

Noémi DEAK

Professional address:

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ORCID: 0000-0002-9401-0298 **Google Scholar:** <https://scholar.google.com/citations?hl=en&user=Zcids5oAAAAJ>

Professional experience

- 22/02/2021 –** **Lecturer**, Babeş-Bolyai University, Faculty of Chemistry and Chemical Engineering
Department of Chemistry and Chemical Engineering, Hungarian Line of Study, Cluj-Napoca, Romania
- 1/2/2020 – 31/1/2021** **Postdoctoral Researcher** at the Institute of Chemistry, University of Graz; Graz,
Austria; Supervisor: Prof. Dr. Katalin Barta Weissert
- 1/7/2018 – 31/1/2020** **Postdoctoral Researcher** at University of Groningen, Stratingh Institute for Chemistry,
Groningen, The Netherlands; Supervisor: Prof. Dr. Katalin Barta Weissert
- 1/8/2017 – 31/6/2018** **Assistant Researcher** at the Babeş-Bolyai University, Faculty of Chemistry and
Chemical Engineering, Cluj-Napoca, Romania; Supervisor: Prof. Dr. Gabriela Nemes
- 1/10/2013 – 19/10/2017** **Ph.D. in Chemistry**. Joint PhD programme between the Babeş-Bolyai University Faculty
of Chemistry and Chemical Engineering and Paul Sabatier University, 'Laboratoire Hétérochimie Fondamentale et
Appliquée, Toulouse, France; Scientific advisors: Prof. Luminita Silaghi-Dumitrescu and Dr. David Madec
- 1/10/2012 – 21/06/2013** **Chemistry Teacher** at "Sigismund Toduță" High School, Cluj-Napoca, Romania
- 15/08/2011 – 31/10/2013** **Chemist** at Babeş-Bolyai University, Faculty of Chemistry and Chemical Engineering,
Cluj-Napoca, Romania; Supervisor: Assoc. Prof. Dr. Gabriela Nemes

Education and training

- 1/10/2011 – 2/7/2013** **Master Degree** in Advanced Chemistry
Faculty of Chemistry and Chemical Engineering, Babeş-Bolyai University, Cluj-Napoca, Romania
- 15/2/2012 – 15/5/2012 Erasmus Placement Mobility at 'Laboratoire Hétérochimie Fondamentale et
Appliquée', Paul Sabatier University, Toulouse, France.
- 1/10/2008 – 28/6/2011** **Bachelor Degree** in Chemistry
Faculty of Chemistry and Chemical Engineering, Babeş-Bolyai University, Cluj-Napoca, Romania

Technical skills and competences

Strong skills in the design, synthesis and characterisation of air-sensitive organic, organometallic and coordinative compounds under inert atmosphere using Schlenk and glove-box techniques. Identification and characterization of organic, organometallic and coordinative compounds using advanced spectroscopic techniques (NMR spectrometry using Bruker Avance and Varian/Agilent spectrometers 300, 400, 600 MHz for different nuclei (^1H , ^{31}P , ^{13}C , ^{119}Sn , ^{29}Si , ^{19}F , ^{11}B) and multidimensional NMR (COSY, HSQC, HMBC); IR spectroscopy, UV-Vis, mass spectrometry). Use of

computational chemistry methods for theoretical characterization of small molecules (specific programmes Gaussview, Gaussian 09).

Languages: Hungarian (native), Romanian (native), proficient in English; intermediate French; basic German

Other activities

- Member of the Postdoc council of the University of Groningen Faculty of Science and Engineering, November 2018 – January 2020.

List of publications (see also <https://orcid.org/0000-0002-9401-0298>)

