

Curriculum vitae

Name, titles: **Doc. RNDr. Karolína Šišková, Ph.D.**

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Research ID: H-4388-2011

Citation report according to WoS (on June 2, 2025)

Results found: 57

Sum of the Times Cited [?] : 1874

Sum of Times Cited without self-citations [?] : 1794

h-index [?] : 22

According to Scopus – from 31st March 2025: 55 articles, H index 24 Citations 2031
(1888 without self citations)

RESEARCH INTEREST - EXPERTISE

Noble metal nanostructures (nanoparticles, nanoclusters) – engineered and spontaneously formed; zero-valent iron nanoparticles; iron oxide nanoparticles; high-valent oxo-iron; ferrates; nanomaterial wet syntheses; nanomaterial characterization; surface modification of nanostructures; surface coating of nanostructures; functional nanocomposites; Raman and surface-enhanced Raman scattering spectroscopies; UV-vis and infrared absorption spectroscopies; steady-state fluorescence; dynamic light scattering; zeta potential measurements; detection of biomolecules and/or contaminants at low concentration; mechanisms of nanomaterial formation; mechanisms of ferrates transformation; mechanisms of pollutants degradation.

EDUCATION:

- **Habilitation in physical chemistry** – 1st November 2014
- **French-Czech co-tutelle PhD studies:** september 2003 – December 2006
a/ *University Paris VI (Pierre et Marie Curie)* at the INTER///BIO (Interface of Physics, Chemistry and Computing Science with Biology). Research made at *BioMoCeTi* (Biophysique Moléculaire, Cellulaire et Tissulaire) laboratory (located at GENOPOLE Campus 1, 91030 Evry). French supervisor = *Prof. Pierre-Yves Turpin*.
b/ *Charles University in Prague, Faculty of Science, Dept. of Physical and Macromolecular chemistry*. Czech supervisor = *Prof. Blanka Vlčková*.
- 2007 = RNDr. *Charles University in Prague, Faculty of Science, Dept. of Physical and Macromolecular chemistry*.
- **Master degree:** 1998- 2003
Department of Physical and Macromolecular chemistry of the Faculty of Science at Charles University in Prague – Studies *summa cum laude*
final exams: physical chemistry, chemical physics and macromolecular chemistry.
Diploma Thesis entitled „SERS-active systems generated by silver nanoparticle growth in the presence of adsorbates“ under the supervision of *Prof. Blanka Vlčková*.

EMPLOYMENT:

- December 2006 – June 2009 = **Postdoctoral fellow** - project Nanopolysolar, Dept. of Electronic phenomena, Polymer materials, Institute of Macromolecular Chemistry, Academy of Sciences Czech Republic, Heyrovsky sq. 2, Prague 6, Czech Republic
- September 2008 – June 2009 = **Fulbright Scholarship for researchers** (topic of the project: „Investigation of charge transfer in semiconductive polymer, metal nanoparticle and

chromophore nanocomposites for application in organic solar cells”) in the group of prof. Nguyen, Institute for Polymers and Organic Solids, UCSB, 93106 Santa Barbara, California, USA.

- July 2009 – August 2010 = **junior researcher** at Department of Physical Chemistry and Centre for Nanomaterials Research, Faculty of Science, Palacky University, Olomouc, Czech Republic.
- September 2010 – August 2016 = **assistant professor** at Dept. of Physical Chemistry and **junior researcher** at Centre of Advanced Technologies and Materials (RCPTM), Faculty of Science, Palacky University, Olomouc, CR.
Note: January 2014 – August 2016 = maternity leave
- September 2016 – April 2018 = junior researcher at Dept. Of Biophysics, Faculty of Science, Palacky University in Olomouc
- Since May 2018 till September 2019 = **associate professor** at Dept. Of Biophysics, Faculty of Science, Palacky University in Olomouc
- October 2019 – April 2020 = maternity leave
- May 2020- December 2020 = associate professor at Dept. Of Biophysics, Faculty of Science, Palacky University in Olomouc
- From January 2021 = **associate professor** at Dept. Of Experimental Physics, Faculty of Science, Palacky University in Olomouc

MEMBERSHIP

Topic editor of topic „Functional surface modifications of nanostructures“ for the journals IJMS, Nanomaterials, Materials, Polymers, Nanomanufacturing (MDPI, Switzerland) -

<https://www.mdpi.com/topics/HMM87Q63TK>

Guest editor of the special issues within Nanomaterials:

- [Nanomaterials | Special Issue : Preparation and Application of Noble Metal and Semi-Conductive Nanoparticles \(mdpi.com\)](#)
- https://www.mdpi.com/journal/nanomaterials/special_issues/SERS_nano
entitled: „SERS/SERRS-Active Nanostructures and Nanocomposites“

Member of organizing committee of ISIAME 2022, 11-16 September 2022, Olomouc, CZ

LANGUAGES SKILLS

English (FCE exam = The first Certificate in English - December 2005)

French (DEL F B2 exam = Diplôme d'étude de la langue française - June 2007)

German (baccalaureate exam - May 1998)

Czech (mother tongue)

PREVIOUS GRANTS and SCHOLARSHIPS

- **Barrande** project no. **8J20FR024** (2020-2021) entitled: “Development and validation of bimetallic hybrid nanoprobe for bio-analytical SERS” awarded by MEYS (156,000 CZK)
- Mentor in PhD student grant (**DSGC-2021-0113**) awarded by MEYS (1.198 millions CZK)
- **GACR: 19-03207S** (2019-2021) – principal investigator (co-investigator = Assoc. Prof. Ing. Daniel Jiráček, Ph.D.): “Bimetallic and trimetallic fluorescent nanoclusters: synthesis, physico-chemical properties, and application in bio-imaging” (whole dotation: 7.510 millions CZK; for UP: 3.627 millions CZK)
- **GACR: P108/11/P657 (2011-2013)** – principal investigator: “Preparation and characterization of new composite materials containing amino acids, iron oxides and silver or gold nanoparticles” (1.296 millions CZK)
- **FRVS A (2011)** – K.S. as a co-investigator; principal investigator = Prof. Michal Otyepka
- **MPO TIP project NANORADI (2011-2014)** – K.S. as a team member (on behalf of Palacký University Olomouc)
- **Fulbright scholarship for 10-months scientific stay at UCSB** (2008-2009)
- **Scholarship for French-Czech PhD studies** (2003-2006)

