

## PERSONAL INFORMATION

Family name, First name: **Kozłowski**, (Kozłowski) Ryszard Michał  
Researcher unique identifier: ORCID: 0000-0002-3283-5753  
Date of birth: July 28, 1938  
Nationality: Polish  
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## Professor Ryszard Michał Kozłowski *CURRICULUM VITAE*

### EDUCATION

- 1990 Professor of Technical Sciences, field of Chemical Technology, President of Poland Appointment
- 1979 Scholarship: Special training on modern trends of production and improvement of particleboards, wood and wood derivatives treatment Technical Research Centre, Finland
- 1973 Postgraduate studies on research organisation for research & development senior scientists, Ministry of Science, Higher Education and Technique
- 1970 PhD of Chemical Technology, Chemistry, Adam Mickiewicz University UAM, Poznan, Poland
- 1961 Master Chemistry, Applied Science, Adam Mickiewicz University UAM, Poznan, Poland

### CURRENT POSITION

- From 2017 Scientific advisor Institute of Natural Fibres and Medicinal Plants, Poznan, Poland
- 2016 – 2017 (December) Deputy Director for Scientific Affairs, Institute of Natural Fibres and Medicinal Plants - Instytut Włókien Naturalnych i Roślin Zielarskich (IWNiRZ),

### PREVIOUS POSITIONS

- 2009 – 2016 Scientific Adviser, Institute for Engineering of Polymer Materials and Dyes (IMPIB)
- 1987 – 2008 Director General, Institute of Natural Fibres - Instytut Włókien Naturalnych (IWN)
- 1976 – 1987 Deputy Director for Science of IWN

### FELLOWSHIPS AND AWARDS

- 2006 Honorary Fellow of the Textile Institute, Manchester, UK
- 2006 *Professor Honoris Causa* of the Pontifical Catholic University of Ecuador in Ibarra (PUCE-SI), Ecuador

Special awards, prizes and orders related to Professor's professional activities received from prestigious institutions such as President of Poland, Polish Minister of Economy, Polish Agency for Enterprise, President of Poznan, Industry Ministries and industry organisations.

### SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

#### Supervisor of PhD thesis:

1. WuWei, China, *The impact of environmental conditions in Poland and China on the size and quality of the Polish cultivar Białobrzęskie and Chinese hemp cultivar He Bei Weixian Dabaipi*, 2014
2. Jolanta Batog, Poznan, Poland: *Activation of Lignocellulosic Composites with Oxydizing Enzymes*, 2007
3. Dorota Wesołek, Poznan, Poland: *Influence of Fire Retardants on the Emission of Toxic Products of Thermal Decomposition and Combustion of Wood*, 1999
4. Maria Władysław-Przybylak, Poznan, Poland: *Examination of the fire performance of wood-swelling coatings according to the modifiers used*, 1998

#### As external reviewer:

In total reviewed over 300 PhD and Professor Thesis. Reviewed PhD thesis for foreign scientific organisations in South Africa, Mauritius, Egypt and UK.

### TEACHING ACTIVITIES

1998 – 2016 Visiting professor at universities, research centres and companies world-wide - USA, Ecuador, Colombia, UK, Japan, Canada, China, Malaysia, France, Mexico and Romania.

## **INSTITUTIONAL RESPONSIBILITIES**

2010 – 2013 Organizer of Internal seminars dealing with bast fibrous plants as strategic resources for European economy; production, processing, multidirectional advanced applications, Aurel Vlaicu University, Research Development Innovation in Technical and Natural Sciences Institute,

## **COMMISSIONS OF TRUST**

### **Scientific Advisory Board, Name of University/ Institution/ Country**

1989 – now Advisor of FAO, Rome and Budapest (natural fibrous resources)  
2016 – now Member of the Wielkopolska Region Forum of Intelligent Specializations  
1999 – 2017 Advisor of Governments of: Colombia, Ecuador, Russia (natural fibrous resources)  
1997 – 2017 President of World Hemp Centre  
2009 – 2016 Member of Scientific Council and Disciplinary Commissioner of IMPIB,  
2000 – 2008 Former Research and Development Units Council of Directors (Chairman of Poznan City and the Poznan District);  
2002 – 2008 Research and Development Units Council of Directors (Chairman of Poznan City and the Poznan District)  
1994 – 2000 Advisor of UNIDO, Vienna, Austria (industrial crops)  
1993 – 1997 Expert of the Minister of Culture and Art in the specialty: public heritage - fire protection and bio-deterioration, material engineering), Polish Chamber of Flax and Hemp.