1. *Synthesis and characterization of a novel bis-sulfoxide and its evaluation as a ligand in p-block chemistry*, **Noémi Deak**, Olivier Thillaye du Boullay, Sonia Mallet-Ladeira, Ionuț-Tudor Moraru, David Madec, Gabriela Nemes, *European Journal of Inorganic Chemistry*, **2020**, 3729–3737.
2. *The role of monoanionic aryl pincer ligands in the stabilization of group 14 metallylenes*, **Noemi Deak**, David Madec, Gabriela Nemes, *European Journal of Inorganic Chemistry*, **2020**, 2769-2790.
3. *A non-symmetric sulfur-based O,C,O-chelating pincer ligand leading to chiral germylene and stannylene*, **Noemi Deak**, Olivier Thillaye du Boullay, Ionut-Tudor Moraru, Sonia Mallet-Ladeira, David Madec, Gabriela Nemes, *Dalton Transactions*, **2019**, 48, 2399-2406.
4. *Palladium and ruthenium derivatives stabilised by bis-sulfone ligand*, Noémi Deak, Raluca Septelean, Ionut-Tudor Moraru, Sonia Mallet-Ladeira, David Madec, Gabriela Nemes, *Studia UBB Chemia*, **2018**, LXIII, 2, 105-115.
5. *New phosphorus containing bis-sulfone ligands*, Noémi Deak, Sonia Mallet-Ladeira, Luminita Silaghi-Dumitrescu, David Madec, Gabriela Nemes, *Studia UBB Chemia*, **2017**, LXII, 4, Tom II, 411-420.
6. *Computational and experimental investigation of phosphalkenyl germylenes from donor-acceptor perspective*, Raluca Septelean, Ionut-Tudor Moraru, Tibor-Gábor Kocsor, **Noémi Deak**, Nathalie Saffon-Merceron, Annie Castel, Gabriela Nemes, *Inorganica Chimica Acta*, **2018**, 475, 112–119.
7. *Reactivity of Bis(sulfonyl) O,C,O-Chelated Metallylenes in Cycloaddition with ortho-Benzoquinone*, **Noémi Deak**, Ionut-Tudor Moraru, Nathalie Saffon-Merceron, David Madec, Gabriela Nemes, *European Journal of Inorganic Chemistry*, **2017**, 4214-4220.
8. *New stannepine derivatives. Synthesis and characterisation*, Lavinia Buta, Raluca Septelean, **Noemi Deak**, Alexandra Pop, Gabriela Nemes, *Studia UBB Chemia*, **2016**, LXI, 3, Tom I, 81-90.
9. *Bis-Sulfonyl O,C,O-Chelated Metallylenes (Ge, Sn) as Adjustable Ligands for Iron and Tungsten Complexes*, **Noémi Deak**, Petronela M. Petrar, Sonia Mallet-Ladeira, Luminița Silaghi-Dumitrescu, Gabriela Nemeș, David Madec, *Chemistry – A European Journal*, **2016**, 22, 1349-1354.
10. *Novel stable phosphastannapropene derivatives. Synthesis and characterization*, Petronela M. Petrar, Raluca Șeptelean, **Noemi Deak**, Heinz Gornitzka, Gabriela Nemeș, *Journal of Organometallic Chemistry*, **2015**, 787, 14-18.

11. *Comparison of reactivity of phosphagermaallene $\text{Tip}(\text{t-Bu})\text{Ge}=\text{C}=\text{PMes}^*$ towards sulfur ylides*, Tibor-Gabor Kocsor, **Noemi Deak**, Dumitru Ghereg, Gabriela Nemes, Jean Escudié, Heinz Gornitzka, Sonia Ladeira, Annie Castel, *Journal of Organometallic Chemistry*, **2014**, 755, 120-124.
12. *Designing bis(phosphaalkenyl)germylenes and their tungsten complexes – A theoretical study*, Tibor-Gabor Kocsor, Petronela M. Petrar, Gabriela Nemes, Annie Castel, Jean Escudié, **Noemi Deak**, Luminita Silaghi-Dumitrescu, *Computational and Theoretical Chemistry*, **2011**, 974, 117-121.
13. *Novel phosphagermapropenes, precursors for heteroallenes stabilized through intramolecular coordination*, Petronela M. Petrar, Raluca Septelean, Agota Bartok, **Noemi Deak**, Gabriela Nemes, *Studia UBB Chemia*, **2012**, LVII (2), 119 – 127.