CURRENT GRANTS

- **Czech Science Foundation, GA25-15590S** – Recyclable magnetic plasmonic bimetallic nanomaterials enveloped by smart polymers for SERS-detection and removal of selected pollutants from water – KS as main investigator (2025-2027; 11,691 thousands CZK in total and 6,171 thousands CZK for UP)
- **Czech Science Foundation, GA25-17563S** – Advanced characterization of nanoparticles and nanoclusters via capillary electrophoresis and related microtechniques – KS as a member of the research team (2025-2027; 5,967 thousands CZK in total)
- **Ministry of Health: NW25-08-00113** – PI (prof. Jiráček as co-investigator); Bimodal imaging of cells, via fluorescence and magnetic resonance, using new types of inorganic-organic nanocomposites alias application of luminescent nanoprobe with magnetic contrast (2025-2028; total 11,468 thousand CZK, for UP 5,717 thousand CZK)
- **Mentor of two OP JAK MSCA post-doctoral fellows** (dr. da Silva, dr. Anucha)

AWARDS

- Award of the dean of Faculty of Science, Palacký University Olomouc, for pedagogical activities (December 2023)
- Certificate of Felicitation for phenomenal and worthy oral presentation at “Advanced Materials and Processing”, Edinburgh, Scotland during September 7-8, 2017
- Reviewer Certificate from the editor of Science of the Total Environment (Fall 2013)
- Certificate of Appreciation from American Chemical Society (December 2011)
- Appreciation of presentation on Asia-Pacific Inter-finish 2010 (10th International Conference on Applied Surface Engineering, 5th International Conference of Surface and Interface Science and Engineering) by Singapore Surface Engineering Association (October 2010)
- Fulbright scholarship completion (2009)
- The best spectroscopic Diploma thesis in the national competition (December 2003), awarded by the Spectroscopic Society of J.J.Marci.

PUBLICATIONS (chronologically from the latest; book chapters in blue, monography in red or both colours if applicable):

1. V. Svačinová, T. Pluháček, M. Petr, **K. Šišková***: „Maturing conditions of bimetallic nanocomposites as a new factor influencing Au-Ag synergism and impact of Cu (II) and/or Fe (III) on luminescence“, *R. Soc. Open Sci.* **2025**, 12: 241385. (Q1 in Multidisciplinary sciences) doi: 10.1098/rsos.241385
2. **K. Šišková***: „Letter-to-the-Editor concerning „Valence-state-engineered electrochemiluminescence from Au nanoclusters“, accepted in *ACS Nano* **2024**, 18, 27103–27106, (D1 in Chemistry, multidisciplinary; D1 in Chemistry, physical; D1 in Materials Science, multidisciplinary; D1 in Nanoscience and Nanotechnology), doi: 10.1021/acsnano.4c02501
3. M. Rozenberg, M. Bárta, A. Muzikansky, M. Zysler, Y. Mastai, **K. Šišková**, D. Zitoun*: „High yield seedless synthesis of mini gold nanorods: partial silver decoupling enabling effective nanorods elongation with tunable surface plasmon resonance beyond 1000 nm and CTAB-free functional coating for mTHPC conjugation“, *Nanoscale Advances* **2024** (6), 19, pp. 4831–4841, (Q2 in Chemistry, multidisciplinary; Q2 in Materials Science, multidisciplinary; Q2 in Nanoscience and Nanotechnology). doi: 10.1039/d4na00507d
4. Zeinab Saedi, M.J. Masroor, a. Jahangirimanesh, M. Nikkhah*, A. Rezaei, **K. Siskova**: „A label free sensor array based on carbon quantum dots for detection of a-synuclein oligomers in saliva“ – *Analytical Chemistry* **2024**, 96, 12246–12253, (D1 in chemistry, analytical) <https://doi.org/10.1021/acs.analchem.4c00874>

5. V. Svačinová, A. Halili, R. Ostruszka, T. Pluháček, K. Jiráková, D. Jiráček, **K. Šišková***: „Trimetallic nanocomposites developed for efficient in vivo bimodal imaging via fluorescence and magnetic resonance“, *Journal of Materials Chemistry B* **2024**, 12 (33), pp.8153-8166, doi: 10.1039/D4TB00655K (Q1 in Materials Science, biomaterials)
 6. R. Ostruszka, A. Halili, T. Pluháček, L. Rárová, D. Jiráček, **K. Šišková***: „Advanced protein-embedded bimetallic nanocomposite optimized for *in vivo* fluorescence and magnetic resonance bimodal imaging“, *Journal of Colloid and Interface Science* **2024**, 663, 467–477, doi: 10.1016/j.jcis.2024.02.116. (Q1 in Chemistry, physical)
 7. G. Zoppellaro, R. Ostruszka, **K. Šišková***: „Engineered protein-iron and/or gold-protein-iron nanocomposites in aqueous solutions upon UVA light: Photo-induced electron transfer possibilities and limitations“, *Journal of Photochemistry & Photobiology, A: Chemistry* **2024**, 450, 115415. (Q2 in Chemistry, physical) <https://doi.org/10.1016/j.jphotochem.2023.115415>
 8. R. Ostruszka, D. Půlpánová, T. Pluháček, O. Tomanec, P. Novák, D. Jiráček, **K. Šišková***: „Facile one-pot green synthesis of magneto-luminescent bimetallic nanocomposites with potential as dual imaging agent“, *Nanomaterials* **2023**, vol. 13 (6), 1027. (Q2 in Chemistry, multidisciplinary; Q2 in Materials Science, multidisciplinary; Q2 in Nanoscience and Nanotechnology; Q2 in Physics, applied) <https://doi.org/10.3390/nano13061027>
 9. R. Ostruszka, G. Zoppellaro*, O. Tomanec, D. Pinkas, V. Filimonenko, **K. Šišková***: „Evidence of Au(II) and Au(0) States in Bovine Serum Albumin-Au Nanoclusters Revealed by CW-EPR/LEPR and Peculiarities in HR-TEM/STEM Imaging“, *Nanomaterials* **2022** (Q2 in Chemistry, multidisciplinary; Q2 in Materials Science, multidisciplinary; Q2 in Nanoscience and Nanotechnology; Q1 in Physics, applied), vol. 12, 1425. <https://doi.org/10.3390/nano12091425>
- Cover page: [big_cover-nanomaterials-v12-i9.png \(1748×2480\) \(mdpi.com\)](https://www.mdpi.com/1748-2480/12/9/1425)
10. I. Vilímová, **K. Šišková***: „Distinctly Different Morphologies of Bimetallic Au-Ag Nanostructures and Their Application in Submicromolar SERS-Detection of Free Base Porphyrin“, *Nanomaterials* **2021**, Vol. 11, 2185; <https://doi.org/10.3390/nano11092185>
 11. P. Andrášková, **K.M. Šišková***, Š. Michetschlagerová, K. Jiráková, M. Kubala, D. Jiráček: „The effect of fatty acids and BSA purity on synthesis and properties of fluorescent gold nanoclusters“, *Nanomaterials* **2020**, Vol. 10, Issue 2, article number: 343
 12. **K.M. Šišková***: „Cisplatin interacting with buffering media and cysteine: molecular insight due to Raman micro-spectroscopy“, *Journal of Raman Spectroscopy* **2019**, 1-9; DOI: **10.1002/jrs.5545**
 13. P. Novák, M. Kolář, L. Machala*, **K. M. Šišková***, F. Karlický, M. Petr, R. Zboril: “Transformations of ferrates(IV, V, VI) in liquids: Mössbauer spectroscopy of frozen solutions“, *Physical Chemistry Chemical Physics – November* **2018**, 20, 30247 – 30256, DOI: 10.1039/c8cp05952g
 14. **Siskova, K. M.**; Jancula, D.; Drahos, B; Machala, L; Babica, P; Alonso, PG; Travnicek, Z; Tucek, J; Marsalek, B; Sharma, VK; Zboril, R: „High-valent iron (Fe-VI, Fe-V, and Fe-IV) species in water: characterization and oxidative transformation of estrogenic hormones“, *Physical Chemistry Chemical Physics* **2016**, Volume: 18, Issue: 28, Pages: 18802-18810 DOI: 10.1039/c6cp02216b
 15. Kolar, M; Novak, P; **Siskova*, KM**; Machala*, L; Malina, O; Tucek, J; Sharma, VK; Zboril, R: „Impact of inorganic buffering ions on the stability of Fe(VI) in aqueous solution: role of

