

# CURRICULUM VITAE

## Prof. Elżbieta PAMUŁA



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### UNIVERSITY DEGREES

MSc in Materials Science (1990)  
MSc in Chemical Technology (1994)  
PhD in Materials Science (1995)  
DSc (habilitation) in Materials Science (2009)  
Full Professor (2014)  
All titles obtained from AGH University of Science and Technology, Krakow, Poland

### POSITIONS

1995-1997: Assistant  
1997-2011: Lecturer (Assistant Professor)  
Since October 2011: Professor

### STAYS ABROAD

#### Stays abroad - research

1. Belgium, Université catholique de Louvain, Unité de chimie des interfaces, Louvain-la-Neuve, 1998 – 6 months and 2001 – 8 months (*research fellowship*)
2. Turkey, NATO Advanced Study Institute, 1998 – 2 weeks (*research*)
3. Czech Republic, Prague, Academy of Science of the Czech Republic, Physiological Institute 2004 – 2 weeks., 2006 – 2 weeks (*research*)

#### Stays abroad - lectures

1. Belgium, Université catholique de Louvain, Unité de chimie des interfaces, Louvain-la-Neuve 2007 (1 week), 2008 (1 week), 2009 (1 week), 2011 (1 week) – lectures (*visiting professor*)
2. Germany, Technische Universität Dresden, Max Bergman Center of Biomaterials 2008 (1 week), 2009 (1 week), 2010 (1 week), 2011 (1 week), 2012 (1 week), 2013 (1 week), 2014 (1 week), 2015 (1 week), 2016 (1 week) – lectures (*visiting professor*)
3. The Netherlands, St Radboud University, Nijmegen, Department of Biomaterials 2011 (1 week) – lectures (*visiting professor*)
4. Belgium, Ghent University, Ghent – 2012 (1 week) – lectures (*visiting professor*)
5. Norway, Oslo University – 2013 (1 week), 2014 (1 week) – lectures (*visiting professor*)

## HONORS AND AWARDS

- First Prize for the Best Poster presentation at 3<sup>rd</sup> ECRS Conference, Madrid, 1993
- Fellowship from Foundation for Polish Science for Young Scientists, 1996
- Eighteen AGH Rector Awards for Scientific and Didactic Achievements (1996-2015)
- Individual AGH Rector Award for Scientific Achievement (2010)
- Individual Award of Polish Minister of Science and Higher Education for Scientific Achievements (for the monograph: *Biomaterials for tissue engineering. Tailoring structure and physic-chemical properties of aliphatic polyesters*) (2010)
- Award of Division IV - Technical Sciences of the Polish Academy of Sciences (2010)

## TEACHING

Lectures, seminars and laboratory courses in *Biomaterials*, *Biotechnology*, *Clinical Trials*, *Tissue Engineering* and *Genetic Engineering*, *Materials from Renewable Sources*, *Materials for Tissue Engineering and Regenerative Medicine*, *Materials for Therapy and Medical Diagnostics*

Supervisor of 45 Master students, 23 Engineer students and 8 PhD students

Head of Postgraduate Studies “*Biomaterials – Materials for Medicine*” at AGH

Supervisor of foreign students from France (5 persons), Belgium (5 persons), Hong-Kong (1 person), Czech Republic (8 persons), Portugal (6 persons), Mexico (1 person), Venezuela (1 person)

Coordinator of bilateral LLP Erasmus and Erasmus Plus Agreements between AGH, Krakow, Poland and Belgium (Université catholique de Louvain, Louvain-la-Neuve; Ghent University), Germany (Technische Universität Dresden, Kiel University), Sweden (Göteborg University), The Netherlands (Radboud University Nijmegen), Portugal (University of Porto), Norway (University of Oslo), France (Cergy-Pontoise).

