

1. Professional curriculum vitae

Lukasz MADEJ

AGH University of Science and Technology
Faculty of Metals Engineering and Industrial Computer Science
Department of Applied Computer Science and Modelling
Mickiewicza av. 30,
30-059, Krakow, Poland
Tel: + 48 (12) 617 51 54
Fax: + 48 (12) 617 28 89
Email: lmadej@agh.edu.pl

Education

- 1999 – 2003 AGH University of Science and Technology, Faculty of Physics and Nuclear Techniques. Specializing in the Solid Phase Physics.
- 2003 Engineer degree (B.Sc.) in the Solid Phase Physics.
- 2002 – 2004 AGH University of Science and Technology, Faculty of Metallurgy and Materials Science. Specializing in the Computer Methods in Metallurgy.
- 2004 Master degree in the Computer Methods in Metallurgy. Master thesis has been awarded in the competition for the "Best Master Thesis" held at the AGH University of Science and Technology under auspices of the University Rector professor Ryszard Tadeusiewicz.
- 2004 – 2007 AGH University of Science and Technology, Faculty of Metallurgy and Materials Science, Department of Computer Methods in Metallurgy (Ph.D. studies).
- 2007 Ph.D. degree at the AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science.
- 2011 D.Sc. degree at the AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science.

Professional experience

- 2002 – 2003** Trainee-assistant at the AGH University of Science and Technology in the Department of Computer Methods in Metallurgy.
- 2006 - 2007** Assistant at the AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science.
- 2007-2014** Assistant professor at the AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science.
- 2014 -** Associate professor at the AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science.

Other forms of professional activities

- 2012 -** Member of the Board of Directors of Polish Forging Association
- 2015 -** Member of the Executive Committee of EUROFORGE

Professional experience during scholarships

2002

1.07 – 12.07 Institute for Ferrous Metallurgy, Gliwice, Poland.

2003

17.07 – 27.09 Deakin University, Faculty of Science and Technology, Geelong, Australia.

2004

4.07 – 31.07 The University of Sheffield, Department of Mechanical Engineering, Sheffield, UK.

2005

1.04 – 31.05 Deakin University, Faculty of Science and Technology, Geelong Australia.

2005

30.07 – 4.08 The University of Sheffield, Department of Engineering Materials, Sheffield, UK.

2006

15.03 – 1.06 Deakin University, Centre for Material and Fibre Innovation, Geelong Australia.

2007

10.06 – 16.06 Ecole de Mines de Paris, CEMEF, Sophia Antipolis, France.

2008

15.01 – 24.06 Deakin University, Centre for Material and Fibre Innovation, Geelong Australia.

2011

20.10 – 21.10 Los Alamos National Laboratory, Los Alamos, USA.

2013

17.01 – 10.02 Universite Catolique de Louvain UCL, Applied mechanics and mathematics (MEMA), Louvain, Belgium.

2014

11.08 – 22.08 Universite Catolique de Louvain UCL, Applied mechanics and mathematics (MEMA), Louvain, Belgium.

2015

23.02 – 02.03 The University of Sheffield, Department of Engineering Materials, Sheffield, UK (Erasmus+).

2015

03.08 – 14.08 Universite Catolique de Louvain UCL, Applied mechanics and mathematics (MEMA), Louvain, Belgium.

2016

08.01 – 05.02 Deakin University, Institute for Frontier Materials, Geelong Waurn Ponds Campus, Geelong Australia.

2016

04.05 – 07.05 Dipartimento di Ingegneria Chimica, dei Materiali e della Produzione Industriale, Università degli Studi di Napoli Federico II, Napoli, Italy (lectures for Master and PH.D. students).

2016

11.07 – 23.07 Universite Catolique de Louvain UCL, Applied mechanics and mathematics (MEMA), Louvain, Belgium.

2016

25.07 – 05.08 Mines PariTech, CEMEF, Sophia Antipolis, France.

2017

04.01 – 03.02 Deakin University, Institute for Frontier Materials, Geelong Waurn Ponds Campus, Geelong Australia.

2017

03.07 – 14.07 RWTH Aachen, Access, Aachen, Germany.

2017

17.07 – 01.08 Universite Catolique de Louvain UCL, Applied mechanics and mathematics (MEMA), Louvain, Belgium.

2018

04.01 – 08.02 Deakin University, Institute for Frontier Materials, Geelong Australia.

