

## Ing. Štěpán Potocký, Ph.D.

Date of birth: 1978; Place of birth: *Varnsdorf*; Nationality: *Czech*

### **Current occupation**

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from 2017- Teacher at the Department of Physics, Faculty of Electrical Engineering, Czech Technical University in Prague, Prague. Theme: Environmental Engineering  
from 2010- Research scientist at the Department of Optical Materials, The Academy of Sciences of the Czech Republic, Prague. Theme: plasmochemical processes and technology for hard coatings

### **Education and research stays**

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2007 - 2010 Research scientist at the EcoTopia Science Institute, Nagoya University, Japan Theme: *Autonomous Reaction Control in Solution Plasma for Application to Nanosynthesis and Nanoprocessing.*  
2005 - 2007 Research scientist at the Department of Optical Crystals, The Academy of Sciences of the Czech Republic, Prague; Theme: *MWPE CVD nanocrystalline diamond films deposition – study of their unique electronic properties and surface bioactivation aiming at design of novel bio-sensors or field-effect nano-transistors; low temperature deposition, spin coating.*  
2003 - 2004 Research stay at the Institute for Materials Research of the Limburgs Universitair Centrum, Diepenbeek, Belgium, for six months. Theme: *Nanocrystalline diamond deposition.*  
2002 - 2006 Research assistant at the Department of Physics, University of West Bohemia, Pilsen. Theme: *PVD deposition system, mass spectroscopy, mechanical analysis, teaching, management of a small research team.*  
2001 - 2006 Post-graduate studies at the Faculty of Applied Sciences, University of West Bohemia, Pilsen. Ph.D. degree (specialization: Plasma Physics and Physics of Thin Films) Theme: *Reactive magnetron sputtering of new quaternary Si-B-C-N films with unique properties.*  
1996 - 2001 Graduate study at the Faculty of Applied Sciences, University of West Bohemia, Pilsen, finished by Ing. degree, graduated with honours (specialization: Mathematical and Physical Engineering) Theme: *Characterization of pulsed magnetron discharges using an optical emission spectroscopy.*

### **Research interests**

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CVD and PVD technology; wide band gap semiconductors; hard, high temperature resistant materials; spin coating; polymer composites for substrates pre-treatment; plasma in liquids; waste water treatments, electrochemistry; low-temperature plasma characterization (energy resolved mass spectroscopy, OES, Langmuir probe), material characterization (mechanical, morphological, GC).

### **Teaching activities**

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lecturer of the course Environmental Engineering (CTU-FEE)  
supervisor of 2 finished master students  
supervisor of 2 Ph.D. students

### **Publication activities**

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Author or co-author of 45 scientific articles in international peer-reviewed journals that were cited more than 500 times (h-index 14). Co-author of 3 utility models, four book chapters, one international and national patent and contributions in proceedings on over 30 international conferences.

### **Projects (principal investigator or co-investigator)**

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**17-19968S** (CSF) 2017 – 2019: Localized Electronic Effects of Antibody Binding on NanoComposite Materials.

**CZ.07.1.02/0.0/0.0/16\_023/0000115** (Prague - Growth Pole of the Czech Republic) 2017 – 2018: Physics at your service

**14-04790S** (CSF) 2014 – 2016: Engineering Bulk and Surface of Diamond Nano-Objects for Biomedicine.

**P205/12/0908** (CSF) 2012 – 2014: Advanced experimental research of large area microwave plasma system for deposition of nanocrystalline diamond films.

**2284/03/G1** (MinEdu) 2003: Reactive magnetron sputtering of super-hard Si-B-C-N films.