## PUBLICATIONS

Author of about 240 publications (66 with Impact Factor; citations 771, Hirsch index = 15), 1 monograph, 6 book chapters and 4 patents

## SCIENTIFIC EXPERIENCE

a) Former works:

- Carbon fibres technology, surface modification and characterization
- Polymer/carbon fibres composites for medical and technical applications
- Protein adsorption on biomedical carbons

b) Recent works

- Resorbable polymers processing into scaffolds for bone/cartilage tissue engineering
- Degradation studies of resorbable polymers
- Surface modification of polymeric materials by physical and chemical methods
- Proteins and glycosaminoglycans adsorption on biomaterials surface and its impact on cell behaviour
- Study of the organization of the surfaces and adsorbed biomolecules at the nanometer scale by the use of atomic force microscopy
- Development of barrier membranes for guided tissue regeneration in periodontology
- Development of injectable bone substitutes based on mineralized hydrogels
- Drug delivery systems based on resorbable nano- and microparticles and hydrogels
- Inhalable drug delivery systems based on lipid microparticles and SPIONs

## OTHER SCIENTIFIC ACTIVITIES

- Vice-Chair of ESB2015 (27<sup>th</sup> European Conference on Biomaterials) 30<sup>th</sup> August - 3<sup>rd</sup> September 2015, Kraków, Poland
- Editor of Special Issue ESB2015 of *Journal of Materials Science: Materials in Medicine*
- Participation in more than 60 international conferences on biomaterials and biomedical engineering
- Participation in more than 18 research projects financed by Polish Ministry of Science and Higher Education and 4 international projects
- Reviewer of several papers in international journals, e.g. *Acta Biomaterialia*, *Biomaterials*, *Journal of Biomedical Materials Research A /B*, *Journal of materials Science: materials in Medicine*, *Tissue engineering*, *Composite Science and Technology*, *Medical Engineering and Physics*, *Journal of Membrane Science*, *Biomacromolecules*, *International Journal of Biological Macromolecules*, *Carbon*, *Environmental Chemical Letters*, *Medical & Biological Engineering & Computing*, *Physiological Research*, *Surface Coating Technology*, *International Journal of Pharmaceutic*, *Acta of Bioengineering and Biomechanics*, *Biotechnology Advances*, *Applied Surface Science*, *Journal of Materials Science: Materials in Medicine*, *Journal of Biomaterials Applications*, *Langmuir*, *Biomedical Material*, *Journal of Applied Polymer Science*, *Advanced Drug Delivery Reviews*, *Chemical and Process Engineering*, *Journal of Reinforced Plastics and Composites*, *Nukleonika*, *Applied Clay Sciences*, *Journal of Tissue Engineering*, *Drug Delivery and Translational Research*, *Expert Opinion on Drug Delivery*, *Colloid and Surfaces B*, *Colloid Polymer Science*, *International Journal of Pharmaceutics*, *Pharmaceutical Research*, *PLOS One*.
- Reviewer and panel Expert of tens grant applications from Polish and foreign Science Foundation Agencies e.g. FWO Flanders, Grant Agency of the Czech Republic, as well as European Agencies (e.g. EuroNanoMed).
- Reviewer of eight PhD-theses
- Editor of the Journal: *Biomaterials Engineering (Inżynieria Biomateriałów)*
- Founder Member of Polish Society for Biomaterials; in 1996-1999 Member of the Board of Polish Society for Biomaterials – Secretary and Treasurer.
- Member of the Section *Biomaterials* in Polish Academy of Sciences
- Member of Organizing Committee of the Annual Conference of Polish Society for Biomaterials *Biomaterials in Medicine and Veterinary Medicine*, Rytro, October, Poland 1992- 2016
- Member of the European Society for Biomaterials
- Invited lectures and keynotes on several international conferences, e.g.
  1. BIOMAT, Sainte Marie de Ré, France, 12-14 October 2015: *Injectable and implantable biomaterials with resorbable drug delivery nano/microcarriers for the treatment of bone diseases* (invited)
  2. Central European Conference on Regenerative Medicine, Bydgoszcz, Poland, 14-15 May 2015: *Resorbable micro- and nanoparticles as a platform for targeted therapies in skeletal system* (invited lecture)
  3. Advanced materials for Biomedical Applications, AMBA2014, Gent, Belgium, 18-21 November 2014: *Aliphatic polyesters - versatile biomaterials for the treatment of bone tissue defects and diseases* (invited lecture)
  4. France-Poland Seminar on Polymeric Biomaterials for Therapeutic Application, Montpellier I, 8-9 November, 2011: *Development of resorbable polymer scaffolds for bone/cartilage tissue engineering* (plenary lecture)
  5. 4<sup>th</sup> Tissue Engineering in Orthopedics Conference, Biological Reconstruction of Joints, Warsaw Poland 3-4 December 2010: *Biomimetic polymer-based scaffolds for bone tissue engineering* (plenary lecture)

