event Management
- Leadership
- Communication and Networking
- Resistance to stress
- Teamwork

Languages:

Polish - native speaker English - fluent Russian - basics

Other skills:

- Experience in managing interdisciplinary projects
- 12 full papers and 3 short communications
- Proficiency in science communication
(10 university courses, 4 workshops, 7 invited lectures & over 20 oral presentations)
- Basic skills in electronics
- GMP & GLP knowledge
- UX, IxD, HCI



EDUCATION

- 09.2010 **Kraków University of Economics (PL)**
Diploma - Management of Small and Medium Companies
- 10.2009 **Jagiellonian University, Faculty of Chemistry (PL)**
PhD title with distinction - Forensic analytical chemistry
Examination of paint traces by means of pyrolysis gas chromatography mass spectrometry (Py-GC/MS) for forensic purposes
- 07.2006 **University of Łódź, Faculty of Physics (PL)**
BSc title - Physics, spec. physics with computers
Pra-Che-Fi - a new computer tool for students and researchers
- 06.2004 **University of Łódź, Faculty of Chemistry (PL)**
MSc title with distinction - Analytical chemistry
Voltammetric (CSV) quantitative determination of thiouracil derivatives (MTU, PTU & BTU) in human urine
- 08.2002 **University of Groningen, Faculty of Mathematics and Natural Sciences (NL)**
Erasmus & Student research - Bio-analytical chemistry
Production and characterization of Affinity Controlled Pore Glass beads for profiling of Matrix-Metallo Proteases

Prof. Maria Koziółkiewicz

Dean of Faculty of Biotechnology and Food Sciences
Łódź University of Technology (Łódź, Poland)
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Joanna Łojewska PhD, DSc

Head of Heterogeneous Reactions Kinetics Group
Jagiellonian University (Kraków, Poland)
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Prof. Wojciech Piekoszewski

Head of Toxicological and Pharmaceutical Analysis Group
Jagiellonian University (Kraków, Poland)
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SELECTED SCIENTIFIC PUBLICATIONS

Beata Gutarowska, Katarzyna Pietrzak, Waldemar Machnowski, Jakub M. Milczarek

Historical textiles – a review of microbial deterioration analysis and disinfection methods

Textile Research Journal, 2017, Vol. 87, 19, 2388-2406

Monika A. Koperska, Dominika Pawcenis, Jakub M. Milczarek, Andrzej Blachecki, Tomasz Łojewski, Joanna Łojewska

Fibroin degradation – Critical evaluation of conventional analytical methods

Polymer Degradation and Stability, 2015, Vol. 120, 357-367

Dominika Pawcenis, Jacob L. Thomas, Tomasz Łojewski, Jakub M. Milczarek, Joanna Łojewska

Towards determination of absolute molar mass of cellulose polymer by Size Exclusion Chromatography with Multiple Angle Laser Light Scattering detection

Journal of Chromatography A, 2015, Vol. 1409, 53-59

Dominika Pawcenis, Monika A. Koperska, Jakub M. Milczarek, Tomasz Łojewski, Joanna Łojewska

Size exclusion chromatography for analyses of fibroin in silk: optimization of sampling and separation conditions

Applied Physics A: Materials Science and Processing, 2014, Vol. 114 (2), 301-308

Jakub M. Milczarek, Janina Zięba-Palus

Examination of spray paints on plasters by the use of pyrolysis-gas chromatography-mass spectrometry for forensic purposes

Journal of Analytical and Applied Pyrolysis, 2009, Vol. 86(2), 252-259

Jakub M. Milczarek, Marek Dziadosz, Janina Zięba-Palus

Way to distinguish car paint traces based on epoxy layers analysis by pyrolysis – gas chromatography – mass spectrometry (Py-GC/MS)

Chemical Analysis, 2009, Vol. 54, 173-185

Janina Zięba-Palus, Jakub M. Milczarek, Paweł Kościelniak

Application of Infrared Spectroscopy and Pyrolysis-Gas Chromatography-Mass Spectrometry to the Analysis of Automobile Paint Samples

Chemical Analysis, 2008, Vol. 53, 109-121

Janina Zięba-Palus, Grzegorz Zadora, Jakub M. Milczarek

Differentiation and evaluation of evidence value of styrene acrylic urethane topcoat car paints analysed by pyrolysis-gas chromatography

Journal of Chromatography A, 2008, Vol. 1179, 47-58

Janina Zięba-Palus, Grzegorz Zadora, Jakub M. Milczarek, Paweł Kościelniak

Pyrolysis-gas chromatography/mass spectrometry analysis as a useful tool in forensic examination of automotive paint traces

Journal of Chromatography A, 2008, Vol. 1179, 41-46

Jakub M. Milczarek, Janina Zięba-Palus, Paweł Kościelniak

Application of pyrolysis-gas chromatography to car paint analysis for forensic purposes

Problems of Forensic Sciences 2005 Vol. 61 (LXI) 7-18



TEACHING EXPERIENCE

Lectures

Fundamentals of Forensic Science
Forensic Analytical Chemistry
Fundamentals of Chemistry
Introduction to Chromatography
Fundamentals of Statistics

Laboratory exercises

Analytical Chemistry
Instrumental Analysis
Chromatographic Separations
Titrations
Chemical Food Contamination

Workshops

The Art of Presentation
Usability: Why Bother?
An Introduction to WordPress
Internet Tools for Scientists
Health & Safety in Laboratories

Other

Secondary School Chemistry
High School Chemistry
High School Physics



SCIENTIFIC ORGANISATIONS

Science Spokesmen Society

Member since 2017

IUGS Initiative on Forensic Geology

Member since 2013

Polish Forensic Association

Member since 2005

Polish Chemical Society

Member since 2002



HOBBIES

Mountain hiking

Geocaching

Extraordinary voyages

Philately

Amateur radio (HAM)

Genealogy

Escape Rooms

Guitar

Prof. Maria Koziółkiewicz

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