

# Curriculum Vitae

## Personal data

- First name and surname: Jaroslava Zavázalová
- Date of birth: 21<sup>st</sup> April 1986
- Email: j.zavazalova@gmail.com

## Education

**2011 – to date** Charles University, Faculty of Science, Czech Republic

- *doctoral study* at Department of Analytical Chemistry, specialization: Analytical chemistry, theme of PhD Thesis: New Electrode Materials for HPLC-ED of Genotoxic Organic Pollutants (STARS programme for talented PhD students), supervisor: RNDr. Karolina Schwarzová, Ph.D., consultant: prof. RNDr. Jiří Barek, CSc.

**2009 – 2011** Charles University, Faculty of Science, Czech Republic

- *master study* at Department of Analytical Chemistry, specialization: Analytical chemistry, master Thesis: The electrochemical detection of amino derivatives of naphthalene and biphenyl using platinum electrodes, supervisor: RNDr. Karolina Pecková, Ph.D.

**2005 – 2009** Charles University, Faculty of Science, Czech Republic

- *bachelor study*, specialization: Chemistry in Nature Sciences, bachelor Thesis: Amperometric detection in HPLC determination of oxidizable derivatives of polycyclic aromatic hydrocarbons, supervisor: RNDr. Karolina Pecková, Ph.D.

## Practice

**2013 – 2015** Charles University, Prague, CZ

- *researcher* specialized in electroanalytical methods at Department of Analytical Chemistry, Faculty of Science

## Supervisions

- *lector* of high-school project Open Science III (Czech Academy of Science, CZ.1.07/2.3.00/35.0023), theme of project: Characterization of boron doped diamond electrode in presence of selected surfactants (number 2.26), student: Michaela Nezbedová, *duration of the project*: February 2013 – March 2014
- *supervision* of Advanced Laboratory Course of Analytical Chemistry (study code MC230C04 and MC230C13, Department of Analytical Chemistry, Faculty of Science)

### Achievements

- 2<sup>nd</sup> place at 11<sup>th</sup> Student Scientific Conference: **Zavazalova J.**, Dejmkova H., Barek J., Peckova K.: Využití ampérometrické detekce v HPLC stanovení aminoderivátů polycyklických aromatických uhlovodíků. *11<sup>th</sup> Student Scientific Conference*, Slovak University of Technology in Bratislava, Bratislava 11. 11. 2009.
- “O cenu firmy Merck 2011”: **Zavazalova J.**, Dejmkova H., Barek J., Peckova K.: Ampérometrická a spektrofotometrická detekce aminobifenyľů a aminonaftalenů v HPLC. *14<sup>th</sup> annual competition “O cenu firmy Merck 2011”*, J. E. Purkinje University, Usti nad Labem, 1. – 2. 2. 2011.
- Cena Shimadzu 2012: **Zavazalova J.**, Dejmkova H., Barek J., Peckova K.: Využití elektrod na bázi bórem dopovaného diamantu a platiny v ampérometrické detekci aminoderivátů naftalenu a bifenyľu v HPLC. *64<sup>th</sup> Congress of Chemical Societies*, Palacky University in Olomouc, Olomouc 25. – 27. 6. 2012.

### Grants

**2010 – 2011** Grant Agency of the Charles University

- *main grant holder* of research project: New possibilities of the electrochemical detection of genotoxic amino derivatives of polycyclic aromatic hydrocarbons in liquid flow methods (project number 92010)

**2013 – 2015** Grant Agency of the Charles University

- *main grant holder* of research project: Characterization and applications of new types of boron-doped diamond electrodes in electroanalysis of organic environmental pollutants (project number 684213)

### Research fellowships and intensive programme

- *theme of research fellowship*: Voltammetric and amperometric monitoring of selected chemical carcinogens and their interactions with DNA, Prof. Josino Costa Moreira, National School of Public Health at the Oswaldo Cruz Foundation (FIOCRUZ), Laboratory of Toxicology, Rio de Janeiro, Brazil, 13. 01. – 20. 06. 2015
- *theme of research fellowship (Erasmus)*: Characterisation of modified carbon electrodes for genotoxic pollutants, Prof. Christopher M. A. Brett, University of Coimbra, Department of Chemistry, Laboratory of Electrochemistry and Corrosion, Coimbra, Portugal, 11. 2. – 11. 6. 2013
- *theme of intensive program (IPErasmus)*: Environmental remediation and energy production technologies – electrochemistry and photocatalysis (E2T), Portalegre, Portugal, 1. – 14. 9. 2013

- *workshop*: Metrohm training – Electrochemical workshop 2014 – NOVA 1.10 (software), J. Heyrovský Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Prague, 15. 4. 2014