6. 2<sup>nd</sup> Conference of Scandinavian Society for Biomaterials, Copenhagen, Denmark, 29-30 April, 2009: *Resorbable scaffolds for bone tissue engineering* (plenary lecture)
7. 7<sup>th</sup> Scanbalt Forum and Biomaterials Days, Vilnius, Lithuania, 24-26 September, 2008: *Biomimetic polymer-based structures for tissue engineering* (keynote lecture)
8. 19<sup>th</sup> Conference Biomaterials in Medicine and Veterinary Medicine, Rytro, Poland 15-19 October 2009: *Materials for Tissue Engineering: Tailoring structure and biological properties of poly(L-lactide-co-glycolide)* (plenary lecture)

## REPRESENTATIVE PUBLICATIONS

1. E. Pamuła, J. Chłopek, The 27th European Conference on Biomaterials: facts and figures **Journal of Materials Science: Materials in Medicine** 27, 2016 (5), 94.
2. U. Posadowska, M. Brzychczy-Włoch, A. Drozd, M. Krok-Borkowicz, M. Włodarczyk-Biegun, P. Dobrzynski, W. Chrzanowski, E. Pamuła, Injectable hybrid delivery systems composed of gellan gum, nanoparticles and gentamicin for the localised treatment of bone infections, **Expert Opinion on Drug Delivery** 13, 2016, 613-620.
3. U. Posadowska, M. Brzychczy-Włoch, E. Pamuła, Injectable gellan gum-based nanoparticle-loaded system for the local delivery of vancomycin in osteomyelitis treatment, **Journal of Materials Science: Materials in Medicine** 27, 2016 (1) 9.
4. P. Rychter, N. Smigiel-Gac, E. Pamuła, A. Smola-Dmochowska, H. Janeczek, W. Prochowicz, P. Dobrzynski, Influence of radiation sterilization on properties of biodegradable lactide/glycolide/trimethylene carbonate and lactide/llycolide/epsilon-caprolactone porous pcaffolds with phape pemory behavior, **Materials** 9, 2016 (1), 64.
5. A. Kazek-Kęsik, M. Krok-Borkowicz, A. Jakobik-Kolon, E. Pamuła, W. Simka, Biofunctionalization of Ti-13Nb-13Zr alloy surface by plasmic electrolytic oxidation. Part II. Surface and Coating technology 276, 2015, 23-30.
6. U. Posadowska, M. Brzychczy-Włoch, E. Pamuła, Gentamicin-loaded PLGA nanoparticles as local drug delivery system for the osteomyelitis treatment, **Acta of Bioengineering and Biomechanics** 17, 2015, 41-48.
7. Ł. Rumian, K. Reczyńska, M. Wrona, H. Tiainen, H. J. Haugen, E. Pamuła, The influence of sintering conditions on microstructure and mechanical properties of titanium dioxide scaffolds for the treatment of bone tissue defects, **Acta of Bioengineering and Biomechanics** 17, 2015, 3-9.
8. P. Rycher, E. Pamuła, [et al.], U. Posadowska, M. Krok-Borkowicz, [et al.] Scaffolds with shape memory behavior for the treatment of large bone defects, **Journal of Biomedical Materials Research. Part A**, 103, 2015, 3503-3515.
9. A. Ścisłowska-Czarnecka, D. Szmigiel, M. Genet, C. Dupont-Gillain, E. Pamuła, E. Kołaczowska, Oxygen plasma surface modification augments poly(L-lactide-co-glycolide) cytocompatibility toward osteoblasts and minimizes immune activation of macrophages, **Journal of Biomedical Materials Research. Part A**, 103, 2015, 3965-3977.
10. U. Posadowska, M. Parizek, E. Filova, M. Włodarczyk-Biegun, M. Kamperman, L. Bacakova, E. Pamuła, Injectable nanoparticle-loaded hydrogel system for local delivery of sodium alendronate, **International Journal of Pharmaceutics** 485, 2015, 31-40.
11. M. Krok-Borkowicz, O. Musiał, P. Kruczala, P. Dobrzynski, T.E.L. Douglas, S. Van Vlierberghe, P. Dubruiel, E. Pamuła, Biofunctionalization of poly(L-lactide-co-glycolide) by post-plasma grafting of 2-aminoethyl methacrylate and gelatin immobilization, **Materials Letters** 139, 2015, 344-347.
12. Ł. Rumian, K. Reczyńska, M. Wrona, H. Tiainen, HJ Haugen, E. Pamuła, The influence of sintering conditions on microstructure and mechanical properties of titanium dioxide scaffolds for the treatment of bone tissue defects, **Acta of Bioengineering and Biomechanics** 17, 2015, 3-9.
13. J. Filipowska, J. Pawlik, K. Cholewa-Kowalska, G. Tylko, E. Pamuła et al Incorporation of sol-gel bioactive glass into PLGA improves mechanical properties and bioactivity of composite scaffolds and results in their osteoinductive properties, **Biomedical Materials** 9, 2014, 065001.

