Curriculum vitae

Name:	Tomasz Ossowski
Date of birth:	February 25, 1976
Place of birth	Kolno, Poland
Sex:	male
Marital status:	married
Languages spoken:	English, Russian, Polish
Status:	Adjunct (Assistant Professor), Institute of Experimental Physics, University of Wrocław, Wrocław, Poland
Address:	Institute of Experimental Physics University of Wrocław Pl. Maxa Borna 9 50-204 Wrocław, POLAND
Phone:	(+48) 71 3759267
Fax:	(+48) 71 3287365
e-mail:	tomasz.ossowski@uwr.edu.pl

Education:	1995-2000	Physics studies, Faculty of Physics and Astronomy, University of Wrocław, Wrocław, Poland
	2000-2005	Ph.D. studies, Faculty of Physics and Astronomy, University of Wrocław, Wrocław, Poland

Academic degree: 2000 - M.Sc. in Experimental Physics, Faculty of Physics, University of Wrocław.
2006 - Ph.D., Faculty of Physics, University of Wrocław.

Account of my research activities

In September 2005 I finished Ph.D. studies under the guidance of Prof. Adam Kiejna. From 2006 I am working in his group as an Adjunct (Assistant Professor). I am using the Denstity Functional Theory (DFT) and *ab initio* methods for total energy calculations. My research work is directed to the calculation of electronic properties of clean and adsorbate covered metal surfaces, interfaces and grain boundary properties of magnetic materials using DFT codes. I have experience with bulk and surface calculations of metals and metal–oxides. Now, I perform calculations for metal surfaces and its interfaces with metal oxides.

Experience:

I graduated in 2000 in experimental physics. My research work was directed to investigations of adsorption of metals on Tantalum surfaces using Auger electron spectroscopy, low energy electron diffraction and work function change method.

In autumn 2005 I finished Ph.D. studies in computational materials science using *ab initio* methods for total energy calculations. I have used the fhi98md and VASP codes to calculate adsorption of metallic atoms on metal surfaces. I have gained experience with generating, testing pseudopotentials and the working knowledge of the fhi98md and VASP programme packages. Now, I am using VASP code to calculate grain boundaries properties of magnetic materials. I have experience with Fortran programming and UNIX system.

Participation in workshops and visits to other laboratories:

- European Conference on Surface Science ECOSS34, 26.08-31.08.2018r., Aarhus, Denmark, poster:"Energetics and structure of FeO/Fe(001) interfaces".
- DPG Spring Meeting, 11-16 marca 2018r., Berlin, Germany, talk: "Energetics and structure of FeO/Fe(001) interfaces".
- 8th International Workshop on Surface Physics - Surface is Alive: Atoms, Molecules, Functional Materials etc..., 26-30 czerwca 2017, Trzebnica, Poland, talk: "DFT study of water at stoichiometric and defected Fe(110) surface".
- DPG Spring Meeting, 19-24 marca 2017r., Dresden, Germany, talk: "DFT study of Water at stoichiometric and defected Fe(110) surface".
- 7th International Workshop on Surface Physics - Molecular Nanostructures, 21-25 Czerwca 2015r., Trzebnica, Poland, talk: "Theoretical study of oxygen adsorption on iron (110) surface".
- 6th International Worshop on Surface Physics IWSP 2013 Functional Materials, 01-06.09.2013, Niemcza, Poland, talk: "Vacancies and Cr additions at Fe $\Sigma 5$ (210) grain boundary".
- DPG Spring meeting, 10-15.03.2013, Regensburg, Germany, talk: "Structure and stability of vacancies and Cr atoms at Fe $\Sigma 5$ (210) grain boundary".
- ICM Report-Workshop Session, 19-22.04.2012, Sterdyń, Poland, talk: "Ab initio modelling of bulk, surfaces and interfaces of materials".
- European Conference on Surface Science ECOSS28, 28.08-02.09.2011r., Wrocław, Poland, poster: "Adsorption of Au and Pd submonolayers on magnetite (111) surface".

– 27th Max Born Symphosium "Multiscale Modeling of Real Materials", 17-20.09.2010r., Wrocław, Poland, contributed talk: "Structure and stability of grain boundaries in iron".

– 10th International Conference on Computer Simulations of Radiation Effects in Solids COSIRES 2010, 19-23.07.2010r., Kraków, Poland, contributed talk: "Structure and stability of $\Sigma5(210)$ and $\Sigma3(111)$ grain boundaries in iron".

– Ψ_k 2010 Conference, 12-16.09.2010r., Berlin, Germany, poster: "Alloying and segregation of Cr(Fe) at interfaces of Fe-Cr and Cr-Fe systems".

– 4th International Workshop on Surface Physics "Surfaces and Nanostructures", 21-25.09.2009r., Lądek Zdrój, Poland., poster: "Properties of the clean and Fe impured grain boundaries in chromium"

– Summer School "Nanomagnetism and Spintronics", 5-13 September 2008, Prague, Czech Republic, poster: "Cohesion and magnetism at grain boundaries in chromium".

– Invited talk at the Faculty of Materials Science and Engineering, Warsaw University of Technology: "Teoretyczne badania właściwości powierzchni oraz granic ziaren chromu (Theoretical investigation of chromium surfce and grain boundary properties)", 18 january 2008, Warsaw, Poland.