*Language skills*

- Czech: mother tongue
- English: low intermediate (Cambridge English Preliminary PET level B1)
- Portuguese: basics
- German: basics

## List of publications, presentations, achievements and grants

### Theses

- [1] **Zavazalova J.**: Amperometric detection in HPLC determination of oxidizable derivatives of polycyclic aromatic hydrocarbons. *Bachelor Thesis*, Charles University, Faculty of Science, Department of Analytical Chemistry, Prague 2009.
- [2] **Zavazalova J.**: The electrochemical detection of amino derivatives of naphthalene and biphenyl using platinum electrodes. *Diploma Thesis*, Charles University, Faculty of Science, Department of Analytical Chemistry, Prague 2011.

### Journal publications

- [1] **Zavazalova J.**, Dejmkova H., Barek J., Peckova K.: Amperometric and spectrophotometric detection of aminobiphenyl and aminonaphthalene in HPLC. *Chemicke Listy* **105** (2011) S87–S89.
- [2] **Zavazalova J.**, Dejmkova H., Barek J., Peckova K.: Voltammetric and amperometric determination of mixtures of aminobiphenyls and aminonaphthalenes using boron doped diamond electrode. *Electroanalysis* **25** (2013) 253–262.
- [3] **Zavazalova J.**, Dejmkova H., Barek J., Peckova K.: Tubular and microcylindrical platinum electrodes for amperometric detection of aminobiphenyls and aminonaphthalenes in HPLC. *Electroanalysis* **26** (2014) 687–696.
- [4] Vosahlova J., **Zavazalova J.**, Schwarzova-Peckova K.: Boron doped diamond electrodes: Effect of boron concentration on the determination of 2-aminobiphenyl. *Chemicke Listy* **108** (2014) S270–S273.
- [5] **Zavazalova J.**, Ghica M. E., Schwarzova-Peckova K., Barek J., Brett C. M. A.: Carbon-based electrodes for sensitive electroanalytical determination of aminonaphthalenes. *Electroanalysis* **27** (2015) 1556–1564.
- [6] **Zavazalova J.**, Prochazkova K., Schwarzova-Peckova K.: Boron-doped diamond electrodes for voltammetric determination of benzophenone-3. *Analytical Letters* **49** (2016) 80–91.
- [7] Vosahlova J., **Zavazalova J.**, Petrak V., Schwarzova-Peckova K.: Factors influencing voltammetric reduction of 5-nitroquinoline at boron-doped diamond electrodes. *Monatshefte Fur Chemie* **147** (2016) 21–29.
- [8] Schwarzova-Peckova K., Vosahlova J., Barek J., Sloufova I., Pavlova E., Petrak V., **Zavazalova J.**: Influence of boron content on the morphological, spectral, and electroanalytical characteristics of anodically oxidized boron-doped diamond electrodes. *Electrochimica Acta* **243** (2017) 170–182.

### Chapters in books

- [1] **Zavazalova J.**, Dejmikova H., Ramesova S., Barek J., Peckova K.: Amperometric and spectrophotometric detection of aminobiphenyls and aminonaphthalenes in HPLC. In *Sensing in Electroanalysis*. Vytřas K., Kalcher K. and Švancara I. (Eds.), **5** (2010) pp. 163–173, University of Pardubice, Pardubice.
- [2] **Zavazalova J.**, Houskova L., Barek J., Zima J., Dejmikova H.: Determination of pesticide chlortoluron using HPLC with amperometric detection at a carbon paste electrode. In *Sensing in Electroanalysis*. Kalcher K., Metelka R., Švancara I. and Vytřas K. (Eds.), **7** (2012) pp. 293–300, University Press Centre, Pardubice, Czech Republic.
- [3] **Zavazalova J.**, Barek J., Peckova K.: Boron doped diamond electrodes in voltammetry: New designs and applications. An overview. In *Sensing in Electroanalysis*. Kalcher K., Metelka R., Švancara I. and Vytřas K. (Eds.), **8** (2014) pp. 21–34, University Press Centre, Pardubice, Czech Republic.

