Lebenslauf

Dr. Oleg Prymak

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Leiter der Abteilung für Röntgenbeugung in der Fakultät für Chemie an der Universität Duisburg-Essen (Prof. Dr. M. Epple)

- Vorlesung "Strukturmethoden": Kristallographie, Röntgenbeugung, Rietveld-Methode (Lehrauftrag der Fakultät); Übungen und Seminare in der Anorganischen Chemie (AC-II); MINT-Übungen bei Chemie-Vorkursen
- Leiter des Anorganisch-Chemischen Fortgeschrittenenpraktikums (AC-P, Teil Festkörperchemie): *Master of Science* Chemie und Lehramtsstudenten
- Mitorganisator des Grundpraktikums (Allgemeine Chemie): Studenten des 1. Semesters

- Koordination von internationalen Austauschprogrammen und wissenschaftlichen Projekten (DAAD, BMBF)
- Koordinator des Leonhard-Euler DAAD-Programms mit der Ukraine (Universitäten Lviv, Kyiv, Kharkiv) und Russland (Universität Tomsk)
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Akademischer Oberrat in der Fakultät für Chemie an der Universität Duisburg-Essen (Anorganische Chemie, Prof. Dr. M. Epple)

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01.08.2010 – 16.07.2012	**Wissenschaftlicher Mitarbeiter** in der Fakultät für Chemie an der Universität Duisburg-Essen (Anorganische Chemie, Prof. Dr. M. Epple)
02.05.2006 – 31.07.2010	**Postdoktorand** am Max-Planck-Institut für Eisenforschung (Düsseldorf) in der Abteilung Werkstofftechnik bei Prof. Dr. G. Frommeyer über "*Stabilität, strukturelle Transformationen und Eigenschaften von Laves-Phasen in den ternären Systemen Nb-X-Al mit X=Cr, Fe, Co"* sowie der Abteilung Mikrostrukturphysik und Umformtechnik (ab 01.08.2009) bei Prof. Dr. D. Raabe über *"Grenzen und Beeinflussbarkeit des Verunreinigungsniveaus von Titan-Recyclinglegierungen für den Wiedereinsatz"*
28.09.2005 – 01.05.2006	**Wissenschaftlicher Mitarbeiter** an der Universität Duisburg-Essen, Fachbereich Chemie (Prof. Dr. M. Epple)

AUSBILDUNG:

27.09.2005	Erwerb des Grades eines Doktors der Naturwissenschaften (**Dr. rer. nat.**) an der Universität Duisburg-Essen mit dem Gesamtprädikat "sehr gut" (*magna cum laude*); schriftliche Note "mit Auszeichnung" (*summa cum laude*)
01.07.2002 – 27.09.2005	Anfertigung der **Dissertation** an der Ruhr-Universität Bochum (bis 30.09.2003) und der Universität Duisburg-Essen (Fachbereich Chemie) unter Anleitung von Prof. Dr. M. Epple über *"Untersuchungen zu Biomaterialien und Biomineralien auf der Basis von Nickel-Titan-Legierungen und Calciumphosphaten"*. Assistent im Grundpraktikum für Anorganische Chemie
01.08.2001 – 30.06.2002	**Wissenschaftlicher Mitarbeiter** an der W.N. Karazin Nationalen Universität Kharkiv, Ukraine, Lehrstuhl für Festkörperphysik (Prof. Dr. Z. Z. Zyman). Röntgenpraktikum; Betreuung von Röntgendiffraktometern und Rasterelektronenmikroskopen, Assistent im Praktikum für Festkörperphysik
01.09.1996 – 30.06.2001	**Studium der Festkörperphysik** (Diplom mit Auszeichnung) an der W.N. Karazin Nationalen Universität Kharkiv, Ukraine. Diplomarbeit unter Anleitung von Prof. Dr. Z.Z. Zyman über *"Herstellung und physikalische Eigenschaften einer zweiphasigen Calciumphosphat-Keramik"*