### **Editorial activities**

From 2003 – Editor-in-Chief, Journal of Natural Fibers, published by Taylor&Francis, USA (former publisher: Haworth Press, Inc., New York)  
From 1994 Editor-in-Chief of EUROFLAX Newsletter, Information Bulletin of the European Cooperative Research Network on Flax and other Bast Plants  
From 2009 Editor-in – Chief of Scientific Bulletin of ESCORENA

Member of Scientific Committees and Editorial Boards of more than 10 scientific publications.

### **Evaluator of scientific proposals**

Reviewer of grant applications from NCBR - the National Research Center

2008 Evaluator of the EC projects within the Clean Sky program  
2000 Evaluator of the projects submitted to PARP (Polish Agency for Enterprise Development)

## **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

From 2013 Coordinator of ESCORENA European Cooperative Research Network on Flax and other Bast Plants), under auspices of FAO, with Coordination Centre at IWNiRZ, Poznan, Poland  
From 2008 ESCORENA Focal Point at IWNiRZ, Coordinator  
From 2000 American Chemical Society, member of Divisions: Polymer, Cellulose, and Cannabis Chemistry Subdivision (CANN)  
From 1988 International Textile Institute (TI), Manchester, UK, member of the Council, Honorary Fellow of TI  
1989 – 2013 Ad hoc Flax Group, under auspices of FAO, with Coordination Centre at IWNiRZ, Poznan, Poland  
Till 2008 American Association for the Advancement of Science (AAAS)

## **MAJOR COLLABORATIONS**

1990 – now collaboration with Life Science University, Poznan, Poland in scope of joint supervision of PhD and professor thesis.  
2010 – 2013 Collaboration with University “Aurel Vlaicu” Arad, Romania, (Ass. Prof. Cecilia Sirghie), R. M. Kozłowski Director of the project of European Commission: POS-CCE 210/2010: ACRONIM „BASTEURES”: “Bast Plants - Strategic Resources for European Economy”,  
2002 – 2005 CORTEX – CORONA. Irradiation in textile finishing, Contract No G1RD–CT–2002-00757, cooperation with Minho Univ. Portugal

**Appendix: All ongoing and submitted grants and funding of the PI (Funding ID)**  
Mandatory information (does not count towards page limits)

**On-going Grants**

<i>Project Title</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>	<i>Role of the PI</i>	<i>Relation to current ERC proposal<sup>1</sup></i>
<b>EKOHEMPKON</b> , Agreement no.: LIFE11 ENV/PL/445 Within the programme Life +	EC	800,000	01.10.2012 - 30.09.2018.	Member of the team	None
<b>FUMIGIUM</b> , Project: POIR Activity 1.1. R & D projects of enterprises, Submeasure 1.1.1 (2017-2019) Industrial research and development projects conducted by enterprises: <b>Development of the microbiological decontamination of soils and waters from petroleum and petroleum derived substances.</b> Partners: DGW-Invest Sp. z o.o. with IWNiRZ, Poland	NCBR - The National Centre for Research and Development, Poland	142,727	01.09.2017-28.02.2018 and 01.10.2018-31.03.2019	Member of the team	None
<b>LONG-TERM PROJECT FOR IWNIRZ:</b> Reconstruction and sustainable development of the production and processing of natural textile raw materials for agriculture and the economy	Government of Poland- Ministry of Agriculture and Rural Development	3,500,000	2017-2020	Coordinator	None

**Applications**

<i>Project Title</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>	<i>Role of the PI</i>	<i>Relation to current ERC proposal<sup>2</sup></i>
Acronym: <b>HaloSYS</b> . Integrated system of bioremediation – biorefining using halophyte species (2 <sup>nd</sup> step application, submitted on July 17, 2017)	European Commission (in scope of FACCE SURPLUS. Sustainable and resilient agriculture for food and non-food systems	803,000	2018-2021	Coordinator of Consortium from Poland	None

