

Curriculum Vitae
AGOTA DEBRECZENI

School of Molecular Sciences
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Summary

I have a strong interest in teaching with fifteen years of college and university - level experience in teaching General and Inorganic chemistry (lecture, recitation, and laboratory classes).

My teaching experience includes chemistry curriculum development, using various active and collaborative learning techniques, incorporating the diverse instructional technology available for use in lecture, recitation and laboratory settings, mentoring, and working with students from a variety of culturally diverse backgrounds. During my research career, I have developed a strong background in synthetic chemistry including aspects of inorganic, organic, organometallic, and supramolecular fields of specialty. I have excelled in both teaching and research, and developed strong organizational and written/verbal communication skills, as demonstrated by three teaching awards, and 12 peer-reviewed publications. My current academic position provided great opportunities to excel in leadership and administrative assignments: coordinating a new student success initiative, the Faculty-led Discussion session program, as well as leading the general chemistry recitation instruction.

Education:

- Ph.D. Chemistry**, University of South Carolina, Columbia, SC **05/12**
Dissertation: "Synthesis, Structure and Properties of Metal-Organic Framework Materials Organized by the 1,8-Naphthalimide π -stacking Synthons." Advisor: Dr. Daniel L. Reger
- M.S. Modern Techniques of Synthesis in Chemistry**, Babes-Bolyai University, Cluj-Napoca, Romania (Summa cum Laude) **06/06**
Thesis: "Synthesis and Characterization of New Organotin Compounds with Oxazepam as Anionic Ligand." Advisor: Dr. Edit Forizs
- Permanent Teacher Certification**, Babes-Bolyai University, Cluj-Napoca, Romania **06/05**
- B.A. in Chemistry** (Summa Cum laude), Babes-Bolyai University, Cluj-Napoca **06/03**
Thesis: "Synthesis and Characterization of New Organotin Compounds of Oxazepam" Advisor: Dr. Edit Forizs
- Graduation Certificate for Science Education**, Babes-Bolyai University, Department for the Preparation of Didactic Staff, Cluj-Napoca, Romania **06/03**

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Professional Experience:

Chemistry Instructor

08/13 – present **Arizona State University, School of Molecular Sciences, Tempe**

- Taught guided inquiry-based recitation activities and labs for General Chemistry (CHM 113, CHM 114, CHM 116) courses.
- Collaborated with other faculty to author and improve the activities and to develop standard operational procedures for recitations.
- Developed online homework assignments for General Chemistry students
- Acted as CHM 113/116 Lead Recitation Instructor and CHM 113/114/116 Gradebook Manager for several semesters; managed grades for 1200+ students per semester.
- Coordinated the Faculty-led Discussion session (DS) program, a new student success initiative. In collaboration with faculty colleagues, wrote proposals to get funding for the program. Developed standard operational and assessment procedures for the program. Advertised the success of the DS program to other units in the College of Liberal Arts and Sciences, as well as to other institutions.
- Led interactive CHM 113/116 Discussion and Exam Review sessions, developed curriculum and materials for these sessions.
- Coordinated the CHM 116 Laboratory instruction in summer semesters; mentored teaching assistants; met with stockroom personnel to discuss lab preparation.
- Created and administered multiple online Discussion Boards (Facebook group pages; Slack workspaces) for students in large enrollment General Chemistry (CHM 113, CHM 114, CHM 116) courses (1900+ students) to share content-related information and get help with homework assignments.
- Supervised students completing honors projects in the above courses.
- Used online course management systems to organize content and communicate with students; participated at discipline-related meetings, evaluated student assignments.

Adjunct Faculty

08/12 – 12/14 **Mesa Community College, Maricopa County Community College District**

- Taught General Chemistry I and II (CHM 151, CHM 152) lectures and the corresponding lab classes.
- Developed syllabi, course outlines and diverse course materials; evaluated student performance (e.g. created web-based homework assignments, wrote quizzes and exams, graded formal lab reports).
- Collaborated with faculty to improve the general chemistry lab manual, guided students to acquire proper laboratory skills, develop lab notebook, and write formal lab reports.
- Used online course management system to organize content and communicate with students; held office hours and provided academic advising; participated at departmental and discipline-related meetings.