Awards for scientific and research activities:

1. Ph.D. thesis “Development of the multi-scale analysis model to simulate strain localization occurring during material processing” was defended with honors (2007).
2. Distinction of the Ph.D. thesis by the Polish Society for Computational Methods in Mechanics (2007).
3. Prize for the "Best Ph.D. Thesis on Computational Methods in Applied Sciences in 2007" by the European Community on Computational Methods in Applied Sciences - ECCOMAS (www.eccomas.org) (2008).
4. Best Paper Award – International Society for Productivity Enhancement (www.ispe-org.net) for the work on “Complex Modelling Platform based on Digital Material Representation” (2007).
5. „Start 2009” scholarship granted by the Foundation for Polish Science (2009).
6. Rector scientific prize for scientific achievements in 2008.
7. „Start 2010” scholarship granted by the Foundation for Polish Science (2010).
8. Rector scientific prize for scientific achievements in 2009.
9. Rector scientific prize for scientific achievements in 2010.
10. Rector scientific prize for scientific achievements in 2011.
11. Rector scientific prize for scientific achievements in 2012.
12. Rector scientific prize for scientific achievements in 2013.
13. Rector scientific prize for scientific achievements in 2014.
14. Rector scientific prize for scientific achievements in 2015.
15. Rector prize for teaching achievements in 2015.
16. Rector scientific prize for scientific achievements in 2016.
17. **ESAFORM 2015 Scientific Prize, for outstanding contribution to material forming.**
18. **Final prize in the POLITYKA 2015 Scientific Prize.**

2. Scientific activities

2.1 Bibliometric data

- Books: 3
- Book chapters: 6
- All journal papers: 164
- IF journal papers: 64
- Conference proceedings: 89
- Citations without self-citations: 334 (WoS)
- Hirsch'a index: (WoS): 13

2.2 Important lectures and seminars

1. Invited lecture for a seminar of the Institute for Computational Civil Engineering at the Cracow Technical University, Krakow, 2007.
2. Invited lecture for a seminar of the Institute of Computational Mechanics and Applied Informatics (present name) at the Silesian University, Gliwice, 2007.
3. Invited lecture for a seminar at the Deakin University in Australia, Geelong, 2008.
4. Lecture given at the CIRP, STC "F" Forming meeting, Paris, 2009.
5. Lecture given at the Technical Open University, Krakow, 2009.
6. Lecture given at the CIRP, STC "F" Forming meeting, Paris, 2010.
7. Invited lecture for a seminar of the Faculty of Mechatronics and Mechanical Engineering at the Kielce University of Technology, Kielce, 2010.
8. Lecture at the Virtotechnology fair, Sosnowiec, 2010.
9. Invited lecture for a seminar of the Departments of Metal Forming and Modelling and Applied Computer Science at the AGH University, Krakow, 2010.
10. Invited lecture at the ABB company internal seminar, Krakow, 2011.
11. Lecture given at the CIRP, STC "F" Forming meeting, Budapest, 2011.
12. Invited lecture at the Los Alamos National Laboratory, Los Alamos, 2011.
13. Lecture given at the Euroforge association meeting, Krakow, 2013.
14. Lecture given at the Steel Forming International Scientific Networks, Mezier les Metz 2013.
15. Lecture given at the CIRP, STC "F" Forming meeting, Kopenhagen, 2013.
16. Invited lecture for a seminar at the Institute for Computational Civil Engineering at the Cracow Technical University, Krakow 2014.
17. Invited lecture for a seminar at the Center for Materials and Nanotechnology ACMIN, Krakow 2014.
18. Lecture given at the Universite Catolique de Louvain UCL within special "Workshop on representation of polycrystalline microstructures with finite element meshes", Louvain-la-Neuve, 2014.
19. Lecture given at the CIRP, STC "F" Forming meeting, Nantes, 2014.
20. Invited lecture at the Materials Mechanics Division of the Polish Academy of Sciences, Krakow, 2015.
21. Lecture given at the CIRP, STC "F" Forming meeting, Paris, 2015.
22. Invited lecture at the IMWF University of Stuttgart within Colloquium Materials Modelling, Stuttgart, 2015.
23. Invited lecture at the RWTH Aachen University, Steel Institute, Aachen, 2015.
24. Invited lecture given at the ArcelorMittal Poland workshop for employees on „Rolling of long products”, Sosnowiec, 2015.

