

E-mail:

Data nașterii:

Poziție didactică: Lector (Sef lucrari) doctor

Directii de cercetare:

- Design-ul, sinteza si caracterizarea de combinatii complexe activatori de peroxizi;
- Studii cinetice si mecanistice ale reactiilor de activare catalitica a diversilor agenti oxidanti
- Investigarea degradarii unor poluanti persistenti, cum ar fi: produse farmaceutice, coloranti din industria textila, pesticide, etc. Analiza produsilor de degradare.
- Aplicatii ale catalizatorilor in fabricarea unor senzori amperometrici de mediu.
- Sinteza in faza solida a oligomerilor de acizi nucleici polipeptidici (peptide nucleic acid, PNA,); sinteza si caracterizarea unor monomeri de PNA modificati si incorporarea unor ioni ai metalelor tranzitionale in duplexurile de PNA

Cursuri predate: Poluanti anorganici in aer, nivel master

Patente & Aplicatii de brevete de inventii:

Terrence J. Collins, Anindya Gosh, CMU Invention Disclosure 2007-128 entitled "Facile Imbibing of Iron-Tetraamidomacrocyclic-ligand (Fe-TAML) Catalysts into Polymeric Materials" submitted on June 29, 2007 (aplicatie de brevet in SUA)

Publicatii (selectiv din 19 lucrari)

1. "Textile Industry: Environmental Impacts and Wastewater Treatment Methods" Gamaneci, G., *Ambientum*, **2009**, in press.
2. "Mechanistically Inspired Design of Fe^{III}-TAML Peroxide-Activating Catalysts", Chanda, A., Stadler, M. J., Mondal, S., Tehranchi, J., Ryabov, A.D., Collins, T.J., *J. Am. Chem. Soc.*, **2008**, *130* (37), 12260-12261.
3. "Catalase-Peroxidase Activity of Iron(III)-TAML Activators of Hydrogen Peroxide" Ghosh, A., Mitchell, D., Chanda, A., Ryabov, A. D., Upham, E., Collins, G., Collins, T. J., *J. Am. Chem. Soc.*, **2008**, *130* (45), 15116-15126.
4. "High-Valent First-Row Transition-Metal Complexes of Tetraamido (4N) and Diamidodialkoxido or Diamidophenolato (2N/2O) Ligands: Synthesis, Structure, and Magnetochemistry" Chanda, A.; Stadler, M.; Tiago deOliveira, F.; Ryabov, A. D.; Münck, E.; Bominaar, E. L.; Collins, T. J., – *Coord. Chem. Reviews*, **2008**, *252*, 2050-2071.
5. "Attaining Control by Design over the Hydrolytic Stability of Fe-TAML Oxidation Catalysts" Polshin, V.; Fischer, A.; Chanda, A.; Beach, E.; Henry, J.; Qian, Y.-L.; Horwitz, C.;

- Lente, G.; Fabian, I.; Münck, E.; Bominaar, E. L.; Ryabov, A. D.; Collins, T. J., – *J. Am. Chem. Soc.*, **2008**; 130(13); 4497-4506.
6. “(TAML)Fe^{IV}=O Complex in Aqueous Solution: Synthesis, Spectroscopic and Computational Characterization” Chanda, A.; Shan, X.; Chakrabarti, M.; Ellis, W. C.; [REDACTED]; Tiago de Oliveira, F.; Wang, D.; Que, L., Jr.; Collins, T. J.; Münck, E.; Bominaar, E. L., *Inorg. Chem.*, **2008**, 47(9), 3669–3678.
 7. “Fe^{III}-TAML-Catalyzed Green Oxidative Degradation of Orange II by H₂O₂, Organic Peroxides: Products, Toxicity, Kinetics, and Mechanisms” Chahbane, N; [REDACTED]; Mitchell, D. A.; Chanda, A.; Lenoir, D.; Ryabov, A. D.; Schramm, K.-W.; Collins, T. J., – *Green Chemistry*, **2007**, 9, 49-57.
 8. “High-Valent Iron Complexes with TetraAmido Macrocyclic Ligands (TAML): Structure, Mössbauer Spectroscopy, and DFT Calculations” Chanda, A.; [REDACTED]; Tiago deOliveira, F.; Bominaar, E.; Ryabov, A. D.; Munck, E.; Collins, T. J., *Journal of Inorganic Biochemistry* **2006**, 100 (4), 606-619.
 9. “Metal Incorporation in Modified PNA Duplexes” [REDACTED]; Parolin, T.; Achim, *J. Am. Chem. Soc.* **2003**; 125 (21); 6354-6355.