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Graduate Research Assistant

08/07 – 05/12 Advisor: Dr. Daniel L. Reger, **University of South Carolina**

- Designed and synthesized bifunctional and trifunctional ligands bearing a strong π -stacking synthon in order to assemble transition metal secondary building units into highly organized supramolecular architectures.
- Investigated how systematic ligand modifications impact supramolecular structure and properties of different transition metal carboxylate networks.

10/05 – 06/07 Advisors: Dr. Edit Forizs and Dr. Ioan Silaghi-Dumitrescu, **Babes- Bolyai University**

- Synthesized and characterized new organotin compounds with oxazepam as anionic ligand, and transition metal complexes of theophylline.

Graduate Teaching Assistant

01/11 – 05/11 (Spring 2011) **University of South Carolina**

- Taught General Chemistry Recitation sessions related to Acid-Base Reactions, Thermodynamics, Kinetics, and Electrochemistry.
- Wrote and graded quizzes, mentored students.

01/10 – 05/10 (Spring 2010) •Taught General Chemistry Laboratory sessions.

08/07 – 05/08 (Fall and Spring)

- Prepared labs, conducted experiments with computerized data acquisition systems, graded lab reports, assisted students with online homework assignments.

10/06 – 06/07 (Fall and Spring) **Babes-Bolyai University**

- Taught General Chemistry Laboratory and Inorganic Chemistry (Symmetry Elements) Recitation sessions for Chemistry Majors.

Chemistry Teacher

09/03 – 08/05 **General School No. 2, Sovata, Romania**

- Taught 7th and 8th Grade Introductory Chemistry in middle school

09/05 – 03/06 **Simion Barnutiu National College, Simleu Silvaniei, Romania**

- Taught High School Level (9th-12th grade) General, and Organic Chemistry.
- Trained students for local and regional Chemistry Olympiad.

Undergraduate Researcher

10/02 – 06/03 Advisor: Dr. Edit Forizs, **Babes-Bolyai University**

- Synthesized and characterized new organotin compounds with oxazepam as anionic ligand.

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- Skills:**
- Outstanding knowledge of standard chemistry laboratory procedures, and preparing accurate lab reports.
 - Use and maintain Schlenk-line, Drybox, and routine laboratory equipment.
 - Synthesize organic ligands and metal-organic compounds.
 - Characterize organic and inorganic compounds by: $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, FT-IR, ATR-IR, TGA, DSC, UV-Vis.
 - Grow crystals by the following techniques: solvothermal, layering, vapor diffusion, hot/cold recrystallization, and slow evaporation.
 - Excellent Computer skills; Proficient in Microsoft Office, Origin, ChemBioDraw Ultra 12.0, Ortep 32, X-Seed 2.0, Mercury 2.4, Spartan 08V120; online homework systems: OWL, ALEKS, Connect Chemistry, and Mastering Chemistry. Social media pages - Facebook, Slack – used as discussion boards

Awards and Honors:

- Received Distinguished Instructor Award in the School of Molecular Sciences at Arizona State University (Spring 2019).
- Received Joseph W. Bouknight Teaching Award for Excellence in Teaching, University of South Carolina (Spring 2010, and Spring 2011).
- Awarded Graduate Scholarship (2 semesters) for Excellent Entrance Examination in M.S. Degree Program, Babes-Bolyai University.
- Awarded Undergraduate Scholarship (8 semesters) for Excellence in Chemistry, Babes-Bolyai University.

Membership in professional organizations:

- Former Member of the American Chemical Society, Chemical Education Division, and Inorganic Chemistry Division.