25. Invited lecture at the ABB company internal seminar, Krakow, 2015.
26. Invited lecture at the AGSH Academic-Industrial Association for Metallurgy meeting, Zakopane, 2015.
27. Lecture given at the CIRP, STC "F" Forming meeting, Paris, 2016.
28. Invited lecture at the Mines ParisTech, CEMEF, Sophia Antipolis, 2016.
29. Invited lecture given at the ArcelorMittal Poland workshop for employees on „Computer aided technology design”, Sosnowiec, 2016.
30. Invited lecture at the Numerical Modelling Techniques and Optimization Division of the Polish Academy of Sciences, Krakow, 2016,
31. Lecture given at the CIRP, STC "F" Forming meeting, Guimaraes, 2016.
32. Invited lecture at the Los Alamos National Laboratory, Los Alamos, 2017.

Plenary and key-note lectures:

1. Semi-plenary lecture during the World Congress in Computational Mechanics WCCM/ECCOMAS, Venice, 2008.
2. Key note lecture during the World Congress in Computational Mechanics WCCM, Barcelona, 2014.
3. Plenary lecture during the International Conference on Material Forming Esaform 2015, Graz, 2015.
4. Plenary lecture during international conference on Science and Business – together for people with special educational needs, Krakow, 2015.
5. Key note lecture during the Conference on Computer Methods in Mechanics CMM, Gdansk, 2015.
6. Plenary lecture during SIM 2017 conference, Rytro, 2017.

3. Education of young researchers activities

Defended Ph.D. theses:

1. Dr inż. Konrad Perzyński, Hybrid RCAFÉ model for fracture modelling in multi-phase materials, March 2015. Defended with distinctions.
2. Dr inż. Joanna Szyndler, Analysis of the incremental forming process based on multiscale modelling approach, May 2017. Defended with distinctions.

Final stages of Ph.D. theses (estimated defense 2018):

1. Mgr inż. Mateusz Sitko, Development of computationally efficient Cellular Automata model for recrystallization, dedicated for modern computer architecture.
2. Mgr inż. Rafał Gołąb, Opracowanie kompleksowego środowiska programistycznego do tworzenia modeli rozwoju mikrostruktury z wykorzystaniem metody automatów komórkowych (in polish).

Open Ph.D. procedure by the Faculty Board:

1. Mgr inż. Adam Legwand, Development of multiscale model of sintered metals behavior under plastic deformation conditions based on the Digital Material Representation approach.

Formal supervisor of Ph.D. students:

1. Mgr inż. Mateusz Mojżeszko.
2. Mgr inż. Lucyna Hajder.

Scientific opinions, evaluations and reviews:

- Reviewer during the D.Sc. procedure:
 - dr inż. Marek Hawryluk, *Metody analizy oraz zwiększania trwałości narzędzi kuźniczych stosowanych w procesach kucia matrycowego na gorąco* (Reviewer).
- Reviewer during the Ph.D. procedure:
 1. Jiangting Wang, Mechanical behaviour of metallic thin films and multilayers at the micron/submicron scale, Deakin University, Geelong, Australia, 2013.
 2. Łukasz Łach, Trójwymiarowy model rozwoju mikrostruktury w procesie walcowania z zastosowaniem automatów komórkowych, AGH, Krakow, 2013 (in polish).
 3. Dorota Byrska, Opracowanie numerycznego modelu ciągnięcia na zimno drutów ze stopów magnezu z uwzględnieniem mechanizmu utraty spójności w skali mikro, AGH Krakow, 2014 (in polish).
 4. Yuan Jin, Annealing twin formation mechanisms, Mines ParisTech, CEMEF, Paryż, Francja, 2014.
 5. Marek Klimczak, hp2 numerical homogenization for non-periodic viscoelastic materials, Cracow Technical University, Krakow, 2016.
 6. Valeriy Pidvysots'kyy, Model termo-mechanicznego kucia odkuwek dla przemysłu motoryzacyjnego z uwzględnieniem stanu struktury, Institute for Ferrous Metallurgy, Gliwice, 2016 (in polish).
 7. Karol Frydrych, Modelowanie ewolucji mikrostruktury metali o wysokiej wytrzymałości właściwej w procesach intensywnej deformacji plastycznej, Instytut Podstawowych Problemów Techniki PAN, Warszawa, 2017.