the carbonate ion“, *Physical Chemistry Chemical Physics* **2016**, vol. 18, Issue: 6, Pages: 4415-4422 DOI: 10.1039/c5cp07543b

16. **K.M. Siskova***, R. Vecerova, H. Kubickova, M. Bryksova, K. Cepe, M. Kolar: „Revisiting spontaneous silver nanoparticle formation: a factor influencing the determination of minimum inhibitory concentration values? *AIMS Environmental Science* **2015** Vol. 2, Issue 3, 607-622, DOI: 10.3934/environsci.2015.3.607 <http://www.aimspress.com/aimspress/ch/index.aspx>, from 2020 on Web of Science
17. P. Andrýsková*, **K. M. Šišková**, A. Fargašová, R. Zbořil: „Effect of noble metal nanoparticles in SERRS measurements of water-soluble porphyrins“, *Advanced Materials Research* **2015**, Vol. 1088, pp 43-47, doi: 10.4028/www.scientific.net/AMR.1088.43. **Not included on WoS**
18. C. Aparicio, J. Filip, **Machalova-Siskova K.**, Mashlan M., Spanhel L.: „Fe-lactate mediated formation of ZnO sols and self-organized nanorod assemblies“, *Journal of Sol-Gel Science and Technology* **2014**, Volume: 72 Issue: 3 Pages: 655-662 **Due to a hyphen in my last name, it is not not included in my citation report generated on WoS!**
19. Kohout, Tomas; Cuda, Jan, Britt Daniel, Bradley Todd, Tucek Jiri, Skala Roman, Kletetschka Gunther, Kaslik Josef, Malina Ondrej, **Siskova Karolina**, Zboril Radek.: „Space weathering simulations through controlled growth of iron nanoparticles on olivine“ *ICARUS* **2014**, Volume: 237 Pages: 75-83
20. Z. Markova, P. Novak, J. Kaslik, P. Plachtova, M. Brazdova, D. Jancula, **K. M. Siskova**, L. Machala, B. Marsalek, R. Zboril, R. Varma: „Iron(II,III)Polyphenol Complex Nanoparticles Derived from Green Tea with Remarkable Ecotoxicological Impact“, *ACS Sustainable Chemistry* **2014** DOI 10.1021/sc5001435
21. N. F. Adegboyega, V. K. Sharma, **K.M. Siskova**, R. Vecerova, M. Kolar, R. Zboril, J. L. Gardea-Torresdey: „Enhanced formation of silver nanoparticles in Ag⁺-NOM-iron(II, III) systems and antibacterial activity studies“ – *Environ. Sci. Technol.* **2014**, 48, 6, pp 3228-3235
22. K. Hola, A.B. Bourlinos, O. Kozak, K. Berka, **K.M.Siskova**, M. Havrdova, J. Tucek, K. Safarova, R. Zboril*, M. Krysmann, E. P. Giannelis*: „Photoluminescence effects of graphitic core size and surface functional groups in carbon dots: carboxylates-induced red-shift emission“ – *Carbon* **2014**, Vol. 70, pp. 279-286 (IF 5.868)
23. V.K. Sharma, **K. M. Šišková**, R. Zbořil: „Organic-coated silver nanoparticles in biological and environmental conditions: fate, stability and toxicity“ – review in *Advances in Colloid and Interface Science* **2014**, Vol. 204, pp. 15-34 (published February 2014), <http://dx.doi.org/10.1016/j.cis.2013.12.002> (IF 6.169)
24. P. Cieslarova, **K.M. Siskova**, A. Fargasova, R. Zbořil: „Anionic organic species detection using silver nanoparticles?“ Conference: **5th NANOCON International Conference** Location: Brno, CZECH REPUBLIC Date: OCT 16-18, 2013, Sponsor(s): TANGER Ltd; Czech Soc New Mat & Technologies; Reg Ctr Adv Technologies & Mat; Mat Res Soc Serbia; Norsk Materialteknisk Selskap NANOCON 2013, 5TH INTERNATIONAL CONFERENCE Pages: 203-208 **Published: 2014**
25. V. K. Sharma, Z. Homonnay, **K. Siskova**, L. Machala, R. Zboril: „Mossbauer investigation of the reaction of ferrate(VI) with sulfamethoxazole and aniline in alkaline medium“ – *Hyperfine Interactions* **2014**, 224, 7-13, doi: 10.1007/s10751-013-0819-4

