Curriculum Vitae Ondrej Sedlacek

1) Name, affiliation

RNDr. Ondřej Sedláček, PhD. (°30/01/1985)
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2) Education

- **2010 – 2015 : PhD. in Macromolecular Chemistry**
  Charles University in Prague/Inst. of Macromolecular Chemistry CAS (supervisor Dr. Martin Hruby).
- **2007 – 2009 : MSc. in Organic Chemistry**
  Charles University in Prague/Inst. of Org. Chem. and Biochem. CAS (supervisor Prof. Antonin Holy)
- **2004 – 2007 : BSc. in Chemistry**
  Charles University in Prague/Inst. of Org. Chem. and Biochem. CAS (supervisor Prof. Antonin Holy)

3) Academic career

- **2020/6 – present : Assistant professor** at Faculty of Science, Charles University Prague, Czech Republic, head of the Polymer synthesis and Biomaterials group.
- **2017/6 – 2020/5 : FWO [PEGASUS]² Marie Sklodowska-Curie Postdoctoral Fellow** at Ghent University, Belgium (Group of Prof. Richard Hoogenboom)
- **2016/10 – 2017/3 : Postdoctoral researcher** at WPI Research Center for Materials and Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), Tsukuba, Japan (Group of Prof. Katsuhiko Ariga)
- **2015/5 – 2016/9 : Postdoctoral researcher** at Institute of Macromolecular Chemistry AS CR, Prague, Czech Republic (Group of Dr. Petr Stepanek)
- **2012/11 – 2013/3 : Fulbright Scholar** at E.O. Lawrence Berkeley National Laboratory, Berkeley, CA, USA (Group of Prof. Frantisek Svec)
- **2010/8 – 2015/4 : PhD student** (Macromolecular chemistry) at Charles University / Institute of Macromolecular Chemistry AS CR, Prague, Czech Republic (Group of Prof. Karel Ulbrich)

4) Research interests

- Advanced polymer chemistry: Synthesis of highly functional /stimuli-responsive polymer materials using controlled radical and living ionic (co)polymerizations. Development of novel photopolymerization methods.
- Synthesis of polymer-based contrast agents/tracers for MRI
- Synthesis of drug/gene delivery systems

5) Scientific output (10.1.2024)

ResearcherID: E-1345-2013
Peer-reviewed articles: 63
Book Chapter: 1
International patent applications: 1
Total number of citations: 1635 (WOS)
H-index: 22 (WOS)

6) 10 Key peer-reviewed publications

1. Bener, S., Pavlova, E., Benes, H., **Sedlacek, O.*** Thioether-based poly(2-oxazoline)s: from optimized synthesis to advanced ROS-responsive nanomaterials. *Polym. Chem.* **2023**, DOI: 10.1039/D3PY00945A.

2. **Sedlacek, O.**, Lava, K., Verbraeken, B., Kasmi, S, De Geest, B., Hoogenboom, R.: Unexpected Reactivity Switch in the Statistical Copolymerization of 2-Oxazolines and 2-Oxazines Enabling the One-Step Synthesis of Amphiphilic Gradient Copolymers. *J. Am. Chem. Soc.*, **2019**, 141, 24, 9617-9622

3. Panakkal, V., Havlicek, D., Pavlova, E., Filipova, M., Bener, S., Jirak, D., **Sedlacek, O.*** Synthesis of 19F MRI Nanotracers by Dispersion Polymerization-Induced Self-Assembly of N-(2,2,2-Trifluoroethyl)acrylamide in Water. *Biomacromolecules* **2022**, 23, 11, 4814–4824

4. Jirak, D., Svoboda, J. Filipova, M., Pop-Geprgievski, O., **Sedlacek, O.*** Antifouling fluoropolymer-coated nanomaterials for 19F MRI. *Chem. Commun.* **2021**, 57 (38), 4718-4721

5. **Sedlacek, O.***, Jirak, D., Galisova, A., Jager, E., Laaser, J., Lodge, T., Stepanek, P., Hruby, M.: ^{19}F Magnetic Resonance Imaging of Injectable Polymeric Implants with Multiresponsive Behavior. *Chem. Mater.*, **2018**, 30, 15, 4892-4896

6. **Sedlacek, O.***, Monnery, B., Mattova, J., Kucka, J., Panek, J., Janouskova, O., Hocherl, A., Verbraeken, B., Vergaelen, M., Zadinova, M., Hoogenboom, R., Hruby, M.: Poly(2-ethyl-2-oxazoline) conjugates with doxorubicin for cancer therapy: in vitro and in vivo evaluation and direct comparison to poly [N-(2-hydroxypropyl) methacrylamide] analogues. *Biomaterials*, **2017**, 146, 1-12

7. Van Steenberge, P., **Sedlacek, O.**, Hernandez-Ortiz, J., Verbraeken, B., Reyniers, M.-F., Hoogenboom, R., D'hooge, D.: Visualization and design of the functional group distribution during statistical copolymerization. *Nat. Commun.*, **2019**, 10, 1, 1-14.

8. Monnery, B., Jerca, V., **Sedlacek, O.**, Verbraeken, B., Cavill, R., Hoogenboom, R.: Defined High Molar Mass Poly(2-Oxazoline)s. *Angew. Chem. Int. Ed.*, **2018**, 57, 47, 15400-15404

9. **Sedlacek, O.**,* Van Driessche, A., Uvyn, A., De Geest, B., and Hoogenboom, R.: Poly (2-methyl-2-oxazoline) conjugates with doxorubicin: From synthesis of high drug loading water-soluble constructs to in vitro anti-cancer properties, *J. Control. Release* **2020**, 326, 53

10. **Sedlacek, O.,*** Jirak, D., Vit, M., Ziołkowska, N., Janouskova, O., and Hoogenboom, R.: Immiscibility of Chemically Alike Amorphous Polymers: Phase Separation of Poly(2-ethyl-2-oxazoline) and Poly(2-n-propyl-2-oxazoline), *Macromolecules* **2020**, 53, 17, 7590

7) Teaching activities

Currently supervising 1 postdoctoral researcher, 4 PhD. students and 2 M.Sc. students.
Teaching the course Polymer synthesis (MC260P142) - lectures

8) Peer-review

Regular reviewer for international scientific journals (e.g., Angew. Chem. Int. Ed, ACS Nano, Macromolecules, ACS Macro Lett., Biomacromolecules, Polym. Chem., Acta Biomater., ACS Appl. Mater Interfaces)

Prague 8.1.2024 RNDr. Ondřej Sedláček, Ph.D.