

Dr. -Ing. Tomasz Maciej Stawski

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http://www.utwente.nl/mesaplus/PhD%20interviews/concluding_interview_tomasz_stawski_2011.doc/

Education:

- 2011 – 2007 **PhD (Doctorate, Materials Science)**
University of Twente in Enschede, the Netherlands
MESA+ Institute for Nanotechnology, the Netherlands
Supervisors: prof. dr. ir. Johan E. ten Elshof and prof. dr. ing. Dave H.A. Blank
Title of the dissertation: "Understanding microstructural properties of perovskite ceramics through their wet-chemical synthesis" (ISBN: 978-90-365-3303-4)
- 2007 – 2002 **MSc, MSE (Master of Science and Engineer, Materials Science: nano- and supramolecular structures)** (graduated with the highest scores possible)
Jagiellonian University in Cracow, Poland
Faculty of Chemistry together with the Faculty of Physics, Astronomy and Applied Computer Science
Supervisors: prof. dr. hab. Janusz Szklarzewicz
Title of the thesis: "Synthesis and characterization of the cyano-bridged bimetallic coordination polymeric thin films deposited on a copper substrate"

Professional Experience:

- 2011 – 2007 **Research Assistant/PhD candidate, Inorganic Materials Science group, University of Twente and MESA+ Institute for Nanotechnology, the Netherlands.**
I was working in the industry-oriented project "Sub-micron thin doped barium titanate films for multi-layer ceramic capacitor technology" with Yageo, Ferro, Solmates, and TNO as partners and users. My primary role was to address the needs of the partner companies concerning powder processing of barium titanate and translate them into specific scientific questions. That included (1) characterization of morphology and defect structure of barium titanate, (2) synthesis of nano-sized barium titanate powders and films, (3) screening for alternative materials, (3) improvement of the overall concept of ceramic capacitor manufacturing concept, (5) and most importantly exploring an issue of downscaling of the particle size of used powders, elucidating its benefits and disadvantages and indicating the causes. Furthermore I was writing quaternary reports and preparing presentations and memos for the user committee.
- 2007 – 2003 **Student Assistant and MSc student, Coordination Chemistry group, Faculty of Chemistry, Jagiellonian University in Cracow, Poland.**
I conducted research as a Student Assistant in the Coordination Chemistry group at the Department of Inorganic Chemistry of the Faculty of Chemistry of Jagiellonian University. molecular scale. My MSc research was focused on the synthesis of thin films of metal cyanides on copper substrates. I discovered that such metal cyanide films could be used to modulate the work function of metal surfaces that could be applied in the field of catalysis.
- 2006 **Intern in the field of electron microscopy at the Institute of Metallurgy and Materials Science of the Polish Academy of Sciences in Cracow (IMIM PAN Kraków, Poland).**
I was working in the field of the electron microscopy including SEM, environmental SEM, high resolution TEM, and Orientation Imaging Microscopy. I was characterizing samples prepared within my research at the Coordination Chemistry group.
- 2001 – 2000 **Volunteer in the Provincial Psychiatric Hospital in Gdańsk (Danzig).**

I was involved in conducting so called “mini-mental tests”. This series of simple questions and exercises provides a simple means of differentiation between people suffering from the Alzheimer’s disease and those struggling with a regular dementia.

Other activities:

- 2011 – 2009 I was maintaining one of powder X-ray diffractometers at MESA+, introducing new users to the machine, teaching sample preparation techniques, and teaching basics of crystallography and software (approx. 25 people in total).
- 2011 – 2008 I was a co-author of granted 4 proposals for small angle x-ray scattering experiments at the European Synchrotron Research Facility (ESRF), DUBBLE BM-26B in Grenoble, France and actively participated in 4 other experiments. Total number of hours spent at the synchrotron: 1000 hours.
- 2010 – 2009 Daily supervisor of the BSc student (5 months), MSc student (9 months), the intern (6 months) at the University of Twente, MESA+ and Inorganic Materials Science group.
- 2003 – 2002 Co-founder and board-member of the Students’ Scientific Circle of the Materials Science at the Institute of Physics, Jagiellonian University, Cracow.

Scientific Interests and Specialties (among others):

Wet-chemical synthesis of ceramic powders and thin films; patterning and soft-lithography; small angle x-ray scattering; X-ray diffraction techniques and crystallography; electron microscopy including TEM, SEM, EDS/WDS, EBSD and EELS; applications of synchrotron radiation in characterization of materials; UV-Vis, FT-IR and FT-RS spectroscopies; photon correlation spectroscopy; TGA/DSC; rheological characterization.

Scientific courses followed:

- 2010: “AIO School Kristal- en Struktuuronderzoek 2010”, Technical University Delft (Delft, the Netherlands).
- 2008: “ISGS Summer School 2008 – Sol-Gel in Small Dimensions: Nanoparticles and Thin Films” (Alghero, Italy).
- 2007: “Fundamentals of Nanotechnology”, University of Twente (Enschede, the Netherlands).
- 2007: “Probing the Nanoworld - 38th Spring School”, Institute of Solid State Research of the Research Center Juelich (IFF, Forschungszentrum Juelich, Germany).
- 2006: “Computational Condensed Matter Physics - 37th Spring School”, Institute of Solid State Research of the Research Center Juelich (IFF, Forschungszentrum Juelich, Germany).
- 2004: “Neutron Laboratory Course”, Institute of Solid State Research of the Research Center Juelich (IFF, Forschungszentrum Juelich, Germany).
- 2004: “Physics Meets Biology - 35th Spring School”, Institute of Solid State Research of the Research Center Juelich (IFF, Forschungszentrum Juelich, Germany).

Professional and language courses followed (last 5 years):

- 2010: “Nederlands: Follow-up IV”, 32 hours, CEF-level C1, University of Twente.
- 2009: “Nederlands: Follow-up III”, 48 hours, CEF-level B2, University of Twente.
- 2008: “Nederlands: Follow-up II”, 48 hours, CEF-level B1, University of Twente.
- 2008: “Nederlands: Follow-up I”, 48 hours, CEF-level A2, University of Twente.
- 2007: “Dutch for Beginners: intensive week”, 30 hours, CEF-level A1, University of Twente.

Scholarships and prizes:

- Best Poster Award, 3rd International Congress on Ceramics (ICC3), Osaka, Japan, 2010 (information: M. Yashima, *IOP Conf. Ser.: Mater. Sci. Eng.* 18 022000, 2011).
- Scholarships of the Faculty of Chemistry together with the Faculty of Physics, Astronomy and Applied Computer Science in academic years 2003 – 2006, Jagiellonian University in Cracow (top 10% of the students).

Languages:

English (Full professional proficiency), **Polish** (Native or bilingual proficiency), **Dutch** (Professional working proficiency), **German** (Limited working proficiency)