14. A. Kazek-Kesik, M. Krok-Borkowicz, E. Pamula, W. Simka, Electrochemical and biological characterization of coatings formed on Ti-15Mo alloy by plasma electrolytic oxidation, **Materials Science and Engineering C** **43**, 2014, 172-181.
15. M. Sowa, K. Gren, A. Kukhareno, D. Korotin, J. Michalska, L. Szyk-Warszynska, M. Mosialek, J. Zak, E. Pamula, et al. Influence of electropolishing and anodic oxidation on morphology, chemical composition and corrosion resistance of niobium, **Materials Science and Engineering C** **42**, 2014, 529-537.
16. T.E.L. Douglas, W. Piwowarczyk, E. Pamula et al. Injectable self-gelling composites for bone tissue engineering based on gellan gum hydrogel enriched with different bioglasses, **Biomedical Materials** **9**, 2014, 045014.
17. J. Chlupac, E. Filova, J. Havlikova, R. Matejka, T. Riedel, M. Houska, E. Brynda, E. Pamula, et al. The Gene Expression of Human Endothelial Cells Is Modulated by Subendothelial Extracellular Matrix Proteins: Short-Term Response to Laminar Shear Stress, **Tissue Engineering Part A** **20**, 2014, 2253-2264.
18. A. Zuber, J. Borowczyk, E. Zimolag, M. Krok, Z. Madeja, E. Pamula, J. Drukala, Poly(L-lactide-co-glycolide) thin films can act as autologous cell carriers for skin tissue engineering, **Cellular and Molecular Biology Letters** **19**, 2014, 297-314.
19. S. Kluska, E. Pamula, S. Jonas, Z. Grzesik, Surface Modification of Polyetheretherketone by Helium/nitrogen and Nitrous Oxide Plasma Enhanced Chemical Vapour Deposition, **High Temperature Materials and Processes** **33**, 2014, 147-153.
20. I.M. Wojak-Cwik, V Hintze, M Schnabelrauch, S Moeller, P Dobrzynski, E. Pamula, D Scharnweber, Poly(L-lactide-co-glycolide) scaffolds coated with collagen and glycosaminoglycans: Impact on proliferation and osteogenic differentiation of human mesenchymal stem cells, **Journal of Biomedical Materials Research A** **101**, 2013, 3109-3122.
21. M. Adamczak, M. Krok, E. Pamula, U. Posadowska, K. Szczepanowicz, J. Barbasz, P. Warszński, Linseed oil based nanocapsules as delivery system for hydrophobic quantum dots, **Colloids and Surfaces B: Biointerfaces** **110**, 2013, 1-7.
22. M. J. Frank, M. S. Walter, M. M. Bucko, E. Pamula, P. Lyngstadaas, H. Haugen, Polarization of modified titanium and titanium-zirconium creates nano-structures while hydride formation is modulated, **Applied Surface Science** **282**, 2013, 7-16.
23. TEL Douglas, M Włodarczyk, E. Pamula, H Declercq, E de Mulder, M Bucko, L Balcaen, F Vanhaecke, R Cornelissen, P Dubruel, J Jansen, S Leeuwenburgh. Enzymatic mineralization of gellan gum hydrogel for bone tissue-engineering applications and its enhancement by polydopamine, **Journal of Tissue Engineering and Regenerative Medicine** **8**, 2014, 906-918.
24. Ł. Rumian, I. Wojak, D. Scharnweber, E. Pamula, Resorbable scaffolds modified with collagen type I or hydroxyapatite: in vitro studies on human mesenchymal stem cells **Acta of Bioengineering and Biomechanics** **15(1)**, 2013, 61-67.
25. K. Pielichowska, E. Dryzek, Z. Olejniczak, E. Pamula, J. Pagacz, A study on the melting and crystallization of polyoxymethylene-copolymer/ hydroxyapatite nanocomposites, **Polymers for Advanced Technologies** **24(3)**, 2013, 318-330.
26. A. Ścisłowska-Czarnecka, E. Pamula, E. Kołaczowska, Biocompatibility evaluation of glycolide-containing polyesters in contact with osteoblasts and fibroblasts **Journal of Applied Polymer Science** **127(4)**, 2013, 3256–3268.
27. A. Scisłowska-Czarnecka, E. Pamula, E. Kołaczowska, Impact of Poly(L-lactide) versus Poly(L-Lactide-co-Trimethylene Carbonate) on Biological Characteristics of Fibroblasts and Osteoblasts, **Folia Biologica Krakow** **61(1-2)**, 2013, 11-24.
28. A. Scisłowska-Czarnecka, E. Pamula, A. Tlalka, E. Kołaczowska, Effects of aliphatic polyesters on activation of the immune system: studies on macrophages **Journal of Biomaterials Science - Polymer Edition** **23(6)**, 2012 715–738.
29. M. Krok, E. Pamula, Poly(L-lactide-co-glycolide) microporous membranes for medical applications produced with the use of polyethylene glycol as a pore former, **Journal of Applied Polymer Science**, **125(2)** 2012 spec. iss. Suppl. 2: Biopolymers and renewably sourced polymers s. E187–E199.