### Oral presentations

- [1] Peckova K., Dejmikova H., **Zavazalova J.**, Barek J.: Arrangements of platinum electrodes in amperometric detectors for detection of hydroxy and amino derivatives of polycyclic aromatic hydrocarbons. *Modern Electrochemical Methods 2009*. Barek J. and Nesměrāk K. (Eds.), **103** (2009) pp. s272–s272, Česká společnost chemická – Chemické listy, Prague, Czech Republic.
- [2] Dejmikova H., Vysoka M., **Zavazalova J.**, Zima J., Barek J.: Electrochemical determination of propyl gallate on carbon paste electrode. *XXX. Modern Electrochemical Methods*. Navratil T. and Barek J. (Eds.), (2010) pp. 26–29, BEST Servis Ústí nad Labem, Jetřichovice, Czech Republic.
- [3] Dejmikova H., Barek J., Dedik J., Janovcova M., Maixnerova L., Ramesova S., **Zavazalova J.**, Peckova K.: Nové možnosti amperometrické detekce aminoderivátů polycyklických aromatických uhlovodíků v HPLC. *63<sup>th</sup> Chemical Congress*, **7** (2011) pp. 71–72, Slovenská chemická spoločnosť – ChemZi, Tatry, Slovakia.
- [4] **Zavazalova J.**, Dejmikova H., Barek J., Peckova K.: Voltammetric determination of amino derivatives of naphthalenes using boron-doped diamond film electrode. *XXXII. Modern Electrochemical Methods*. Navratil T. and Fojta M. (Eds.), (2012) pp. 159–162, BEST Servis Ústí nad Labem, Jetřichovice, Czech Republic.
- [5] **Zavazalova J.**, Barek J., Peckova K.: Utilization of boron-doped diamond thin film electrode in electroanalysis of selected derivatives of amino derivatives of polycyclic aromatic hydrocarbons. *8<sup>th</sup> International Student Conference 'Modern Analytical Chemistry'*. Nesměrāk K. (Ed.), (2012) pp. 41–44, Charles University in Prague, Prague, Czech Republic.

- [6] **Zavazalova J.**, Ghica M. E., Berek J., Peckova K., Brett C. M. A.: Voltammetric determination of selected aminonaphthalenes at different electrode surfaces. *9<sup>th</sup> International Students Conference 'Modern Analytical Chemistry'*. Nesměrāk K. (Ed.), (2013) pp. 115–116, Charles University in Prague, Prague, Czech Republic.
- [7] Vosahlova J., **Zavazalova J.**, Peckova K.: Vliv koncentrace bóru na elektrochemické vlastnosti bórem dopovaných diamantových elektrod pro elektroanalýzu. *15<sup>th</sup> Student Scientific Conference*. Hornacek M. (Ed.), (2013) pp. 88–89, Slovak University of Technology, Bratislava, Slovakia.
- [8] Vosahlova J., **Zavazalova J.**, Peckova K.: Bórem dopované diamantové elektrody: Vliv koncentrace bóru na stanovení 2-aminobifenyly. *17<sup>th</sup> annual competition "O cenu firmy Merck 2014"*. Berek J. and Vyskocil V. (Eds.), (2014) pp. 161–167, Česká společnost chemická – Chemické listy, Pardubice, Czech Republic.
- [9] Nezbedova M., **Zavazalova J.**: Studium vlastností bórem dopované diamantové elektrody v přítomnosti vybraných surfaktantů. *Studentská vědecká konference – Jsem mladý vědec!* (2014), Národní technická knihovna v Praze, Praha, Česká republika.
- [10] **Zavazalova J.**, Prochazkova K., Nezbedova M., Peckova K.: Voltammetric determination of benzophenone-3 at boron-doped diamond electrode. *XXXIV. Modern Electrochemical Methods*. Navratil T., Fojta M. and Peckova K. (Eds.), (2014) pp. 242–245, Srsenova Lenka-Best Servis Ústí nad Labem, Jetřichovice, Czech Republic.
- [11] Benesova L., Hammer P., Vosahlova J., **Zavazalova J.**, Peckova K.: Electrochemical behavior of oxygen-terminated boron-doped diamond electrodes in different electrolyte media. *XXXIV. Modern Electrochemical Methods*. Navratil T., Fojta M. and Peckova K. (Eds.), (2014) pp. 19–22, Srsenova Lenka-Best Servis Ústí nad Labem, Jetřichovice, Czech Republic.
- [12] Peckova K., **Zavazalova J.**, Benesova L., Sloufova I., Vosahlova J., Berek J.: Oxygen-terminated boron-doped diamond electrodes in electroanalysis of biologically active organic compounds. *15<sup>th</sup> International Conference on Electroanalysis – ESEAC 2014*, (2014) p. 79, International Conference on Electroanalysis, Malmo, Sweden.
- [13] **Zavazalova J.**, Prochazkova K., Nezbedova M., Peckova K.: Utilization of boron-doped diamond electrode in electroanalysis of benzophenone-3. *10<sup>th</sup> International Student Conference 'Modern Analytical Chemistry'*. Nesměrāk K. (Ed.), (2014) pp. 54–55, Charles University in Prague, Prague, Czech Republic.
- [14] Prochazkova K., **Zavazalova J.**, Schwarzova K.: Stanovení benzofenonu-3 na bórem dopované diamantové filmové elektrodě. *16<sup>th</sup> Student Scientific Conference*. Bakosova M., Hornacek M. and Oravec J. (Eds.), (2014) pp. 17–18, Slovak University of Technology Bratislava, Slovakia.
- [15] Vosahlova J., **Zavazalova J.**, Petrak V., Schwarzova-Peckova K.: Boron-doped diamond electrodes in electroanalysis of reducible organic compounds. *XXXV. Modern Electrochemical Methods*. Navratil T., Fojta M. and Schwarzova K. (Eds.), (2015) pp. 275–279, Srsenova Lenka-Best Servis Ústí nad Labem, Jetřichovice, Czech Republic.