8. Roman Galiev, Research of combined rolling-extrusion process for production of long deformed semi-finished products from aluminium alloys of various alloying systems, Siberian Federal University, Krasnojarsk, 2017.
 9. Jakub Tabin, Modelling and experimental investigation of strain localization in discontinuous plastic flow at cryogenic temperatures, Krakow University of Technology, Krakow, 2018.
- Member of the Ph.D. committee:
 1. John Plumeri, Member of the Doctoral Committee, Lehigh University, USA, 2014
 2. Benjamin Scholtes, Member of the Doctoral Committee, MINES ParisTech, Antibes, 2016.

3. Teaching activities

Lectures and tutorials at the Faculty of Metal Engineering and Industrial Computer Science:

- 2005/2006

Informatics I – practical classes at the Metallurgy specialization (60h)

Engineering and computer graphics - practical classes at the Material Science specialization (60h)

- 2006/2007

Informatics basis – practical classes at the Metallurgy specialization (30h)

Algorithms and logic elements - practical classes at the Metallurgy specialization (30h)

Programing languages - practical classes at the Metallurgy specialization (30h)

Object orientated programming - practical classes at the Metallurgy specialization (30h)

Internet engineering - practical classes at the Applied Computer Science specialization (120h)

- 2007/2008

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds – practical classes at the Applied Computer Science specialization (30h)

Internet technology applications - practical classes at the Metallurgy specialization (60h)

- 2008/2009

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds – practical classes at the Applied Computer Science specialization (30h)

Evolutionary algorithms and cellular automata - lectures at the Applied Computer Science specialization (30h)

Evolutionary algorithms and cellular automata – practical classes at the Applied Computer Science specialization (30h)

Internet technology applications - practical classes at the Applied Computer Science specialization (90h)

Material forming modeling - practical classes at the Applied Computer Science specialization (30h)

- 2009/2010

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds – practical classes at the Applied Computer Science specialization (24h)

Multiscale modelling - lectures at the Applied Computer Science specialization (30h)

Multiscale modelling – practical classes at the Applied Computer Science specialization (150h)

2010/2011

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds – practical classes at the Applied Computer Science specialization (15h)

Multiscale modelling - lectures at the Applied Computer Science specialization (30h + 21h)

Multiscale modelling – practical classes at the Applied Computer Science specialization (90h)

2011/2012

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds – practical classes at the Applied Computer Science specialization (15h)

Multiscale modelling - lectures at the Applied Computer Science specialization (30h + 21h)

Multiscale modelling – practical classes at the Applied Computer Science specialization (60h)

Programming techniques – lecture at the Metallurgy specialization (30h)

2012/2013

Programming techniques – lecture at the Metallurgy specialization (30h)

Multiscale modelling - lectures at the Applied Computer Science specialization (30h)

Multiscale modelling – practical classes at the Applied Computer Science specialization (90h)

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds – practical classes at the Applied Computer Science specialization (30h)

2013/2014

Programming techniques – lecture at the Metallurgy specialization (30h)

Multiscale modelling - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining EU funds – practical classes at the Applied Computer Science specialization (45h)

Multiscale modelling - lectures at the Applied Computer Science specialization (30h – in english)

Multiscale modelling – practical classes at the Applied Computer Science specialization (30h – in english)

Forms of cooperation and methods of obtaining European funds - lecture at the Technical and Informatical Education specialization (15h – in english)

2014/2015

Programming techniques – lecture at the Metallurgy specialization (30h)

Forms of cooperation and methods of obtaining European funds - lecture at the Metallurgy specialization (15h – in english)

Multi scale modelling - lectures at the Applied Computer Science specialization (30h)

Multi scale modelling - lectures at the Applied Computer Science specialization (30h – in english)

Multi scale modelling – practical classes at the Applied Computer Science specialization (30h – in english)

Forms of cooperation and methods of obtaining European funds - lecture at the Technical and Informatical Education specialization (15h – in english)

2015/2016

Forms of cooperation and methods of obtaining European funds - lecture at the Metallurgy specialization (15h – in english)

Multiscale modelling – lecture at the Computational Engineering specialization (30h)

Multi scale modelling - lectures at the Applied Computer Science specialization (30h – in english)

Multi scale modelling – practical classes at the Applied Computer Science specialization (60h – in english)

Forms of cooperation and methods of obtaining European funds - lecture at the Technical and Informatically Education specialization (15h – in english)

Multiscale modelling - lectures at the Applied Computer Science specialization (30h)