Community Service:

- President of the Women's Ministry at the First Hungarian Reformed Church of Phoenix (www.hungarianchurchphoenix.org).

References

Dr. Ron Briggs, Arizona State University, ronbriggs@asu.edu

Dr. Ashli Morgan, Arizona State University, amclar14@asu.edu

Shelly Hauck, Arizona State University, shelly.hauck@asu.edu

Dr. Daniel L. Reger, University of South Carolina, (803) 777-2587, reger@mailbox.sc.edu

Dr. Todd Windman, Mesa Community College, (480)461-7010, todd.windman@mesacc.edu

Publications and Presentations (see attached list)

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Publications and Presentations

1. **Debreczeni, Agota**; Forizs Edit “Synthesis and Characterization of New Organotin Compounds with Oxazepam as Anionic Ligand” *Acta Scientiarum Transylvanica* **2008**, *16*, 21.
2. Reger, Daniel L.; **Debreczeni, Agota**; Reinecke, Bryn; Rassolov, Vitaly; Smith, Mark D.; Semeniuc, Radu F. “Highly Organized Structures and Unusual Magnetic Properties of Paddlewheel Copper(II) Carboxylate Dimers Containing the $\pi\cdots\pi$ Stacking, 1,8-naphthalimide Supramolecular Synthons” *Inorganic Chemistry* **2009**, *48*, 8911.
3. Forizs, Edit; **Debreczeni, Agota**; Patrut, Adrian; Kun, Attila-Zsolt; Cozar, Ionut B.; David, Leontin; Silaghi-Dumitrescu, Ioan “Synthesis, Structure and DFT Calculations on Complexes of Pd(II) with Theophylline” *Revue Roumaine de Chimie* **2010**, *55*, 697.
4. Reger, Daniel L.; **Debreczeni, Agota**; Smith, Mark D. “Synthesis and Structure of a Zinc(II)-Carboxylate Trimer Containing the $\pi\cdots\pi$ Stacking, 1,8-naphthalimide Synthons: A Supramolecular Metal-Organic Framework” *Inorganica Chimica Acta* **2010**, *364*, 10.
5. Reger, Daniel L.; **Debreczeni, Agota**; Horger, Jacob J.; Smith, Mark D. “Structures of Bifunctional Molecules Containing Two Very Different Supramolecular Synthons: Carboxylic Acid and Strong $\pi\cdots\pi$ Stacking 1,8-Naphthalimide Ring” *Crystal Growth&Design* **2011**, *11*, 4068.
6. Reger, Daniel L.; Horger, Jacob J.; **Debreczeni, Agota**; Smith, Mark D. “Syntheses and Characterization of Copper(II) Carboxylate Dimers formed from Enantiopure Ligands Containing a Strong $\pi\cdots\pi$ Stacking Synthons: Enantioselective Single-Crystal to Single-Crystal Gas/Solid-Mediated Transformations” *Inorganic Chemistry* **2011**, *50*, 10225.
7. Reger, Daniel L.; **Debreczeni, Agota**; Smith, Mark D. “Rhodium Paddlewheel Dimers Containing the $\pi\cdots\pi$ stacking, 1,8-naphthalimide Supramolecular Synthons” *Inorganica Chimica Acta* **2011**, *378*, 42.
8. Reger, Daniel L.; **Debreczeni, Agota**; Smith, Mark D. “Zinc Paddlewheel Dimers Containing a Strong $\pi\cdots\pi$ Stacking Supramolecular Synthons: Designed Single-Crystal to Single-Crystal Phase Changes and Gas/solid-mediated Guest Exchange” *Inorganic Chemistry* **2011**, *50*, 11754.
9. Reger, Daniel L.; **Debreczeni, Agota**; Smith, Mark D.; Jezierska, Julia; Ozarowski, Andrew “Copper(II) Carboxylate Dimers Prepared from Ligands Designed to Form a Robust $\pi\cdots\pi$ Stacking Synthons: Supramolecular Structures and Molecular Properties” *Inorganic Chemistry* **2012**, *51*, 1068.
10. Reger, Daniel L.; **Debreczeni, Agota**; Smith, Mark D. “Synthesis and Structure of a Cu₄O₄ Cubane Core Complex from a Carboxylate Ligand Containing a Strong $\pi\cdots\pi$ Stacking Supramolecular Synthons” *Inorganica Chimica Acta* **2012**, *386*, 102.