30. TEL Douglas, V Gassling, HA Declercq, N Purcz, E. Pamula, HJ Haugen, S Chasan, EL de Mulder, JA Jansen, SC Leeuwenburgh. Enzymatically induced mineralization of platelet-rich fibrin, **Journal of Biomedical Materials Research Part A** **100A(5)** 2012, 1335–1346.
31. M. Adamczak, A. Ścisłowska-Czarnecka, M. J. Genet, C. C. Dupont-Gillain, E. Pamula, Surface characterization, collagen adsorption and cell behaviour on poly(L-lactide-co glycolide) **Acta of Bioengineering and Biomechanics** **13** (3) 2011, 63-75.
32. E. Pamula, J. Kokoszka, K. Cholewa-Kowalska, M. Laczka, L. Kantor, L. Niedzwiedzki, G. C. Reilly, J. Filipowska, W Madej, M. Kolodziejczyk, G. Tylko, A. M. Osyczka, Degradation, bioactivity and osteogenic potential of composites made of PLGA and two different sol-gel bioactive glasses, **Annals of Biomedical Engineering** **39(8)**, 2011, 2114-29.
33. M. Radecka, E. Pamula, A. Trenczek-Zajac, K. Zakrzewska, A. Brudnik, E. Kusior, N.- T.H. Kim-Nagan, A.G. Balogh, Chemical composition, crystallographic structure and impedance spectroscopy of titanium oxynitride TiN<sub>x</sub>O<sub>y</sub> thin films, **Solid State Ionics** **192**, 2011, 693–698.
34. J. Buczyńska, E. Pamula, S. Blazewicz, Mechanical properties of PLGA-based fibres coated with hydroxyapatite, **Journal of Applied Polymer Science** **121**, 2011, 3702–3709.
35. E. Dryzek, K. Cholewa-Kowalska, E. Pamula, Positron annihilation in bioactive glass/poly(glycolide-co-L-lactide) composites, **Nukleonika** **55**, 2010, 79-83.
36. T. Douglas, E. Pamula, D. Hauk, J. Wiltfang, S. Sivananthan, E. Sherry, P.H. Warnke, Porous polymer/hydroxyapatite scaffolds: characterization and biocompatibility investigations. **Journal of Materials Science: Materials in Medicine** **20**, 2009 1909-15.
37. E. Pamula, E. Filova, L. Bacakova, V. Lisa, D. Adamczyk, Resorbable polymeric scaffolds for bone tissue engineering: The influence of their microstructure on the growth of human osteoblast-like MG 63 cells. **Journal of Biomedical Materials Research A** **89**, 2009,43.
38. E. Pamula, P. Dobrzyński, B. Szot, M. Krętek, J. Krawciów, B. Płytycz, M. Chadzińska, Cytocompatibility of aliphatic polyesters – *in vitro* study on fibroblasts and macrophages, **Journal of Biomedical Materials Research A** **87(2)** 2008, 524-535.