26. **K.M. Siskova***, L. Machala, J. Tuček, J. Kašlík, P. Mojzeš, R. Zbořil: „Mixtures of L-amino acids as reaction medium for iron nanoparticles formation: the order of addition into ferrous salt solution matters“ – accepted (on 30th August 2013) in *Int. J. Mol. Sci., special issue: „Magnetic nanoparticles 2013“* Vol. 14, 19452-19473 (IF 2.598)
<http://www.mdpi.com/1422-0067/14/10/19452>
27. V.K.Sharma, **K.M. Siskova**, R. Zboril: „Magnetic bimetallic Fe/Ag nanoparticles: decontamination and antimicrobial agents“ – accepted as *chapter 11*, pp 193-209, in ACS book entitled "Interactions of Nanomaterials with Emerging Environmental Contaminants"; Editor(s): Ruey-an Doong¹, Virender K. Sharma², Hyunook Kim³; Volume 1150; Publication Date (Web): October 29, 2013; Copyright © 2013 American Chemical Society
28. M. Pykal, K. Šafářová, **K. M. Šišková**, P. Jurečka, A.B. Bourlinos, R. Zbořil, M. Otyepka: „Lipid enhanced exfoliation toward high yield graphene nanoplatelets production“ – *J. Phys. Chem. C* **2013**, 117, 22, 11800-11803
29. Z. Markova, **K. M. Siskova***, J. Filip, J. Cuda, M. Kolar, K. Safarova, I. Medrik, R. Zboril*: „Air stable magnetic bimetallic Fe-Ag nanoparticles for advanced antimicrobial treatment and phosphorus removal“ – *Environ. Sci. Technol.* **2013**, 47, 10, 5285-5293
30. M.Holba, J. Matysíková, M. Došek, D. Jančula, P. Mikula, B. Maršálek, E. Maršálková, P. Babica, P. Novák, **K. Šišková**, R. Zbořil, K. Kejvalová: „Dočištění a hygienizace komunálního odtoku z ČOV pomocí směsi železanů/železičnanů a nanočásteček nulamocného železa“ – *Vodní hospodářství* **2013**, 63, 5, 144-149. (*not included in WoS*)
31. **K. M. Šišková***, J. Stráská, M. Křížek, J. Tuček, L. Machala, R. Zbořil: „Formation of zero-valent iron nanoparticles mediated by amino acids“ – *Procedia Environmental Science* **2013**, 18, 809-817. (*not included in WoS*)
32. N.F. Adegboyega, V.K. Sharma*, **K. Siskova**, R. Zboril, M. Sohn, S. Banerjee, „Interactions of aqueous Ag⁺ with fulvic acids: Mechanisms of silver nanoparticle formation and investigation of stability“ – *Environ. Sci. Technol.* **2013**, 47, 757-764
33. J. Frydrych, L. Machala, J. Tuček, **K. Siskova**, J. Filip, J. Pechousek, K. Safarova, M. Vondracek, J.H.Seo, O. Schneeweiss, M. Gratzel, K. Sivula, R. Zboril: „Facile Fabrication of Tin-Doped Hematite Photoelectrodes - Effect of Doping on Magnetic Properties and Performance for Light-Induced Water Splitting“ – *J. Mater. Chem.* **2012**, 22 (43), 23232 – 23239
34. V.K. Sharma, **K. Šišková**, L. Machala, R. Zbořil: „Mechanism of oxidation of cysteine and methionine by ferrate(VI): Mossbauer investigation“ – *AIP Conf. Ser.* **2012**, 1489, 139-144
35. M. Petr, **K. Siskova**, L. Machala, J. Kaslík, K. Safarova, R. Zboril: „Laser-induced transformations of zero-valent iron particles“ – *AIP Conf. Ser.* **2012**, 1489, 47-55
36. **K.Siskova***, O. Bečička, K. Safarova, R. Zboril: „HCl effect on two types of Ag nanoparticles utilizable in detection of low concentrations of organic species“ - *chapter in the book: SUSTAINABLE NANOTECHNOLOGY AND THE ENVIRONMENT: ADVANCES AND ACHIEVEMENTS* Book Series: *ACS Symposium Series* Editor(s): Shamim, N; Sharma, VK Volume: 1124 Pages: 151-163 Published: 2013
37. Z. Marková, **K. Šišková***, J. Filip, K. Šafářová, R. Prucek, A. Panáček, M. Kolář, R. Zbořil*: „Chitosan-based synthesis of magnetically-driven biocompatible silver nanocomposites with high antibacterial and antifungal activity“ – *Green Chem.* **2012**, 14, 2550-2558

38. Z. Markova, A. Bourlinos, K. Safarova, K. Polakova, J. Tucek, I. Medrik, **K. Siskova**, J. Petr, M. Krysmann, E.P.Giannelis*, R. Zboril*: „Synthesis and properties of core-shell fluorescent hybrids with distinct morphologies based on carbon dots“ – *J.Mater.Chem.* **2012**, 22, 16219-16223
39. **K. Siskova***, J. Tuček, L. Machala, E. Otyepkova, J. Filip, K. Safarova, J. Pechousek, R. Zbořil*: „Air-stable nZVI modified by glutamic acid: solid-state storable material exhibiting 2D chain morphology and high reactivity in aqueous environment” – *Journal of Nanoparticle Research* **2012** Volume 14, Number 4, 805, 1-13, DOI: 10.1007/s11051-012-0805-9
40. A. B. Bourlinos, K. Safarova, **K. Siskova**, R. Zboril: „The production of chemically converted graphenes from graphite fluoride“ – *Carbon* **2012**, Volume 50, Issue 3, Pages 1425-1428
41. **K. Siskova***, O.Becicka, V. Masek, K. Safarova, R. Zboril: „Spacer-free SERRS spectra of unperturbed porphyrin detected at 100 fM concentration in Ag hydrosol prepared by modified Tollens method“ – *J. Raman Spectrosc.* **2012**, 43, 689-961, Article first published online: 11 NOV 2011, DOI: 10.1002/jrs.3098
42. **K. Siskova***: „Pulsed-laser ablation of Au foil in primary alcohols influenced by direct current“ – chapter in the book entitled „Lasers – Applications in Science and Industry“, K. Jakubczak (Ed.), InTech (publisher), 2011, ISBN 978-953-307-755-0, <http://www.intechopen.com/articles/show/title/pulsed-laser-ablation-of-au-foil-in-primary-alcohols-influenced-by-direct-current> (not included in WoS)
43. J.Filip, R.A. Yngard, **K. Siskova**, Z. Marusak, V. Ettler, P. Zajel, V.K. Sharma*, R. Zboril*: „Mechanisms and efficiency of the simultaneous removal of metals and cyanides by using ferrate(VI): crucial roles of nanocrystalline iron(III) oxyhydroxides and metal carbonates“ – *Chem. Eur. J.* **2011**, 17, 10097-10105
44. **K. Siskova***, K. Safarova, J.H.Seo, R. Zboril, M. Mashlan: „Non-chemical approach toward 2D self-assemblies of Ag nanoparticles via cold-plasma treatment of substrates „ – *Nanotechnology* **2011**, 22, 275601 (7pp)
45. **K.Šišková***, B. Vlčková*, P.-Y. Turpin, A. Thorel, M. Procházka: „Laser ablation of silver in aqueous solutions of organic species: Probing Ag nanoparticle-adsorbate systems evolution by surface-enhanced Raman and surface plasmon extinction spectra“ – *J.Phys.Chem. C* **2011**, 115, 5404-5412, DOI: 10.1021/jp110907d
46. **K. Šišková***, Martin Kubala, Panagiotis Dallas, Dalibor Jančík, Alain Thorel, Petr Ilík and Radek Zbořil: „Effect of Surface Modification on Fluorescence and Morphology of CdSe Nanoparticles Embedded in 3D Phosphazene-Based Matrix: Nanowire-like Quantum Dots“ - *J. Mater. Chem.* **2011**, 21, 1086-1093.
47. **K. Šišková***, J. Pflieger, M. Procházka: „Stabilization of Au nanoparticles prepared by laser ablation in chloroform with porphyrin molecules“ – *Applied Surface Science* **2010**, 256, 2979-2987.
48. **K. Šišková**, „Opticky husté, ale fyzicky velmi tenké vrstvy aneb nové trendy ve fotovoltaice využitím nanočástic“, *AZ elektro*, květen-červen **2010**, 40-45. (not included in WoS)