Conferences

Oral presentations

1. *Sulphur based pincer ligands for the stabilization of metallylenes*, **Noemi Deak**, David Madec, Gabriela Nemeş, Hanse Chemistry Symposium 2018, November 7-8, 2018, Rostock, Germany
2. *New sulfur-based pincer type ligands: from design to applications*, **Noémi Deak**, David Madec, Gabriela Nemeş, Luminița Silaghi-Dumitrescu, MatCatNet Workshop “From Molecules to Functionalised Materials” and Scientific module “Optical and Electronic Devices”, September 1-5 , 2016, Ohrid, Macedonia
3. *Germylenes and stannylenes stabilized by pincer-type ligands. Synthesis and applications*, **Noémi Deak**, Gabriela Nemeş, David Madec, 1st Interdisciplinary Conference for PhD Students June 10-12, 2016, Bara, Hunedoara, Romania
4. *Sulfur-Based Pincer-Type Ligands for Stabilization of Low Valent p-Block Elements*, **Noémi Deak**, Gabriela Nemeş, David Madec, Young Researchers' International Conference on Chemistry and Chemical Engineering (YRICCE I), May 12-14, 2016, Cluj-Napoca, Romania
5. *Synthesis, characterization and applications of new bis-sulfonyl and bis sulfinyl pincer ligands*, **Noémi Deak**, David Madec, Annie Castel, Sonia Mallet-Ladeira, Gabriela Nemeş, 8ème Conférence Internationale de Chimie Toulouse-Kiev (ICTK-8), June 2015, Toulouse, France
6. *New pincer-type ligand for stabilization of metallylenes*, **Noémi Deak**, David Madec, Nathalie Saffon, Gabriela Nemeş, Journée Très Grand Sud-Ouest de la Société Chimique de France November 2014, Toulouse, France
7. *Theoretical investigation of metallylenes*, **Noémi Deak**, Tibor-Gabor Kocsor, Petronela M. Petrar, Gabriela Nemeş, MatCatNet Scientific Module “Catalysis” and Workshop “From Molecules to Functionalised Materials”, October 2013, Cluj-Napoca, Romania
8. *New reactions in the chemistry of phosphagermaallenes*, **Noémi Deak**, International Conference “Students for Students”, 10-14.04.2013, Cluj-Napoca, Romania

9. *Reactivity of germaphosphaallenes towards polar organic reagents*, **Noémi Deak**
MatCatNet Scientific Module "Sensors" and Workshop "From Molecules to Functionalised Materials", 2012, Skopje, Macedonia
10. *Designing stable germylenes – a theoretical study*, **Noémi Deak**, Tibor-Gabor Kocsor, International Conference "Students for Students", 2010, Cluj-Napoca, Romania

Poster presentations

1. *Towards primary amines through iridium catalyzed N-alkylation of aqueous ammonia with alcohols*, **Noemi Deak**, Katalin Barta, XX Netherlands' Catalysis & Chemistry Conference, 4-6 March 2019, Noordwijkerhout, Netherlands
2. *Phosphorus derivatives based on sulfur-containing pincer ligands*, **Noémi Deak**, Gabriela Nemeş, David Madec, Luminița Silaghi-Dumitrescu, 14th European Workshop on Phosphorus Chemistry, EWPC 14/2017, March 20-22, 2017, Cluj-Napoca, Romania
3. *Study on the effect of new sulfur containing pincer type ligands on the stabilization of metallylenes*, **Noémi Deak**, Ionuț-Tudor Moraru, Petronela M. Petrar, Gabriela Nemeş, David Madec
8th Molecular Modeling in Chemistry And Biochemistry Conference – MolMod, Cluj-Napoca, Romania, November 13-15, 2016
4. *Germylene and Stannylene Stabilized by a Bis-Sulfone Pincer-Type Ligand*, **Noémi Deak**, Gabriela Nemeş, David Madec, XXXIVth Romanian Chemistry Conference, October 4-7, 2016, Caciulata, Valcea, Romania
5. *Synthesis and characterization of new phosphastannapropenes*, **Noémi Deak**, Petronela M. Petrar, Agota Bartók, Gabriela Nemeş, XXXIInd Romanian Chemistry Conference, 2012, Caciulata, Romania
6. *A theoretical study of model germylenes*, Tibor-Gabor Kocsor, **Noémi Deak**, Petronela M. Petrar, Gabriela Nemeş, MolMod, 2010, Cluj-Napoca, Romania