39. E. Pamula, E. Menaszek, *In vitro* and *in vivo* degradation of poly(L-lactide-co-glycolide) films and scaffolds, **Journal of Materials Science: Materials in Medicine** **19(5)**, 2008, 2063-70.
40. E. Pamula, E. Dryzek, Structural changes in surface-modified polymers for medical applications, **Acta Physica Polonica A** **113** (5) 2008, 1485-1493.
41. E. Pamula, L. Bacakova, E. Filova, J. Buczyńska, P. Dobrzyński, L. Noskowa, L. Grausova, The influence of pore size on colonization of poly(L-lactide-glycolide) scaffolds with human osteoblast-like MG 63 cells *in vitro*, **Journal of Materials Science: Materials in Medicine** **19(1)**, 2008, 425-35.
42. E. Pamula, E. Dryzek, P. Dobrzyński, Hydrolytic degradation of poly(L-lactide-co-glycolide) studied by positron annihilation spectroscopy and other techniques, **Acta Physica Polonica A** **110** (5) 2006, 631-640.
43. E. Pamula, P. Dobrzynski, M. Bero, C. Paluszkiwicz, Hydrolytic degradation of porous scaffolds for tissue engineering from terpolymer of L-lactide,  $\epsilon$ -caprolactone and glycolide, **Journal of Molecular Structure** **744-747**, 2005, 557-562.
44. E. Pamula, V. De Cupere, Y.F. Dufrene, P.G. Rouxhet, Nanoscale organization of adsorbed collagen: Influence of substrate hydrophobicity and adsorption time, **Journal of Colloid and Interface Science** **271**, 2004, 80-91.
45. E. Pamula, M. Błazewicz, C. Paluszkiwicz, P. Dobrzyński, FTIR study of degradation products of aliphatic polyesters – carbon fibres composites, **Journal of Molecular Structure** **596**, 2001, 69-75.
46. E. Pamula, P.G. Rouxhet, Influence of surface properties of carbon fibres on the adsorption of catalase, **Carbon** **43**, 2005, 1432-1438.
47. I. Jacquemart, E. Pamula, V.M. De Cupere, P.G. Rouxhet, Ch.C. Dupont-Gillain, Nanostructured collagen layers obtained by adsorption and drying, **Journal of Colloid and Interface Science** **278**, 2004, 63-70.
48. Ch.C. Dupont-Gillain, E. Pamula, F.A. Denis, V.M. De Cupere, Y.F. Dufrene, P.G. Rouxhet, Controlling the supramolecular organisation of adsorbed collagen layers, **Journal of Materials Science: Materials in Medicine** **15**, 2004, 347-352.