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FORSCHUNG im Ausland:	Moskau (10.2004, Prof. T. Oretskaya), Tomsk (05.2012, Prof. Y. Sharkeev, Prof. V. Pichugin), Nanjing (06.2013, Prof. H. Yong), Krakau (10.2013, Prof. J. Chłopek), New York (04.2014, Prof. S. Billinge), Heraklion (07.2014, Prof. M. Chatzinikolaidou), São Paulo (02.2015, Prof. C. Oliveira), New York (10.2015, Prof. S. Billinge), Buenos Aires (04.2016, Prof. L. M. Socolovsky), Notre Dame (05.2016, Prof. Dr. R. Roeder)
PREISE und STIPENDIEN:	CeNIDE Best **Paper Award** 2008 für J. Mater. Chem. 17 (2007) 721-727; APDIC Best **Paper Award** 2016 for Intermetallics 59 (2015) 43-58; **Forschungsaufenthalt** an der Universität von São Paulo (FAPESP Projekt 14/10714-3) im Februar 2015
FORSCHUNGSINTERESSE:	- Entwicklung von Biomaterialien (Metalle, Keramiken, Polymere, Komposite, Nanopartikel) und ihre Anwendung in der Medizin - Untersuchung biogener Mineralien (Knochen, Zähne, Schnecken, Algen usw.) und die Entwicklung von biomimetischen Materialien - Strukturauflösung der untersuchten Materialien mittels Röntgenstrahlung (inkl. Synchrotronstrahlung) für ein besseres Verständnis ihrer atomaren Struktur
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Publikationsliste

[67] M.A. Surmeneva, R.A. Surmenev, A. Sharonova, S. Chernousova, O. Prymak, K. Loza, M. Epple, "Incorporation of silver nanoparticles into magnetron-sputtered calcium phosphate layers on titanium as antibacterial coating", *in preparation*

[66] I. Prymak, P. Kollmorgen, N. Kalevaru, A. Martin, O. Prymak, U. Bentrup, S. Wohlrab, "Surface modified Ce-Zr mixed oxide catalysts for the direct synthesis of dimethyl carbonate from methanol and carbon dioxide", *in preparation*

[65] I. Grubova, M. Surmeneva, R. Surmenev, A. Ivanova, V. Shugurov, N. Koval, K. Kravchuk, O. Prymak, M. Epple, "Comparative evaluation of the sand blasting, acid etching and electron beam surface treatments of titanium for medical application", *submitted (2016)*

[64] Z.Z. Zyman, M. Epple, A. Goncharenko, D. Rokhmistrov, O. Prymak, K. Loza, "The thermal behavior of precipitated amorphous calcium phosphates The thermal behavior of precipitated amorphous calcium phosphates with an initial Ca/P ratio of 1:1", *submitted (2016)*

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[59] V. Nosenko, N. Strutynska, I. Vorona, I. Zatovsky, V. Dzhagan, S. Lemishko, M. Epple, O. Prymak, N. Baran, S. Ishchenko, N. Slobodyanik, Y. Prylutskyy, N. Klyui, V. Temchenko, "Structure of coatings produced from carbonate-containing hydroxyapatite by detonation spraying", **Nanoscale Res**earch **Lett**ers **10** (2015) 464

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[57] A.A. Ivanova, M.A. Surmeneva, A.I. Tyurin, T.S. Pirozhkova, I.A. Shuvarin, O. Prymak, M. Epple, M.V. Chaikina, R.A. Surmenev, "Fabrication and physico-mechanical properties of thin magnetron sputter deposited silver-containing hydroxyapatite films", **Appl**ied **Surf**ace **Sci**ence **360** (2016) 929-935

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[44] N. Strutynska, I. Zatovsky, N. Slobodyanik, A. Malyshenko, Y. Prylutskyy, O. Prymak, I. Vorona, S. Ishchenko, N. Baran, A. Byeda, A. Mischanchuk, "Preparation, characterization and thermal transformation of sodium and carbonate-substituted poorly crystalline calcium phosphate", **Eur**opean **J**ournal of **Inorg**anic **Chem**istry **4** (2015) 622-629

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[40] M. Surmeneva, R. Surmenev, Y. Nikonova, I. Selezneva, A. Ivanova, V. Putlyaev, O. Prymak, M. Epple, "Fabrication, ultra-structure characterization and in vitro studies of RF magnetron sputter deposited nano-hydroxyapatite thin films **for** biomedical applications", **Appl**ied **Surf**ace **Sci**ence **317** (2014) 172-180