49. M. Sládková, B. Vlčková*, I. Pavel, **K. Šišková**, M. Šlouf: „Surface-Enhanced Raman Scattering from a Single Molecularly-Bridged Silver Nanoparticle Aggregate“ – *J. Mol. Struct.*, **2009**, 924-26, 567-570.
50. **K. Šišková***, B. Vlčková, P.-Y. Turpin, C. Fayet „Ion-specific effects on laser ablation of silver in electrolyte aqueous solutions“ – *J. Phys. Chem. C*. **2008**, 112, 4435-4443.
51. **K. Šišková**, B. Vlčková*, P.-Y. Turpin, A. Thorel, A. Grosjean: „Porphyrins as SERRS spectral probes of chemically functionalized Ag nanoparticles“ – *Vibrat. Spectrosc.* **2008**, doi: 10.1016/j.vibspec.2008.04.006
52. I. Šloufová, **K. Šišková**, B. Vlčková*, J. Štěpánek „SERS-activating effect of chlorides on borate-stabilized silver nanoparticles: formation of new reduced adsorption sites and induced nanoparticle fusion“ – *Phys. Chem. Chem. Phys.* **2008**, 10, 2233 - 2242.
53. B. Vlčková*, M. Moskovits*, I. Pavel, **K. Šišková**, M. Sládková, M. Šlouf: „Single-Molecule Surface-Enhanced Raman Spectroscopy from a Molecularly Bridged Silver Nanoparticle Dimer“ – *Chem. Phys. Lett.*, **2008**, 455, 131–134.
54. P. Smejkal, B. Vlckova, I. Pavel, M. Moskovits, M. Sladkova, **K. Siskova**, M. Slouf: „Nanocomposites with strong optical resonances: Silver nanoparticles-organic molecules system – *Proceedings of the ASME 2nd multifunctional nanocomposites and nanomaterials conference*, **2008**, pp 193-198
55. **K. Šišková***, B. Vlčková, P.-Y. Turpin, C. Fayet, J. Hromadková and M. Šlouf „Effect of citrate ions on laser ablation of Ag foil in aqueous medium“ - *J. Phys.: Conf. Ser.* **2007** Vol. 59 202-205 doi:10.1088/1742-6596/59/1/044
56. B. Vlckova*, I. Pavel, M. Sladkova, **K. Siskova**, M. Slouf, „Single molecule SERS: Perspectives of analytical applications“ *J. Mol. Struct.* **2007**, 834-36, 42-47
57. **K. Šišková**, B. Vlčková*, P. Mojzeš „Spectral detection of J-aggregates of cationic porphyrin and investigation of conditions of their formation“ - *J. Mol. Struct.* **2005** Vol 744-747C, 265-272.
58. P. Šmejkal*, J. Pflieger, **K. Šišková**, B. Vlčková, O. Dammer, M. Šlouf „In-situ study of Ag nanoparticle hydrosol optical spectra evolution during laser ablation/fragmentation“ *Appl. Phys. A (Materials Science & Processing)* **2004** Vol. 79, No. 4-6, 1307-1309. (*not included in WoS*)
59. Šmejkal, P.; **Šišková, K.**; Vlčková, B*; Pflieger, J.; Šloufová, I.; Šlouf, M.; Mojzeš, P. “Characterization and surface-enhanced Raman spectral probing of silver hydrosols prepared by two-wavelength laser ablation and fragmentation”- *Spectrochim. Acta Part A* **2003**, 59, 14, 2321-2329.

PATENT

Č. **303566** awarded by Industrial Property Office of the Czech Republic, presented in Věstník 12.12.2012 as follows: Způsob depozice nanočástic kovů na povrch substrátu; původci: **K. Šišková**, K. Šafářová, M. Mašlák

CONFERENCE CONTRIBUTIONS

Oral:

1. K. Šišková et al.: „Noble metal nanostructures used in spectroscopies“ - **invited talk**, **Czech-Slovak Spectroscopic Conference, Kurdějov, CR, May 27-31, 2024**
2. K. Šišková et al.: Bimodal FI and MRI contrast agents based on bimetallic and/or trimetallic nanocomposites – **keynote lecture**, **Workshop – Development of Molecular Probes for Magnetic Resonance and Optical Imaging, Janov nad Nisou, Bedřichov, CR, 21. - 23. 5. 2024**
3. K. Šišková et al.: „Dual-responsive nanoprobe combining luminescent Au and/or Au-Ag nanostructures with superparamagnetic iron oxide nanoparticles“ – **8th Nano Today Conference, San Diego, California, USA, 22-25 April 2023**
4. K. Šišková et al.: „Bimetallic Au-Fe(III) nanocomposites for multimodal imaging“ – **ECSBM, Rheims, France, 29. 8. – 1. 9. 2022**
5. K. Šišková et al.: „Bimetalické nanokompozity obsahující fluorescentní Au nanoklastry a superparamagnetické Fe(III) částice“ – **74. sjezd chemiků, Olomouc, Czech Republic, 4. 9. – 7. 9. 2022**
6. K. M. Šišková: „Trimetallic nanocomposites serving as fluorescent and magnetic imaging probes“, **ICAME, Brasov, Romania, September 5-10, 2021, online lecture**
7. K. M. Šišková: „Raman and SERS studies of the large cytoplasmic loop of sodium-potassium pump“, **16th Czech-Slovak Spectroscopic Conference, Invited lecture, Luhačovice, May 27-31, 2018, CR**
8. K. M. Šišková: „Interaction of nanoparticles with amino acids and a physiologically important model protein studied by spectroscopic techniques“, **11th International Conference on Advanced Materials and Processing 2017, Edinburgh, Scotland, 7.-9.9.2017**
9. K. Machalova Siskova, et al.: „Importance of type of silver nanoparticle coating“, **Nanocon 2013, Brno, 16.-18.10. 2013, CR.**
10. K. Machalova Siskova, Z. Marková, J. Filip, J. Čuda, K. Šafářová, I. Medřík, M. Kolář, R. Zbořil, „From magnetic bimetallic nanoparticles synthesis to their application: Advanced antimicrobial treatment and phosphorus removal“, **ICN+T 2013, Paris, 9.9-13.9.2013, France**
11. K. Šišková, O. Becicka, K. Šafarova, R. Zboril: „SERRS spectral behavior of modified Tollens method prepared Ag nanoparticles and the effect of HCl“, **ESAC, High Tatras, 7-12.10. 2012, Slovakia**
12. K. Siskova, „New double shell zero-valent iron nanoparticles with high potential of halogenated organic compounds removal“, **ACS Fall meeting, Philadelphia 19-23.8. 2012, USA.**
13. K. Siskova: „Amino acid-mediated formation of nanoscale zero-valent iron“, **MSMS conference, Olomouc, CR, 11-15.6.2012**
14. K. Siskova: „Air-stable inorganic-organic double shell zero-valent iron nanoparticles highly efficient for removal of organic pollutants from aqueous environment“, **Closing conference Nanosystems, Olomouc, CR, 17.5.2012**
15. K. Šišková: „Noble metal nanoparticles prepared by environmentally friendly methods and their application in SERS/SERRS“, **ACS Spring meeting, San Diego, California, USA, 25.-29.3. 2012**
16. K. Šišková: „SERS on noble metal nanoparticles prepared by green syntheses“, **Florida Institute of Technology, Melbourne, Florida, USA, 22.3. 2012**
17. K. Šišková: „Easy detection of pM porphyrin concentrations using silver nanoparticles“, **Nano-2012 (Conference on Nanotechnology and Nanomedicine), Omaha, Nebraska, USA, 12.-14.3. 2012**
18. K. Šišková et al.: „Silver nanoparticles from the spectroscopic viewpoint“, **1st RCPTM conference, 25.11.2011, Hrubá Voda, CR**
19. K. Šišková, J. Tuček, L. Machala, E. Otyepková, K. Šafářová, J. Pechoušek, R. Zbořil: „Na vzduchu stabilní NZVI modifikované kyselinou glutamovou“ – **Mossbauerovské rojení 2011, 20.4. 2011, Olomouc, CR**
20. K. Šišková, K. Šafářová, R. Zbořil, M. Mašláň: „Functional tailoring of substrates by non-chemically attached noble metal nanoparticles“ – **invited lecture. APIC (Asia Pacific Interfinish Conference), Singapore, October 19-22, 2010.**

