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**Nationality:** Slovak

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**Work experience:**

**1995 -present:** senior research fellow, Polymer Institute, Slovak Academy of Sciences (PI SAS), Bratislava; Slovakia, Head of Department of Composite Materials

January **1994** - January **1995** - Post-doctoral stay at Institute of Polymer Research Dresden, Germany

**1993** - junior researcher, PI SAS

**1988 - 1992** - PhD. student, PI SAS

**1985** - study stay, Polymer Institute, Slovak Academy of Sciences, Bratislava, Slovakia

**Education and training:**

**M.Sc.** in physical chemistry, Slovak Technical University, Faculty of Chemical Technology, Bratislava, Slovakia, 1985

**Ph.D.** in macromolecular chemistry, Slovak Academy of Sciences, Bratislava, 1993. Ph.D. thesis "Synthesis of Polypyrrole on the Presence of Pyridinium Chlorochromate and Study of its Properties", supervisors: Prof. Milan Lazár, D.Sc, Dr. Stanislav Košina.

**D.Sc.** - Doctor of Sciences in macromolecular chemistry, Slovak Academy of Sciences, Bratislava, 2009.

**Research interests:**

- polymeric nanocomposites with nanofillers, carbon nanotubes, graphene, montmorillonite, preparation and properties, sensors and actuators
- conducting composites and blends, preparation and study of their properties (spectroscopic characterization, thermal ageing, stability, thermooxidation, etc. )
- conducting polymers, mechanism of the polymerization, and their characterization
- surface and interphase characterization of polymeric, organic and inorganic materials by X- ray photoelectron spectroscopy

**Additional information:**

Total number of journal publications: 120 (100 CC)

Number of book chapters: 4

Number of citations: 1700+  
Hirsch index from WOS 23  
More than 200 oral and poster presentations in scientific conferences, 3 Slovak patents

#### **Awards:**

**1993** - winner of the competition the best paper of young scientist at PI SAS  
**1994** - fellowship from Institute of Polymer Research, Dresden, Germany  
**1996** - Award from Literature foundation, Slovak Republic for young scientists  
**2001** – Award of the journal Chemical Papers for the best paper of the year 2001, "Polyaniline and Polypyrrole – Two Representatives of the Conducting Polymers"  
**2005** - Award of the University Paris-7-Denis Diderot, invitation for one month stay  
**2005** – Award of the American Chemical Society, short visit of 3 US Universities in the framework of the International Initiatives Program  
**2011** – M. Omastova team was ranked in the category *excellent* by Academic Ranking and Rating Agency (ARRA, Slovakia) "*Identification of high scientific teams and their members in Slovak Academy of Sciences*"  
**2012** – Award of the Slovak Academy of Sciences for collection of scientific publications and work in the interdisciplinary research of electrically conductive polymers, composites, and nanocomposites  
**2012** – member of the Learned Society, Slovak Republic  
**2010 and 2013** – invited professorship for one month stay at University Paris-7-Denis Diderot, France

#### **Research projects in 2006-2013**

##### **Projects Coordination:**

Two projects of **VEGA agency** (Slovakia), at present *Polymeric nanocomposites and hybrids and their applications as sensors and actuators*. Project No 2/0149/14. Duration 01/2014 – 12/2017.

Principal Investigator of projects: Bilateral Slovak - German project: 3 ×  
Bilateral Slovak –French project: 3 ×  
Bilateral Slovak – Greek project: 2 ×  
Bilateral Slovak – Czech project: 2 ×

Project **COST MP1003, ESNAM** – *European Scientific Network for Artificial Muscles*. Duration: 12/2010-12/2014, principal investigator for PI SAS.

##### **Participation in projects 7 FP:**

7 RP EU project Nano-optical mechanical systems (NOMS). Licence number of project: Stage 1 CP-FP 228916-1. Duration: 09/2009 – 08/2012.