49. E. Pamuła, P.G. Rouxhet, Bulk and surface chemical functionalities of type III PAN-based carbon fibres, **Carbon** **41**, 2003, 1905-1915.
50. M. Chomyszyn-Gajewska, B. Czajkowska, M. Błażewicz, E. Pamuła, M. Ptak, In vitro response of macrophages to a new carbon-poly lactide composite for the treatment of periodontal diseases, **Biomaterials** **23**, 2002, 463-470.
51. J. Dryzek, E. Pamuła, S. Błażewicz, Positron Annihilation in Carbon Fibers, **Physica Status Solidi (a)** **151**, 1995, 39-46.

#### BOOK CHAPTERS

1. Elzbieta Pamula, Katarzyna Cholewa-Kowalska, Mariusz Szuta, Anna M. Osyczka, *Bioactive glasses as composite components: technological advantages and bone tissue engineering application*. W **Biomaterials and stem cells in regenerative medicine** / eds. Murugan Ramalingam, Seeram Ramakrishna, Serena Best. Chapter 11 — Boca Raton; London; New York : CRC Press Taylor & Francis Group, 2012. — ISBN 978-1-4398-7925-2. — S. 239–258.
2. Timothy E.L. Douglas, Elzbieta Pamula, Sander C.G. Leeuwenburgh Biomimetic mineralization of hydrogel biomaterials for bone tissue engineering W **Biomimetics: Advancing Nanobiomaterials and Tissue Engineering** / eds. Murugan Ramalingam, Xiumei Wang, Guoping Chen, Peter Ma, Fu-Zhai Cui, Chapter 3. John Wiley-Scrivener Publishing (USA). 2013
3. A. Królicka, A. Bobrowski, E. Pamuła, J. Zarębski Microscopic and voltammetric properties of lustrous bismuth deposits W **Sensing in electroanalysis**, Vol. 5, eds. K. Vytřas, K. Kalcher, I. Svancara, Czech Republic: University Press Centre, cop. 2010. ISBN 978-80-7395-348-5, S. 85–96.
4. Ch. C. Dupont, E. Pamuła, F. A. Denis, P.G. Rouxhet, Nanostructured layers of adsorbed collagen: conditions, mechanisms and applications, W **Progress in Colloid and Polymer Science**, (Ed F. Galembeck), Springer-Verlag, Heidelberg, 2004, 128, 98-104.
5. E. Pamuła, M. Błażewicz, M. Chomyszyn-Gajewska, Effect of sterilization on biodegradable composite material for controlled tissue regeneration, W Vol. 2, **Materials for Medical Engineering** (Ed. H. Stallforth, P. Revell), WILEY-VCH, Weinheim, 2000, 103-109.
6. J. Chłopek, S. Błażewicz, E. Pamuła, Carbon and polymer composites in bone surgery W Vol. 2, **Materials for Medical Engineering** (Ed. H. Stallforth, P. Revel), WILEY-VCH, Weinheim, 2000, 110-115.