21. K. Šišková, M. Uchman: „Mikroskopie pomocí rastrovací sondy (AFM/STM)“ **Conference of PhD students: Marie Curie POLYAMPHI project (GAČR 203/05/H001)**, Mai 16, **2008, Prague**; Book of abstracts, p. 32.
22. K. Šišková, B. Vlčková, P.-Y. Turpin, C. Fayet, J. Hromádková, M. Šlouf: „A new approche to controlled preparation of chemically modified Ag nanoparticles: laser ablation of Ag in aqueous solutions and role of bulky ions”- **in french**
Colloque Nano-hybrides 3: Elaboration et fonctionnalisation de nano-hybrides Bio-applications, 5-9 june **2006 Porquerolles, France**
23. K. Šišková, B. Vlčková, P.-Y. Turpin, A. Thorel, A. Grosjean: „Nové funkcionalizované nanočástice pro SERRS spektrální detekci nízkých koncentrací porfyrinů” **Workshop: Detekce kinetických a strukturních charakteristik interakcí bioaktivních molekul s jejich biologickými terči**, 7.-8. 12. **2006 Praha, CR.**
24. Vlčková, B., Moskovits, M., I. Pavel, Siskova, K., Sladkova, M., Smejkal P., Slouf, M.: „Časový vývoj SERS signálu získaného z molekulárně-můstkovaného dimeru Ag nanočástic” **Workshop: Detekce kinetických a strukturních charakteristik interakcí bioaktivních molekul s jejich biologickými terči**, 7.-8. 12. **2006 Praha, CR.**
25. K. Šišková, B. Vlčková, P.-Y. Turpin, C. Fayet, J. Hromádková and M. Šlouf: „Laser ablation of Ag foil in aqueous medium: Effect of citrate ions“ **Conference of PhD students: Marie Curie POLYAMPHI project (GAČR 203/05/H001)**, September 30, **2005, Prague**; Book of abstracts, p. 32.
26. K. Šišková, B. Vlčková, P.-Y. Turpin, C. Fayet: „Ag nanoparticles formation by laser ablation in presence of salts“ in Proceedings of the International Conference NANO'04 ; **Brno**, Czech Republic, November 13-15 **2004**. P. Šandera. Ed., VUTIUM Brno 2004; p. 19-24 - ISBN: 80-214-2793-0.
27. K. Šišková, B. Vlčková, P. Mojzeš, M. Šlouf: „New SERS-active systems based on adsorbate-mediated growth of silver nanoparticles“ XXVII European congress on molecular spectroscopy = **EUCMOS**; September **2004**; Editors: M. Handke, M. Hasík, C. Paluszkiwicz; **Krakow**; p. 114.
28. Šišková, K.; Vlčková, B.; Mojzeš, P.; Šlouf, M.: „Adsorbate-mediated growth of silver nanoparticles“ **Nano'03**, International Conference, VUT **Brno**, FSI, ed.: Šandera, P.; October 21-23. **2003** p. 19.
29. Šišková, K.; Vlčková, B.; Mojzeš, P.; Šlouf, M.: „SERS spectra of systems prepared by Ag nanoparticle growth in the presence of adsorbate“, **12. spectroscopic conference**; ed.: Fara, M.; VŠCHT **Prague**, 10.-12.6. **2003**. p. 30.

Posters

1. K. M. Šišková, P. Andrášková, Š. Michetschlagerová, K. Jiráková, D. Jiráček: „Noble metal nanoclusters as biocompatible probes for fluorescence imaging“ – **World Molecular Imaging Congress 2020**, 6-9 October 2020, Prague - **online**
2. K. M. Šišková, P. Andrášková, M. Kubala: „Properties of fluorescent AuNCs prepared in absence/presence/abundance of fatty acids in BSA“ – **Gordon Research Conference 2019**, Les Diablerets, Swiss, 16-21 June 2019
3. K. M. Šišková: „Interaction of engineered nanomaterials with biomolecules studied by spectroscopic techniques“ – **EUCMOS 2018**, Coimbra, Portugal, 19.-24.8.2018
4. K. Šišková, O. Bečička, V. Mašek, R. Zbořil: „SERRS spectral probing of Ag nanoparticles prepared by modified Tollens method: A cationic free-base porphyrin detection at low concentrations without using any spacer“ – **Nanocon 2011**, Brno, CR, 21.-23.9. 2011
5. Šišková Karolína, Podhájecká Klára, Pflieger Jiří: „Plasmonic nanoparticles electrode interfacial layer prepared by laser ablation/electrophoretic deposition” – poster presentation, 11th international conference **ERPOS** (Electric and related properties of organic solids), Piechowice, **Poland**, July 13-17, **2008**.
6. K. Siskova, J. Pflieger, B. Vlckova, P.-Y. Turpin, M. Slouf: „New approach to donor-acceptor nanohybrids preparation: laser ablation of metal target in presence of donor/acceptor

molecules” **COLA’07** (= Conference on Laser Ablation), **Tenerife in Spain**, September 24-28, **2007**.