Principal investigator in Polymer Institute SAS in projects of Structural funds EU Centrum of Excellence MACHINA I (ITMS code 26240120007, Duration: 05/2009 – 04/2011), and Centrum of Excellence MACHINA II (ITMS code 26240120021, Duration: 04/2010 – 03/2012)

#### **Other activities:**

- President of the Slovak Chemical Society (2013-2014)
- Vice -president of the Polymer division, Slovak Chemical Society
- Representative of Polymer Division, Slovak Chemical Society in European Polymer Federation
- Chairperson of the Organic chemistry and polymers section, Meetings of the Slovak and Czech Chemical Societies organized in 2001, 2003, 2005, 2007, 2011

- Chairperson of the 20<sup>th</sup> Bratislava International Conference on Macromolecules, *Advanced Polymeric Materials*, organized in June 2006, Bratislava, Slovakia
- Member of Editorial board of ChemZi
- Chairperson of the conference EUROFILLERS 2013, August 2013, Bratislava <http://www.eurofillers2013.sav.sk/>

### List of selected papers from last 10 years

1. OMASTOVÁ, Mária - TRCHOVÁ, M. - KOVÁŘOVÁ, J. - STEJSKAL, J. Synthesis and structural study of polypyrroles prepared in the presence of surfactants. In *Synthetic Metals*, 2003, vol. 138, no. 3, p. 447 - 455. (2003 - Current Contents). ISSN 0379-6779
2. OMASTOVÁ, Mária - TRCHOVÁ, M. - PIONTECK, Jurgen - PROKEŠ, J. - STEJSKAL, J. Effect of polymerization conditions on the properties of polypyrrole prepared in the presence of sodium bis(2ethylhexyl) sulfosuccinate. In *Synthetic Metals*, 2004, vol. 143, no. 2, p. 153 - 161. (2004 - Current Contents). ISSN 0379-6779.
3. BOUKERMA, K. - OMASTOVÁ, Mária - FEDORKO, P. - CHEHIMI, M.M. Surface properties and conductivity of bis(2-ethylhexyl) sulfosuccinate-containing polypyrrole. In *Applied Surface Science*, 2005, vol. 249, no.1-4, p. 303 - 314. ISSN 0169-4332.
4. MIČUŠÍK, Matej - OMASTOVÁ, Mária - PROKEŠ, J. - KRUPA, Igor. Mechanical and electrical properties of composites based on thermoplastic matrices and conductive cellulose fibers. In *Journal of Applied Polymer Science*, 2006, vol. 101, no. 1, p. 133 - 142. (2006 - Current Contents). ISSN 0021-8995.
5. BLINOVA, Natalia V. - STEJSKAL, Jaroslav - TRCHOVÁ, Miroslava - PROKEŠ, Jan - OMASTOVÁ, Mária. Polyaniline and polypyrrole: a comparative study of the preparation. In *European Polymer Journal*, 2007, vol. 43, p. 2331 - 2341. (2007 - Current Contents). ISSN 0014-3057.
6. MIČUŠÍK, Matej - NEDELČEV, Tomáš - OMASTOVÁ, Mária - KRUPA, Igor - OLEJNÍKOVÁ, Katarína - FEDORKO, P. - CHEHIMI, Mohamed M. Conductive polymer-coated textiles: The role of fabric treatment by pyrrole-functionalized triethoxysilane. In *Synthetic Metals*, 2007, vol. 157, p. 914-923. (2007 - Current Contents, SCOPUS). ISSN 0379-6779.
7. LOGAKIS, E. - PANDIS, Ch. - PEOGLOS, V. - PISSIS, P. - PIONTECK, Jurgen - PÖTSCHKE, P. - MIČUŠÍK, Matej - OMASTOVÁ, Mária. Electrical/dielectric properties and conduction mechanism in melt processed polyamide/multi-walled carbon nanotubes composites. In *Polymer : the International Journal for the Science and Technology of Polymers*, 2009, vol. 50, p. 5103 - 5111. (2009 - Current Contents). ISSN 0032-3861.
8. UYGUN, Aysegul - YAVUZ, Ayse Gul - SEN, Songul - OMASTOVÁ, Mária. Polythiophene/SiO<sub>2</sub> nanocomposites prepared in the presence of surfactants and their application to glucose biosensing. In *Synthetic Metals*, 2009, vol. 159, p. 2022 - 2028. (2009 - Current Contents, SCOPUS). ISSN 0379-6779.
9. OMASTOVÁ, Mária - MOSNÁČKOVÁ, Katarína - TRCHOVÁ, Miroslava - KONYUSHENKO, Elena N. - STEJSKAL, Jaroslav - FEDORKO, Pavol - PROKEŠ, Jan. Polypyrrole and polyaniline prepared with cerium (IV) sulfate oxidant. In *Synthetic Metals*, 2010, vol.160, p. 701 - 702. (2010 - Current Contents, WOS, SCOPUS). ISSN 0379-6779.T
10. GAM-DEROUICH, Sarra - MAHOUCHE-CHERGUI, Samia - TURMINE, Mireille - PIQUEMAL, Jean-Yves - BEN HASSEN-CHEHIMI, Dalila - OMASTOVÁ, Mária - CHEHIMI, Mohamed M. A versatile route for surface modification of carbon, metals and semi-conductors by diazonium salt-initiated photopolymerization. In *Surface Science*, 2011, vol. 605, p. 1889 - 1899. (2011 - Current Contents). ISSN 0039-6028
11. CZANIKOVÁ, Klaudia - KRUPA, Igor - ILČÍKOVÁ, Markéta - KASÁK, Peter - CHORVÁT, Dušan Jr. - VALENTIN, Marian - ŠLOUF, Miroslav - MOSNÁČEK, Jaroslav - MIČUŠÍK, Matej - OMASTOVÁ, Mária. Photo-actuating materials based on elastomers and modified carbon nanotubes. In *Journal of Nanophotonics*, 2012, vol.6, 063522, p. [14]. (2012 - Current Contents). ISSN 1934-2608.

