

Ing. Štěpán Potocký, Ph.D.

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

Current occupation

from 2017- Assistant Professor 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

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.
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

CVD and PVD technology; optical centres in diamond; biomimetics; wide band gap semiconductors; hard, high temperature resistant materials; polymer composites for substrates pre-treatment; plasma in liquids; waste water treatment; material and low-temperature plasma characterization.

Teaching activities

lecturer of the course Environmental Engineering, Biosensors and Physics (CTU-FEE)
co-supervisor of 3 Ph.D. students (2 defended, 1 after state doctoral examination)
co-supervisor of 4 master students and supervisor of 2 bachelor students

Publication activities

Author or co-author of 45 scientific articles in international peer-reviewed journals that were cited more than 700 times (h-index 16). 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)

PAN-20-21 (Academy of sciences of the Czech Republic) 2020 – 2022: Study of carbon-based sensors for detection of various gaseous media

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.