7. K. Šišková, B. Vlčková, P.-Y. Turpin, A. Thorel, A. Grosjean: “Porphyrins used as SERRS activity probes of Ag nanoparticle surfaces prepared by LA in controlled citrate concentrations” **SBE’s 2nd International Conference on Bioengineering and Nanotechnology**, 5-7 September **2006 Santa Barbara, California, USA**.
8. K. Siskova, B. Vlckova, P-Y. Turpin, C. Fayet, J. Hromadkova and M. Slouf: „Effect of citrate ions on laser ablation of Ag foil in aqueous medium“ **COLA’05** (= Conference on Laser Ablation), **Banff Centre in Canada**, September **2005**.
9. B. Vlčková, K. Šišková, I. Šloufová, M. Michl, P. Šmejkal, M. Šlouf, P. Mojžeš: “Surface-enhanced Raman spectral probing of hybrid nanomaterials constituted by silver or gold nanoparticles and porphyrin molecules“ **XXVII European congress on molecular spectroscopy = EUCMOS**; September **2004**; Editors: M. Handke, M. Hasik, C. Paluszkiwicz; **Krakow**. ISBN: 83-89541-21-1.
10. K. Šišková, I. Šloufová-Srnová, B. Vlčková, P. Mojžeš: „Croissance de nanoparticules d’argent et formation d’Ag-2,2’-bipyridine de surface possédant des propriétés de transfert de charge photoinduit“ **Congrès des jeunes chercheurs**; Association des Doctorants de l’Institut Curie; **Paris 2004**: <http://jeunes-chercheurs.curie.fr/congres2004/posters/SISKOVAKarolina.htm>
11. Šišková, K.; Srnová–Šloufová, I; Vlčková, B.; Mojžeš, P.: „Role of Ag nanoparticles growth in formation of Ag-2,2'-bipyridine surface species exhibiting photoinduced charge transfer“ Book of Abstracts, **XXXVth International Conference on Coordination Chemistry (ICCC 35)** 21 -26 July 2002, **Heidelberg**, Germany. University of Heidelberg, **2002**, p. 936.

OTHER SCIENTIFIC ACTIVITIES

- 21.8.-15.9. **2000** – **9th Summer School of Vibrational spectroscopy in biophysics and biochemistry** at the Faculty of Mathematics and Physics of Charles university in Prague – active presence
- september **2001** - **9th ECSB** (European conference on spectroscopy of biomolecules) hold in Prague (main organizer: Prof. Josef Štěpánek, Institut of Biophysics at the Faculty of Mathematics and Physics of Charles university in Prague) – as a student staff support
- 30.9. **2005** – member of organizing team of **PhD students’ conference** hold in Prague at the Department of Physical and Macromolecular Chemistry at the Faculty of Science at Charles University in Prague
- 30.8. – 13.9. **2006** – for a **scientific visit in the group of Prof. M. Moskovits** at University of California in Santa Barbara
- 26.-28.6. **2007** – **Summer school of SPM** (Scanning probe microscopy), VUT, Brno, Czech Republic.
- 30.10. **2007** – **Kelvin probe AFM**, Institute of Physics Academy of Sciences Czech Republic, Cukrovarnická 122/10, Prague 6, Czech Republic.
- 19.-21.8. **2008** – **Summer school of Nanoindentation**, Czech Technical University (CVUT), Prague 6, Czech Republic.
- 17.9.-19.9. **2009** – **summer school „Nanosystemy bio-eko-tech“**, Jeseník, CR
- 30.5.-4.6. **2011** – summer school „**Physics at nanoscale**“, Devět Skal, CR
- 16.10. **2012** – **Workshop Vienna-Brno-Olomouc**, Brno, CR – involved in section B: Advanced materials
- **Guest editor** of the special issue of Nanomaterials entitled „Preparation and Application of Noble Metal and Semi-Conductive Nanoparticles“ (Nanomaterials, MDPI)“
- **Guest editor** of the special issue of Nanomaterials entitled "SERS/SERRS-active nanostructures and nanocomposites“
- **27. 1. 2023** – **Fyzikální kaleidoskop – popularization lecture (45 minutes) for grammar school students**

PEDAGOGICAL ACTIVITIES

- winter semestre 2003-04 – assistant in the subject „Practice of Physical Chemistry“ for students of 3th year of Master degree in Chemistry-Biology education for grammar schools
- winter semestre 2004-05 – assistant in the subject „Practice of Physical Chemistry“ for students of 5th year of Master degree in Chemistry education for grammar schools
- 13.6.-1.7. 2005 – theoretical and practical guidance of two French students of 3th year of Master degree in Biophysics at UPMC Paris VI on the topic of noble metal nanoparticles preparation by laser ablation
- lectures about STM (in the framework of microscopic technics lectures) at the Dept. of Physical and Macromolecular Chemistry, Faculty of Science, Charles University in Prague – November 2007
- January-March 2009 - assistant of prof. Nguyen at the lecture of General chemistry at UCSB, California, USA

Pedagogical activities at Palacky University in Olomouc:

- **KFC/SSM** – seminar about spectroscopies – winter semester 2009-10, 2010-11, 2011-12, 2012-13
- **KFC/CMMV, KFC/POK2** –both practices in summer semester 2009-10, 2010-11, 2011-12, 2012-13.
- **KFC/SPM2** – lecture about spectroscopic methods – summer semester 2010-11, 2011-12, 2012-13.
- **KFC/FMPF** – lecture about methods for investigation of nanomaterials – winter semester 2010-11, 2011-12, 2012-13.
- **KFC/BSFC** – lecture about physical chemistry for students of Nanotechnology (Dept. of Experimental Physics) – winter semester 2010-11, 2011-12, 2012-13.
- **KEF/BVS** – lecture concerning methods of vibrational spectroscopy – summer semester 2012-2013
- **KBF/BVS** - lecture concerning methods of vibrational spectroscopy – summer semester 2017-2020, 2020/2021
- **KBF/SPM** – practice of spectroscopic methods for biophysicists – summer semester 2017/18 – 2018/19, 2019/2020, 2020/2021
- **KBF/PMISP** – one task in practice of microscopic and spectroscopic methods for biophysicists and biologists – summer semester 2016/17- 2018/19

Current:

- **KEF/NVS** – lecture concerning methods of vibrational spectroscopy – summer semester 2019/2020, 2020/2021, 2021/2022, 2022/23, 2023/24
- **KEF/ NM1** - lecture concerning nanomaterials – winter semester 2017/18-2018/19, 2019/2020, 2020/2021, 2021/2022, 2022/23, 2023/24
- **KEF/NM2** - lecture concerning nanomaterials – summer semester 2017/18-2018/19, 2019/2020, 2020/2021, 2021/2022, 2022/23, 2023/24
- **Two lectures in KFC/NNM1** – (Spektroscopic methods for studying nanomaterials, Nanomaterials exploited in spectroscopic methods and/or applications using their unique optical properties) winter semester 2022/23, 2023/24, 2024/25