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[37] M. Chakif, A. Essaidi, E. Gurevich, A. Ostendorf, O. Prymak, M. Epple, "Generation of NiTi-nanoparticles by femtosecond laser ablation in liquid", **J**ournal of **Mater**ials **Eng**ineering and **Perform**ance **23**/7 (2014) 2482-2486

[36] S. Banerjee, K. Loza, W. Meyer-Zaika, O. Prymak, M. Epple, "Structural evolution of silver nanoparticles during wet-chemical synthesis", **Chem**istry of **Mater**ials **26** (2014) 951-957

[35] A.I. Malyshenko, N.Yu. Strutynska, I.V. Zatovsky, N.S. Slobodyanik, M. Epple, O. Prymak, "Synthesis of Na^+, CO_3^{2-}-containing calcium phosphate nanoparticles and their thermal transformations", **Funct**ional **Mater**ials **21** (2014) 333-337

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[33] J. Enax, H. O. Fabritius, A. Rack, O. Prymak, D. Raabe, M. Epple, "Characterization of crocodile teeth: Correlation of composition, microstructure, and hardness", **J**ournal of **Struct**ural **Biol**ogy **184** (2013) 155-163

[32] A.A. Ivanova, M.A. Surmeneva, I.Y. Grubova, A.A. Sharonova, V.F. Pichugin, M.V. Chaikina, V. Buck, O. Prymak, M. Epple, R.A. Surmenev, "Influence of the substrate bias on the stoichiometry andstructure of RF-magnetron sputter-deposited silver containing calcium phosphate coatings", **Mat**erial**wiss**enschaft **u**nd **Werkstofftech**nik **44** (2013) 218-225

[31] Y.P. Sharkeev, A.Y. Eroshenko, K.S. Kulyashova, S.V. Fortuna, K.A. Suvorov, M. Epple, O. Prymak, V. Sokolova, S. Chernousova, "Microstructure, mechanical and biological properties of zirconium alloyed with niobium after severe plastic deformation", **Mat**erial**wiss**enschaft **u**nd **Werkstofftech**nik **44** (2013) 198-204

[30] A.A. Sharonova, R.A. Surmenev, M.A. Surmeneva, A.A. Ivanova, I.Y. Grubova, W.F. Pichugin, M. Epple, O. Prymak, "Structural properties of silver-containing hydroxyapatite coatings, prepared by rf magnetron sputtering" **Izv**estiya **Vuz**ov, **Fizika** (in Russian) **12**/2 (2013) 240-246; cover-to-cover translation: **Russ**ian **Phys**ical **J**ournal (in English) (2014)

[29] D.S. Syromotina, M.A. Surmeneva, S.N. Gorodzha, V.F. Pichugin, A.A. Ivanova, I.Y. Grubova, K.S. Kravchuk, K.V. Gogolinsky, O. Prymak, M. Epple, R.A. Surmenev, "Physical-mechanical characteristics of RF magnetron sputter-deposited coatings based on silver-doped hydroxyapatite", **Izv**estiya **Vuz**ov, **Fizika** (in Russian) **10** (2013) 85-91; cover-to-cover translation: **Russ**ian **Phys**ical **J**ournal (in English) **56**/10 (2014) 1198-1205

[28] S.N. Goroja, M.A. Surmeneva, R.A. Surmenev, M.V. Gribennikov, V.F. Pichugin, A.A. Sharonova, A.A. Pustovalova, O. Prymak, M. Epple, A. Wittmar, M. Ulbricht, K.V. Gogolinsky, K.S. Kravchuk, "Wettability of thin silicate-containing hydroxyapatite films formed by RF-Magnetron Sputtering", **Izv**estiya **Vuz**ov, **Fizika** (in Russian) **10** (2013) 54-59; cover-to-cover translation: **Russ**ian **Phys**ical **J**ournal (in English) **56**/10 (2014) 1163-1169

[27] E.V. Legostaeva, Y.P. Sharkeev, M. Epple, O. Prymak, "Structure and properties of micro-arc calcium phosphate coatings deposited on a surface of titanium and zirconium alloys", **Izv**estiya **Vuz**ov, **Fizika** (in Russian) **10** (2013) 23-28; cover-to-cover translation: **Russ**ian **Phys**ical **J**ournal (in English) **56**/10 (2014) 1130-1136

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