12. OMASTOVÁ, Mária - MIČUŠÍK, Matej. Polypyrrole coating of inorganic and organic materials by chemical oxidative polymerisation. In *Chemical papers*, 2012, vol. 66, no. 5, p. 392 - 414.. (2012 - Current Contents). ISSN 0366-6352.
13. CZANIKOVÁ, Klaudia - TORRAS, Núria - ESTEVE, Jaume - KRUPA, Igor - KASÁK, Peter - PAVLOVA, Ewa - RAČKO, Dušan - CHODÁK, Ivan - OMASTOVÁ, Mária. Nanocomposite photoactuators based on an ethylene vinyl acetate copolymer filled with carbon nanotubes. In *Sensors and Actuators B-Chemical*, 2013, vol. 186, p. 701 - 710. (2013 - Current Contents). ISSN 0925-4005.
14. CZANIKOVÁ, Klaudia - TORRAS, Núria - ESTEVE, Jaume - KRUPA, Igor - KASÁK, Peter - PAVLOVA, Ewa - RAČKO, Dušan - CHODÁK, Ivan - OMASTOVÁ, Mária. Nanocomposite photoactuators based on an ethylene vinyl acetate copolymer filled with carbon nanotubes. In *Sensors and Actuators B-Chemical*, 2013, vol. 186, p. 701 - 710. (2013 - Current Contents)
15. WINTER, A. Douglas - LARIOS, Eduardo - ALAMGIR, Faisal M. - JAYE, Chernob - FISCHER, Daniel A. - OMASTOVÁ, Mária - CAMPO, Eva M. Thermo-active behavior of ethylene-vinyl acetate. I. Multiwall carbon nanotube composites examined by in situ near-edge X-ray absorption fine-structure spectroscopy. In *Journal of Physical Chemistry C*, 2014, vol. 118, p. 3733-3741. ISSN 1932-7447.