Forms of cooperation and methods of obtaining European funds - lecture at the Applied Computer Science specialization (30h)

Multiscale modelling - lectures at the Applied Computer Science specialization (21h – in english)

2016/17

Multiscale modelling – lecture at the Computational Engineering specialization (28h)

Multiscale modelling – practical classes at the Computational Engineering specialization (56h)

Multi scale modelling - lectures at the Applied Computer Science specialization (28h – in english)

Forms of cooperation and methods of obtaining EU funds - lectures at the Applied Computer Science specialization (28h)

Multi scale modelling - lectures at the Applied Computer Science specialization (28h)

Research Project Managment – lecture for Erasmus program students (14h – in english).

2017/18

Multi scale modelling - lectures at the Applied Computer Science specialization (28h – in english)

Forms of cooperation and methods of obtaining European funds - lecture at the Technical and Informatically Education specialization (14h – in english)

Formy współpracy i metody pozyskiwania funduszy europejskich funds - lectures at the Applied Computer Science specialization (14h)

Computational geometry - lectures and practical classes at the Applied Computer Science specialization (14h + 14h)
(14h + 14h)

Computer aided technology design – lecture for postgraduate students (15h)

Supervision of defended master theses:

- 7 students (prior D.Sc.)

- 35 students (after D.Sc.)

Supervision of defended bachelor theses:

- 6 students (prior D.Sc.)
- 40 students (after D.Sc.)

Supervision of students during Students Scientific Conferences:

- 9 students (prior D.Sc.)
- 21 students (after D.Sc.)

4. Organizational and popularizing activities

4.1 Functions held at the AGH University:

- 2011 – **Head of the Multi Scale Modeling team at the Faculty of Metals Engineering and Industrial Computer Science, AGH Krakow.**
- 2011 - Member of the Faculty of Metals Engineering and Industrial Computer Science Board.
- 2012 - Member of the Faculty body related to Ph.D. defense.
- 2012 - Member of the Faculty body related to B.Sc/M.Sc defense (Informatic Systems).
- 2016 – **Head of the Ph.D. courses at the Faculty of Metals Engineering and Industrial Computer Science, AGH Krakow.**
- 2016 - Member of the Faculty body related to education quality.
- 2016 - Member of the Center for Materials and Nanotechnology Board.
- 2012 – 2016 Chairman of the University board related to disciplinary students affaires.
- 2012 – 2016 Member of the Faculty body related to prizes and distinctions.
- 2012 – 2016 Member of the Faculty body related to diploma exam.
- 2012 – 2016 Member of the Faculty body related to B.Sc/M.Sc defense (Computational Engineering).

4.2 Participation in the research teams within projects:

1. TU Bergakademie Freiberg, bilateral cooperation, Determination of phase transformation models and data for the considered weld materials, 13.13.110.84430. Principal Investigator: prof. dr hab. inż. Maciej Pietrzyk.
2. RFCS VADPSheet Project, Property oriented design of hard constituent hardness and morphology in continuously annealed/galvanised DP sheets, Principal Investigator: prof. dr hab. inż. Maciej Pietrzyk.
3. Finite element adaptation method in multi scale mechanical problems, (National research project), N N501 120836. Principal Investigator: dr hab. inż. Krzysztof Banaś.
4. **Three dimensional strain inhomogeneity investigation along microstructure features based on physical and multi scale numerical analysis with digital material representation concept, (National research project), N N508 583839, Principal Investigator.**
5. Technological aspects of application of the AHSS steels for automotive components, (R&D project), R07 0053 10. Principal Investigator: prof. dr hab. inż. Zbigniew Gronostajski.
6. System for optimisation of process and production cycles of metallic components (R&D project), R07 0006 10. Principal Investigator: prof. dr hab. inż. Jan Kusiak.
7. **Multi scale modelling of microstructure evolution during deformation on the basis of the cellular automata framework, (National research project), 2011/01/D/ST8/01681, Principal Investigator.**
8. Development and identification of polycrystalline microscale materials constitutive models 2011/01/B/ST8/01649, (National research project), Principal Investigator: dr inż. Wojciech Wajda.
9. Development of multiscale calculations methodology for heterogenous computer architectures, (National research project), 2011/01/D/ST6/02023, Principal Investigator: dr inż. Łukasz Rauch.