## Section c: Ten years track-record (chosen publications)

### Publications

1. Kozłowski R., Kajzar F., Nyszko G., Wertejuk Z., Majewski K., Mackiewicz-Talarczyk M. & Małkowski Z., Special textiles with multifunctional systems of human protection against contamination, fire, cold & UV radiation, *Molecular Crystals & Liquid Crystals* - Taylor & Francis Group, 2017, ISSN: 1542-1406
2. Kozłowski R., Muzyczek M., Mackiewicz-Talarczyk M., Barriga-Bedoya J., “Quo vadis Natural Fibres in 21st Century?”, *Molecular Crystals and Liquid Crystals*, 2016, vol.628, No 1, pp 1-12, Taylor&Francis
3. Kozłowski R.M., Kręgielczak A., Radu D.G., Sîrghie C.: Flax Seeds - Source of Biomedical & Food Products, *Molecular Crystals and Liquid Crystals*, 603(1):122 – 135, 2014
4. Kozłowski R., Kubica S., Sytniewski Ł. Nanolignin as an effective UV blocker for fabrics, non woven and polymeric foils. *Scientific Israel Technological Advantage for Materials Engineering and Nanotechnology* 14(1), 2012, ISSN 1565-1533
5. Kozłowski R., Muzyczek M., Talarczyk M., "The coexistence and competition of natural fibres with man-made fibres and future prospects", *Advanced Materials Research Multi-Functional Materials and Structures IV*, 2013, Vol. 747, Ed. Sombatsompop N., Bhattacharyya D., Hoi-Yan Cheung K., Trans Tech Publications Ltd., Zurich (Switzerland), ISSN 1022-6680, pp 3-7
6. Kozłowski R., Mackiewicz-Talarczyk M., Muzyczek M., Bedoya J. “Future of natural fibers, their coexistence and competition with man-made fibers in 21<sup>st</sup> century”, *Molecular Crystals & Liquid Crystals* - Taylor & Francis Group, 2012, Vol. 556:1, pp 200-222
7. Kozłowski R., Mackiewicz-Talarczyk M., Barriga-Bedoya J., Natural fibers production, processing and application: Inventory and future prospects. *Contemporary Science of Polymeric Materials*, Chapter 3, ACS Symposium Series, USA, 1061, 2010, pp 41-51
8. R. M. Kozłowski; F. Kajzar, G. Nyszko, K. Wierzejuk, K. Majewski, M. Mackiewicz-Talarczyk, Z. Małkowski, Special textiles with multifunctional systems of human protection against contamination, fire, cold & UV radiation, *Molecular Crystals and Liquid Crystals*, Volume 655, 2017 - Issue 1: pages 195-203, Published online: 07 Dec 2017, DOI:10.1080/15421406.2017.1361297.

### Research monographs and any translations thereof

#### Chapters in Monographs:

1. R. Kozłowski, M. Muzyczek, Chapter 11, Smart Environmentally Friendly Composite Coatings for Wood Protection, in “Smart Composite Coatings and Membranes, Transport, Structural, Environmental and Energy Applications”. Ed.M. F. Montemor, A volume in Woodhead Publishing Series in Composites Science and Engineering, 2016, ISBN: 978-1-78242-283-9, pp 293-325
2. R. Kozłowski, M. Muzyczek, A. Kregielczak „*Natural Fibres*”, Encyclopedia of Composites, ed. by Luigi Nicolais and Assunta Borzacchiello, John Wiley & Sons, Inc., 2012, ISBN: 9781118097298, pp 1-10
3. R. Kozłowski, W. Konczewicz, Phenomena based degumming of bast fibrous plants as promising method in primary processing. *Molecular Crystals & Liquid Crystals* 2012
4. R. Kozłowski, M. Muzyczek, Chapter 2: “*Improving the flame retardancy of natural fibres,*”, Volume 2: Processing and applications; “*Handbook of Natural Fibres*”, edited by R. Kozłowski, Woodhead Publishing Ltd. Cambridge ( UK), 2009, ISBN 978 1 84569 351 0, pp 30-62
5. R. Kozłowski, M. Muzyczek, A. Kicińska: Chapter 1 “*Natural fibres for interior textiles*” Interior textiles: design and developments by Trevor Rowe, Woodhead Publishing Ltd. Cambridge ( UK) 2009, ISBN 978 1 84569 351 0, pp 3-38

**Natural Fibers: Properties, Mechanical Behavior, Functionalization and Applications**, eds. R. Kozłowski, M. Muzyczek, Nova Publishers, USA, 2017, ISBN: 978-1-53612-071-4

R. Kozłowski, M. Muzyczek, Chapter 2. A New Challenge For Flax and Hemp Bast Fibers, pp 19-44

R. Kozłowski, M. Mackiewicz-Talarczyk, J. Barriga Bedoya, Chapter 6. New Emerging Sources of Other Lignocellulosic Fibers, pp 124-134

R. Kozłowski, M. Muzyczek, Chapter 11. Trends in Natural Lignocellulosic Fiber Functionalization and Finishing Processes, pp 215-236

**Handbook of Natural Fibres**, Editor: Ryszard Kozłowski. Woodhead Publishing. Series in Textiles, Cambridge 2012, Vol. 1, p. 1-620, ISBN 978-1-84569-697-9:

Chapter 1. R. Kozłowski, M. Mackiewicz-Talarczyk, Introduction to natural fibers, pp 1-8

— Chapter 5. R. Kozłowski, M. Mackiewicz-Talarczyk, A. M. Allam Bast fibers - Flax., pp 56-113  
Handbook of Natural Fibres Editor: R. Kozłowski. Woodhead Publishing Series in Textiles, Cambridge 2012, **Vol. 2**, p. 1-516, ISBN 978-1-84569-698-6:

— Chapter 2. R. Kozłowski, M. Muzyczek Improving the flame retardancy of natural fibres pp 30-59

#### **Patents in Poland**

- Method of obtaining a composite of thermoplastic polymer and fibre (R. Kozłowski, M. Helwig, J. Mańkowski, J. Garbarczyk, D. Paukszta) P186577
- Method of mechanically separating natural fibre, R. Kozłowski, A. Kubacki, J. Mańkowski, Registered by: IWNiRZ, Granted: 25.04.2008, Patent No – 199630
- Natural fibre composite, a method of obtaining a natural fibre composite and application of the natural fibre composite, R. Kozłowski, M. Muzyczek, B. Mieleniak, E. Dąbrowska, B. Sojka, J. Imielowski, Dombek HeNoyk, Sojka HeNoyk, Registered by: IWNiRZ; LENTEX S.A., Granted: 27.12.2012, Patent No 214153

#### **International Patents**

- An intumescent fire retardant and the methods of its manufacture. D. Wesołek, M. Władyka - Przybylak, R. Kozłowski, Registered by: IWNiRZ, Granted: China, 21.09.2011, No CN101052662B.
- Cellulose fibre textiles containing nanolignins, a method of applying nanolignins onto textiles and use of nanolignins in textile production. J. Batog, M. Zimmiewska, R. Kozłowski, Registered by: IWNiRZ, Granted: 12.09.2012, European Patent No 2150649.
- Cellulose fibre textiles containing nanolignins, a method of applying nanolignins onto textiles and the use of nanolignins in textile production. R. Kozłowski, M. Zimmiewska, J. Batog, Patent EP 2150649, European Patent Bulletin, 2012, 37, 591.
- An intumescent fire retardant and the methods of its manufacture. D. Wesołek, M. Władyka-Przybylak, R. Kozłowski, Registered by: IWNiRZ, Granted: Hong Kong, 30.11.2012 No HK1114114.
- Device for processing fibrous raw materials and the method of fibrous plant processing. R. Kozłowski, W. Konczewicz, Registered by: IWNiRZ, Granted Patent EPO: 11.03.2013, Patent EP 2242876,
- Device for processing fibrous raw materials and the method of fibrous plant processing. R. Kozłowski, W. Konczewicz, Registered by: IWNiRZ, Granted: in Canada, 14.05.2013, Patent PCT No 2.670.408.
- An intumescent fire retardant and the methods of its manufacture. D. Wesołek, M. Władyka-Przybylak, R. Kozłowski, Registered by: IWNiRZ, Granted: USA, 19.05.2015, No US, 9,034,221
- Method of manufacturing silver nanoparticles, cellulosic fibers and nanofibers containing silver nanoparticles, fibers and nanofibers containing silver nanoparticles. Kozłowski R., Łaskiewicz B., Kulpiński P., Muzyczek M., Czarnecki P., Registered by: IWNiRZ, Date of registration: 12.02.200, Granted Patent EPO: 18.06.2015, No EP 2126146

**Invited presentations to internationally established conferences**, totally more than 300, the most recent are:

- ICFPAM, Daejeon, South Korea, 31.10 – 04.11.2016, International co-chairperson, Session Chairman
- ICFPAM, Marrakech, Morocco, 30.03 – 02.04.2015, presented 3 lectures

#### **Organisation of international conferences**

- Coordinator of organizing committees of Networks': 7 World conferences (4 European Regional Workshops, 3 Global Workshops), 31 international conferences including; 20 Network conferences, 11 meetings (Workshops) of Working Groups, 8 meetings of Coordinating Board and 4 meetings of Panel of Experts.
- Member of Steering Committee (International Co-Chairperson) of the ICFPAM cyclic conferences - International Conference on the Frontiers of Polymers and Advanced Materials (from 1999): Poland (1999), Brazil (2001), Romania (2003), Mexico (2005), Krakow (2007), Chile (2009), South Africa (2011), New Zealand (2013), Morocco (2015), South Korea (2016).

#### **Major contributions to the early careers of excellent researchers**

Co-operation with Ass. Prof. Somaye Akbari from Tehran University, Iran in scope of dendrimers.

#### **Leadership of the activities in terms of industrial innovation**

- ELECTROPOL (Electro-conductive polymer matrix composites with improved mechanical properties, Project with Technology Partners Foundations for AIRBUS S.A.S., 2006-2008),
- As General Director of IWNiRZ, implemented results of number of projects related to non-inflammable, non-toxic composites, for the construction of fire doors and partitions, insulating composites from hemp straw,

manufacturing methods of thermoplastic polymer composites and fibers (Patent No. 186577), technology for the production of intumescent, flame retardant transparent coating containing nanomodifiers for wood and wood composites.