Poster presentation

- [1] Dejmková H., Maixnerová L., **Zavazalová J.**, Barek J., Pecková K.: Ampérometrická detekce genotoxických aminoderivátů polycyklických aromatických uhlovodíků s využitím platinových a bórem dopovaných diamantových elektrod. *62<sup>th</sup> Chemical Congress*, **104** (2010) p. 460, Česká společnost chemická – Chemické listy, Pardubice, Czech Republic.
- [2] Dejmková H., **Zavazalová J.**, Barek J., Pecková K.: Determination of aminobiphenyls and aminonaphthalenes using HPLC with amperometric detection on platinum tubular electrode. *Electrochem 2010: Electrochemistry and Sustainability*, (2010) p. 12, Society of Chemical Industry, Telford, United Kingdom.
- [3] **Zavazalová J.**, Dejmková H., Barek J., Ramesová S., Pecková K.: Ampérometrická detekce genotoxických aminoderivátů polycyklických aromatických uhlovodíků v HPLC s využitím platinového mikrocyklindrického detektoru. *63<sup>th</sup> Chemical Congress*, **7** (2011) p. 174, Slovenská chemická spoločnosť – ChemZi, Tatry, Slovakia.
- [4] **Zavazalová J.**, Dejmková H., Barek J., Pecková K.: Voltammetric and amperometric determination of mixtures of aminobiphenyls and aminonaphthalenes using boron-doped diamond film electrodes. *14<sup>th</sup> International Conference on Electroanalysis – ESEAC 2012*, (2012) p. 175, National Institute of Chemistry, Portorož, Slovenia.
- [5] **Zavazalová J.**, Housková L., Zima J., Barek J., Dejmková H.: The application of HPLC with electrochemical detection for the determination of pesticide chlorotoluron. *4<sup>th</sup> EuCheMS Chemistry Congress*, **106** (2012) p. s1158, Česká společnost chemická – Chemické listy, Prague, Czech Republic.
- [6] Vosahlová J., Fahnrichová B., **Zavazalová J.**, Petrak V., Sloufova I., Barek J., Pecková K.: Effect of doping level on electrochemical performance of boron-doped diamond electrodes in electroanalysis of organic compounds. *The XVII European Conference on Analytical Chemistry EUROANALYSIS*, (2013), Warsaw, Poland.
- [7] Vosahlová J., **Zavazalová J.**, Sloufova I., Petrak V., Barek J., Pecková K.: Influence of boron concentration on electroanalytical performance of anodically oxidized boron-doped diamond electrodes. *International Conference on Diamond and Carbon Materials*, (2013), Riva del Garda, Italy.
- [8] **Zavazalová J.**, Vosahlová J., Hammer P., Pecková K.: Boron Doped Diamond Electrode: Influence of Boron Doping Level on Potential Window and Determination of Oxidizable Organic Compound. *15<sup>th</sup> International Conference on Electroanalysis – ESEAC 2014*, (2014) p. 240, International Conference on Electroanalysis, Malmo, Sweden.
- [9] Benesová L., Hammer P., **Zavazalová J.**, Pecková K.: Elektrochemická oxidace vybraných fytoosterolů na bórem dopovaných diamantových elektrodách. *XIII. konferencia s medzinárodnou účasťou Súčasný stav a perspektívy analytickej*

*chemie v praxi*. Hrouzkova S. and Majek P. (Eds.), (2014) pp. 118–119, Slovak University of Technology Bratislava, Slovakia.

[10] **Zavazalova J.**, Vosahlova J., Prochazkova K., Sloufova I., Schwarzova-Peckova K.: Comparison of electrochemical and spectral characteristics of laboratory-made and commercially available boron-doped diamond electrodes with different boron content. *The XVIII European Conference on Analytical Chemistry EUROANALYSIS*, (2015) p. 226, Bordeaux, France.