10. Advanced precipitation strengthened materials created by deformation-induced fine-scale multilayered nanostructure, (National research project), 2012/05/B/ST8/00215, Principal Investigator prof. dr hab. inż. Janusz Majta.
11. Phase transformations near the interface of bi- and three layered metallic strips based on copper manufactured by explosive welding technology, (National research project), 2012/05/B/ST8/02522, Principal Investigator: prof. dr hab. inż. Henryk Paul.
- 12. PLGrid Plus, POIG.02.03.00-00-096/10. Principal Investigator of a Work Package.**
13. Development of complex multi scale model for microstructure evolution under hot deformation conditions, (National research project), 2012/04/M/ST8/00706, Principal Investigator: prof. dr hab. inż. Maciej Pietrzyk.
14. Multiscale material modelling based on their virtual representation and modern computer architectures, (National research project), 2014/13/B/ST8/03812, Principal Investigator: prof. dr hab. inż. Maciej Pietrzyk.
15. Development of the multiscale numerical model for simulation of material behavior under complex plastic deformation conditions, (National research project), 2013/11/N/ST8/01207, Principal Investigator: mgr inż. Joanna Szyndler.
- 16. Development and validation of concurrent random cellular automata - finite element (RCAFE) model with virtual microstructure representation for modelling failure in multi-phase metallic materials, (National research project), 2014/14/E/ST8/00332, Principal Investigator.**
- 17. Development of the new integrated method for determining the characteristic of the technological strength of porous materials for application in numerical modelling of consolidation processes, (National research project), 2014/15/B/ST8/00086, Principal Investigator.**
- 18. Development and implementation of the data base with user friendly graphical interface for the heat treatment line of fork elements, project for industry, Kuznia Jawor, Principal Investigator.**
19. Advanced manufacturing techniques of gears for aerospace industry, INNOLOT/I/10/NCBR/2014, Principal Investigator: prof. dr hab. inż. Maciej Pietrzyk.
20. Development of a comprehensive methodology for determination of the through scale rheological properties under accelerated microstructure recovery conditions of advanced Ti alloys for aerospace applications, (National research project), 2015/19/B/ST8/01079, Principal Investigator: dr hab. inż. Krzysztof Muszka.
21. Formation of diffusional layers in the multilayered sheets based on titanium and steel with high creep resistant, (National research project), Principal Investigator: prof. dr hab. inż. Henryk Paul.
22. Evaluation of high performance computing capabilities during modelling of microstructure evolution based on cellular automata method, (National research project), 2016/21/N/ST8/00194, Principal Investigator: mgr inż. Mateusz Sitko.

4.3 Participation in evaluating teams

- National Science Center.
- National Center for Research and Developments.
- 2014 - ERC Advanced Research Grants H2020.
- 2014 - Czech Science Foundation.
- Esaform Prize Committee.

4.4 Reviewer activity for scientific journals

1. Archives of Metallurgy and Material Science
2. International Journal of Material Forming
3. Computational Material Science
4. Metallurgical and Material Transactions (member of Board of Review)
5. Journal of Material Processing Technology
6. Journal of Materials Science and Technology A
7. Steel Research International (member of Advisory Board)
8. Archives of Civil and Mechanical Engineering
9. International Journal for Multi scale Computational Engineering
10. International Journal of Materials and Product Technology
11. International Journal of Plasticity
12. Physica A
13. Materials and Design
14. Thin Solid Films
15. Engineering Science and Technology: an International Journal
16. Modelling and Simulation in Materials Science and Engineering
17. Measurement Science and Technology
18. Materials Chemistry and Physics
19. Materials Science in Semiconductor Processing
20. Vacuum
21. Journal of Theoretical and Applied Mechanics
22. Engineering Transactions
23. Computer Assisted Methods in Engineering and Science CAMES
24. Eksploatacja i Niezawodność - Maintenance and Reliability
25. Inżynieria Materiałowa
26. Hutnik wiadomości hutnicze
27. Computer Methods in Material Science

Total of 155 reviews have been performed. Reviews for conference proceedings have not been included in the presented data.