Co-author of the physical chemistry part of the competition called „Chemical olympiad 2011-12“ intended for talented grammar school students, co-organizer of the national round of the Chemical olympiad

Current supervision of Master's and Bachelor's diploma theses:

Bc. Adriana Václavková (biophysics) – „Au nanostructures: selected preparations in liquid solution and characterization of resulting nanostructures“

Klára Edlerová – „Nanocomposites designed for detection of selected metal ions in aqueous solution“
Tatiana Fulová – „Study of Au(III) and/or Ag(I) interaction with proteinoids“

Current supervision of PhD theses:

Mgr. Veronika Svačinová – topic: Nanostructures of noble metals in biopolymeric and polymeric matrices

Mehwish, M.Sc. – title: Protein templated Au-Pt composite nanoclusters for bio-imaging

Yasir Usman, M.Sc. – topic: Nanocomposites for biomedical applications – namely Cu, Au-Cu and electrospinning

Bc. Václav Prokůpek – topic: Kovové nanostruktury v proteinových maticích pro biomedicinské aplikace (Metallic nanostructures in protein matrices for biomedical applications)

Co-supervising PhD students as their consultant:

Mgr. Karolína Kalusová – main supervisor: Assoc. Prof. Machala; topic: ferrates and removal of estrogenic compounds

Master and Bachelor students who defended their Diploma thesis under my supervision:

- 1) Mgr. Ondřej Bečička (KEF) – 8.6. 2012, Diploma thesis title: „Určení faktorů zesílení signálu Ramanova rozptylu modelových sloučenin ve vodném roztoku vlivem přítomnosti stříbrných nanočástic různých rozměrů“ (Determination of Raman scattering enhancement factors of model compounds in aqueous solutions due to the presence of silver nanoparticles of different sizes)
- 2) Mgr. Hana Kubičková (KEF) – 10.9.2012, Diploma thesis title: „Studium interakce kyseliny glutamové a glutaminu s povrchem Ag nanočástic prostřednictvím metod vibrační spektroskopie“ (Study of interaction of glutamic acid and glutamine with the surface of Ag nanoparticles by means of vibrational spectroscopic methods)
- 3) Bc. Anna Rolečková (Bc student, KFC) – 4.6.2013, Bachelor Thesis title: „Raman and Surface-enhanced Raman spectroscopy at 532 nm excitation wavelength measured on two different setups“
- 4) Mgr. Martin Petr (KMS=co-supervisor, KEF) – 6.6. 2013, Diplommat thesis title: „Laser-induced transformations of $\text{Fe}^0\text{-Fe}_2\text{O}_3$ “
- 5) Mgr. Magdalena Bryksová (KFC, Materials chemistry) – 10.6. 2013, Diploma thesis title: „Noble metal nanoparticles prepared in the presence of chosen amino acids and/or their formation induced by chosen amino acids“
- 6) Mgr. Jana Stráská (KFC, Materials chemistry) – 10.6. 2013, Diploma thesis title: „Effect of pH on formation of iron nanoparticles in the presence of chosen amino acids“
- 7) Mgr. Pavlína Andrýsková - Cieslarová (KFC, Materials chemistry) – 2014, Diploma thesis title: „SERRS detekce vodorozpuštěných porfyrinů využitím nanočástic vzácných kovů“ SERRS detection of water-soluble porphyrins by exploiting noble metal nanoparticles
- 8) Mgr. Zdeňka Cafourková (KEF) – 2014, Diploma thesis title: „Vrstvy částic TiO_2 v interakci s vybranými látkami studované pomocí spektroskopie Ramanova rozptylu“ Layers of TiO_2 interacting with selected substances studied by Raman spectroscopy
- 9) Mgr. Jakub Šesták (KFC, Materials chemistry) – 2014; Diploma thesis title: „Vzájemné interakce vyšších a nižších oxidačních stavů železa ve vodě studované pomocí spektroskopie Mossbauerova jevu“ Interactions of higher and lower oxidation state of iron in water studied by Mossbauer effect spectroscopy
- 10) Mgr. Věra Bubeníková (Exbio) – 30.5. 2019; Diploma thesis title: „Vliv čistoty albuminu hovězího séra na fluorescenci nanoklastrů ušlechtilých kovů“ (Influence of bovine serum albumin purity on fluorescence of noble metal nanoclusters)
- 11) Bc. Erik Dostál (Biofyz) – 7.6. 2019; Bachelor thesis title: „Nanočástice v interakci s aminokyselinami studované spektroskopickými technikami“ (Nanoparticles in the interaction with amino acids studied by spectroscopic techniques)
- 12) Mgr. Iveta Vilímová (nanotech) – 12.6.2019; Diploma Thesis title (written in English): „Vlastnosti nanočástic připravených růstem ze zárodků a jejich interakce s bílkovinou“

(Properties of the nanoparticles prepared by seeded-growth method and their interaction with a protein)

- 13) Mgr. Jana Konečná (Exbio) – August 2020; Diploma Thesis title: „Deriváty cysteinu – studie prostřednictvím metod vibrační spektroskopie“ (Cysteine derivatives – study via vibrational spectroscopic methods)
- 14) Mgr. Radek Ostruszka (biofyz) – September 2020; Diploma Thesis title: „Templátová syntéza a vlastnosti bimetalických Au-Fe nanoklastry“ (Templated synthesis and properties of bimetallic Au-Fe nanoclusters)
- 15) Mgr. Kateřina Kumbárová (MBF) – September 2020; Diploma Thesis title: „Růst nanočástic vzácných kovů ze zárodků a jejich interakce s porfyriny“ (Growth of noble metal nanoparticles from seeds and their interaction with porphyrins)
- 16) Bc. Adriana Václavková (biofyz) – June 2023; Bachelor Thesis title: „Effect of silver nanoparticles' surface on their stability and bioavailability for plants“
- 17) Mgr. Matěj Bárta (nanotechnology) – August 2024; Diplomat Thesis title: „Features of Au nanostructures synthesized in solution by using selected chemical compounds“
- 18) Mgr. Václav Prokůpek (biophysics) – 2. 9. 2024, Diplomat thesis title: „Au and/or Ag nanostructures: properties and preparation by using selected amino acids“

Defended PhD theses under my supervision:

Dr. Radek Ostruszka – title: „Funkční nanokompozity pro duální zobrazování fluorescencí a magnetickou rezonancí“ (Functional nanocomposites for dual imaging via fluorescence and magnetic resonance) – defended 26th August 2024

Defended PhD theses where I served as consultant:

Dr. Martin Petr – main Supervisor: assoc. Prof. Machala; topic: laser-induced changes of iron containing materials

Dr. Kateřina Holá – main Supervisor: prof. Zbořil; topic: fluorescent carbon dots

Dr. Josef Kopp – main Supervisor: Assoc. Prof. Pechoušek; topic: ferrites for catalysis