– Workshop "Intermetallics", Erwin-Schrödinger Institute, 23-24 January, 2008, Vienna, Austria, cotnributed presentation: "Cohesion at chromium grain boundary".

– International Workshop on Surface Physics 2007: *Nanostructures on Surfaces*, Polanica Zdrój, Poland, 10-15 September 2007,

– ICM Report-Workshop Session, 8-11.03.2007, Jadwisin, Poland.

– CECAM workshop: "Multiscale approaches to Nanomechanics", 5-7.02.2007r., Lyon, France.

– ICMM and EMPA Workshop on "Computational Modelling of the Structure, Properties and Phenomena Taking Place in Materials", 6-10.11.2006r., Dübendorf, Swiss.

– PSI-K/COST Workshop: "Multiscale modeling of extended defects and phase transformations at material interfaces", 24-26.09.2006r., Wrocław, Poland.

– International Workshop on Surface Physics 2005: *Advanced and Bio-Materials*, Polanica Zdrój, Poland, 10-13 September 2005,

– International Workshop on Surface Physics 2003: *Metals on Surfaces*, Polanica Zdrój, Poland, 13-15 September 2003,

– 2003 (4 weeks) research visit in the Theory Department of the Fritz Haber Institute, MPG, Berlin, Germany,

– CASTEP Workshop: "The Nuts and Bolts of First-Principles Simulation" Durham, 6-13 December 2001,

– "Application of Density-Functional Theory in Condensed Matter Physics, Surface Physics, Chemistry, Engineering and Biology" Berlin, 23 july - 1 August 2001.

Teaching activities: Physics, Physical laboratory, Computer labolatory

Publications:

1. Tomasz Ossowski, Juarez L. F. Da Silva, Adam Kiejna, *Water adsorption on the stoichiometric and defected Fe(110) surfaces*, Surface Science 668 (2018) 144.

2. Kiejna A., Ossowski T. 2018, Water adsorption on iron surfaces, Water Adsorption on bcc Iron Surfaces. In: Wandelt, K., (Ed.) Encyclopedia of Interfacial Chemistry: Surface Science and Electrochemistry, vol. 2, pp 298–303.

3. Elwira Wachowicz, Tomasz Ossowski, Adam Kiejna, *DFT study of stepped 4H-SiC0001 surfaces*, Applied Surface Science 420 (2017) 129.

4. Kinga Freindl, Tomasz Ossowski, Marcin Zając, Nika Spiridis, Dorota Wilgocka-Ślęzak, Ewa Madej, Tomasz Giela, Adam Kiejna, Józef Korecki, *Oxygen Adsorption on the Fe(110) Surface: The Old System – New Structures*, The Journal Of Physical Chemistry C 120 (2016) 3807.

5. Tomasz Pabisiak, Maciej J. Winiarski, Tomasz Ossowski, Adam Kiejna, *Adsorption of gold subnano-structures on a magnetite(111) surface and their interaction with CO*, Physical Chemistry Chemical Physysics 18 (2016) 18169-18179

6. Mikołaj Lewandowski, Irene M. N. Groot, Zhi-Hui Qin, Tomasz Ossowski, Tomasz Pabisiak, Adam Kiejna, Anastassia Pavlovska, Shamil Shaikhutdinov, Hans-Joahim Freund, and Ernst Bauer, *Nanoscale Patterns on Polar Oxide Surfaces*, Chemistry of Materials 28 (2016) 7433.

7. T. Ossowski, A. Kiejna, *Oxygen adsorption on Fe(110) surface revisited*, Surface Science 637-638 (2015) 35.

8. A. Kiejna, T. Ossowski, T. Pabisiak, *Surface properties of the clean and Au/Pd covered Fe_3O_4(111): DFT and DFT+U study*, Physical Review B 85 (2012) 125414.

9. E. Zhurkin, M. Hou, J. Kuriplach, T. Ossowski, A. Kiejna, *Grain boundary segregation in low Cr Fe-Cr alloys: The effect of radiation induced vacancies studied by metropolis Monte Carlo simulations*, Nuclear Instruments and Methods in Physics Research B 269 (2011) 1679.

10. E. Wachowicz, T. Ossowski, A. Kiejna, *Cohesive and magnetic properties of grain boundaries in bcc Fe with Cr additions*, Physical Review B 81 (2010) 094104.

11. T.Ossowski, E. Wachowicz, A. Kiejna, *Effect od iron additions on intergranular cohesion in chromium*, Journal of Physics: Condensed Matter 21 (2009) 485002.

12. T. Ossowski, A. Kiejna, *Density functional study of surface properties of chromium*, Surface Science 602 (2008) 517.

13. T. Ossowski, A. Kiejna, *Low-coverage K adsorption on Mg(0001) surface*, Surface Science 566-568 (2004) 983.

14. A. Kiejna, T. Ossowski, E. Wachowicz, *Alkali metals adsorption on the Mg(0001) surface*, Surface Science 548 (2004) 22.

15. C. Tomas, T. Ossowski and J. Kołaczkiewicz, *Growth and thermal stability of Fe and Ni adsorption layers on the (111)Ta crystal face*, Surface Science 494 (2001) 183.

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