4.5 Organization of scientific conferences and mini-symposia

1. Member of International Advisory Committee of the “The 2011 World Congress on Advances in Structural Engineering and Mechanics (ASEM11)”, Seoul, Korea.
2. Member of International Advisory Committee of the “The 2013 World Congress on Advances in Structural Engineering and Mechanics (ASEM13)”, Jeju, Korea.
3. Member of Program Committee of the “International Forging Conference IFC 2014”, Berlin, Germany.
4. Member of Program Committee of the XXV CIRP Sponsored Conference on Supervising and Diagnostics of Machining Systems, Karpacz, Poland, 2014.
5. Organization of the Euroforge meeting (Automotive Group meeting), Krakow, 2013.
6. Member of Program Committee of the XXVI CIRP Sponsored Conference on Supervising and Diagnostics of Machining Systems, Karpacz, Poland, 2015.
7. Member of Scientific Committee of the CIRP Global Web Conference CIRPe, 2015.
8. Member of Program Committee of the XXVI CIRP Sponsored Conference on Supervising and Diagnostics of Machining Systems, Karpacz, Poland, 2016.

9. Member of Scientific Committee of the CIRP Global Web Conference CIRPe, 2016.
10. Member of Scientific Committee of the ICTP, Cambridge, UK, 2017.
11. Member of Scientific Committee of the Forming conference, Mikulov, Czech Republic, 2017.
12. Member of Scientific Committee of the SIM conference, Rytro, Poland, 2017.
13. Member of Scientific Committee of the Thermec conference, Paris, France, 2018.
14. Member of Program Committee of the ConFair2018, Berlin, Germany, 2018 (vice chairman).
15. Member of Scientific Committee of the MetalForming, Toyohashi, Japonia, 2018.
16. Member of Steering Committee of the Young Investigators Conferences (Eccomas), Krakow, Poland, 2019.

Organization of thematic sessions at renowned international conferences:

1. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T 2011, Columbus, Ohio.
2. Organization of the session “Symposium A: Microstructure Evolution across Multiple Length Scales: Defects to Material Properties” at the international conference MMM 2012, Singapoure.
3. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T 2012, Pittsburgh, Pennsylvania.
4. Organization of the session “Multi scale and homogenization methods” at the international conference KomPlasTech 2013, Zakopane, Poland.
5. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T 2013, Toronto, Canada.
6. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T 2014, Pittsburgh, Pennsylvania.
7. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T 2015, Columbus, Ohio.
8. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T, Salt Lake City, Utah.
9. Organization of the session “Microstructure modeling in forming processes” at the international conference Numiform 2016, Troyes, France.
10. Organization of the session “Multiscale Modelling of Materials and Structures” at the international conference CMM 2017, Lublin, Polska.
11. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T 2017, Pittsburgh, Pennsylvania.
12. Organization of the session „Numerical methods for multiscale materials modelling” at the international conference ECCM 2018, Glasgow, UK.
13. Organization of the session “Multi scale modeling of microstructure deformation in material processing” at the international conference MS&T 2018, Columbus, Ohio.
14. Organization of the session “Through scale numerical modeling of mechanical behavior and response of ultrafine-grained (UFG), nanostructured (NS) and nanocrystalline (NC) materials” at the international conference WCCM 2018, New York, USA.

I have been also actively involved as a session chair during 15 scientific conferences.

Since 2016 I am also an organizer of the Faculty Seminars in the area of Metal Forming and Applied Computer Science.

4.6 Participation in the works of committees, scientific organization and associations

1. Since 2012 - Associate Member of the CIRP – The International Academy for Production Engineering.
2. Since 2012 - Associate member of the Committee for the Metalforming Processes Division of Polish Academy of Science - secretary general of the Committee.
3. Since 2008 - Member of the Polish Association of Computational Mechanics.
4. Since 2011 - Associate member of the Committee for the Materials Mechanics Division of Polish Academy of Science.
5. Since 2016 - Associate member of the Committee for the Computational Methods and Optimization Division of Polish Academy of Science.
6. Since 2009 - Member of the AIST (Association for Iron and Steel Technology), in 2010 elected a member of the committee: Metallurgy - Processing, Products and Applications Technology Committee.
7. Since 2015 – Member of the ESAFORM (Scientific Association for Materials Forming) - Member of the Esaform Prize Committee.
8. Since 2014 – Member of the Steel Forming Network coordinated by Arcelor Mittal.
9. Since 2012 – Board of directors, secretary general of the Polish Forging Association.
10. Since 2014 – Executive board member of the European Forging Association EUROFORGE (<http://www.euroforge.org/>).
11. Since 2014 – I am cooperating with Specjalny Ośrodek Szkolno-Wychowawczy nr. 3 w Krakowie (Schools for children with special educational needs) in the area of application of modern technologies in therapy of children with intellectual disabilities.