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11. Reger, Daniel L.; **Debreczeni, Agota**; Smith, Mark D. "Homochiral, Supramolecular Frameworks Built from a Zinc(II) Tetramer or Cadmium(II) Dimer Containing Enantiopure Carboxylate Ligands Functionalized with a Strong $\pi\cdots\pi$ Stacking Synthone" *European Journal of Inorganic Chemistry* **2012**, 712.
12. Reger, Daniel L.; **Debreczeni, Agota**; Pascui, Andrea E.; Smith, Mark D. "Heptanuclear Zinc Carboxylate Complex: New Supramolecular Building Unit and Unique Supramolecular Architecture" *Polyhedron* **2013**, 52, 1317.

Poster presentations:

1. **Debreczeni, Agota**; Bálint, Izabella; Forizs, Edit; Silaghi-Dumitrescu, Ioan "Mixed-ligand complexes of transition metals with Theophylline and Aminoalcohol" Hungarian Technical Scientific Society of Transylvania, Cluj-Napoca, Romania, **2006**.
2. **Debreczeni, Agota**; Forizs, Edit; Kun, Attila-Zsolt; Silaghi-Dumitrescu, Ioan "Synthesis, structure and DFT calculations on mixed-ligand complexes of Pd(II)" Molecular Modeling in Chemistry and Biochemistry International Meeting, MOLMOD, Cluj-Napoca, Romania, **2007**.

Oral presentations:

1. **Debreczeni, Agota**; Reger Daniel L.; Smith, Mark D. "Rh(II) and Cu(II) Coordination Architectures with the 1,8-naphthalimide Supramolecular Synthone: Syntheses and Crystal Structures", Invited Group Talk, Organic Division, Department of Chemistry and Biochemistry, University of South Carolina, Columbia, **2008**.
2. Reger, Daniel L.; **Debreczeni, Agota**; Reinecke, Bryn; Semeniuc, Radu "Unusual Structures and Magnetic Properties of Paddlewheel Copper(II) Carboxylate Dimers Containing the Strong $\pi\cdots\pi$ Stacking 1,8-Naphthalimide Synthone" 61st Southeast Regional Meeting of the American Chemical Society, San Juan, Puerto Rico, **2009**.
3. Reger, Daniel L.; **Debreczeni, Agota**; Horger, Jacob J.; Smith, Mark D. "Metal complexes with supramolecular structures designed to support single-crystal to single-crystal transformations" American Chemical Society National Meeting, San Diego, **2012**.
4. Briggs, Ron D.; Smith, Beatriz; **Debreczeni, Agota** "Comparison of Peer-Led (Supplemental Instruction) and Instructor-Led (Discussion Session) Student Success Initiatives in the School of Molecular Sciences (SMS) at Arizona State University," Biennial Conference on Chemical Education, **2020**. Abstract accepted March 31, 2020. Because of the global COVID-19 pandemic, the 2020 Biennial Conference on Chemical Education was terminated on April 2, 2020, by the Executive Committee of the Division of Chemical Education, American Chemical Society; and, therefore, this presentation could not be given as intended.
5. Briggs, Ron D.; **Debreczeni, Agota**; Sendler, Stacy W.; Hauck, Shelly; and Smith, Rebeca "Expanding the Discussion Session (DS) Program Offered for General Chemistry Courses in the School of Molecular Sciences (SMS)", Arizona State University, Teaching Experience Webinar on Inclusive Pedagogy – April 7, **2021** Panelist.