

Nikolay N. Gerasimchuk

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Education

- Dec. 1996 Second Ph.D. degree in bioinorganic chemistry from the University of Kansas. Thesis entitled as "Synthesis, Spectroscopic and Structural Studies of a new Family of Dipyromethane Ligands and Their Manganese Complexes as Catalase Models."
- 1993-1996 Doctoral studies with Professor K. Bowman-James at the Department of Chemistry of the University of Kansas, Lawrence.
- Mar. 1985 Candidate of Science degree (Ph.D.) in coordination chemistry from Kiev State University, Kiev, Ukraine
- 1981-1984 Doctoral studies with Prof. V.V. Skopenko in the field of synthesis and investigation of air-sensitive iron(II) complexes with cyano-containing amide and methanide ligands.
- June 1981 MS degree in Chemistry from the Chemistry Department of Kiev State University, Ukraine. Graduated with honors.
- 1976-1981 Undergraduate studies (w/ honors) at the Chemistry Department of the above institution.

Teaching Experience

University level lecture and laboratory courses for undergraduate students:

General Chemistry (CHM 160), and General Chemistry Honors College course (CHM 160-999);
General Chemistry Laboratory (CHM 105);
General Chemistry laboratory (CHM 175);
Inorganic Chemistry (CHM 375);
Inorganic Synthesis Laboratory (CHM 376);
Chemical Glassware and Scientific Glassblowing (CHM 597).

and courses for graduate students:

Inorganic Chemistry: Special Topics (CHM 515);
Advanced Inorganic Chemistry (CHM 525);
Organometallic Chemistry (CHM 625);
Introduction into Bioinorganic Chemistry (CHM 597);
Introduction into Bioinorganic Chemistry (CHM 597, special topics).

- March 2012- Full Professor, Department of Chemistry, Missouri State University
- March 2006- Associate Professor (tenured), Department of Chemistry, Missouri State University
- Aug. 2001- 06 Assistant Professor, Department of Chemistry, Southwest Missouri State University
- 1995 Teaching Assistant, Chemistry Department, University of Kansas, Lawrence, Kansas
- 1991-1992 Associate Professor (tenured), Chemistry Department, Kiev State University, Kiev, Ukraine
- 1986-1990 Assistant Professor, Chemistry Department, Kiev State University, Ukraine
- 1987 Organized and supervised Teaching Laboratory at the Chemistry Department of Kiev State University

Research Experience:

Aug. – Dec. 2009	Sabbatical leave to Ruprecht-Karls Universität (Heidelberg, Germany) doing research in the field of metalocyanoximates including studies of their interactions with a variety of non-natural DNA molecules.
Apr. 1999-Aug. 2001	Research Chemist (Scientist-II), <i>Pharmacyclics, Inc.</i> , Sunnyvale, CA Investigations of stability in solutions and kinetics of interactions of new metal-containing drug candidates with low molecular weight reducing cellular substrates.
Nov. 1998-Apr. 1999	Research Associate , <i>Pharmacyclic, Inc.</i> , Sunnyvale, CA. doing synthesis, spectroscopic, magnetochemical and electrochemical characterization of a new class of lanthanide and transition metal complexes investigated as antitumor agents and drug candidates.
Jan. 1997- Oct. 1998	Post-doctoral Research Associate , North Dakota State University (with Prof. Kenton Rodgers). Work in the field of design, synthesis and spectroscopic, electrochemical characterization of new porphyrin systems for potential photophysical applications as nonlinear optical materials
1995-1996	Research Assistant , Kansas Advanced Synthesis Laboratory (KASL) doing custom synthesis of organic, inorganic and coordination compounds.
1993-1994	Research Assistant , University of Kansas (Lawrence).
1989-1990	Distinguished scholar of Hungarian Academy of Sciences: Visiting Researcher in collaboration with Prof. Kalman Burger at the University of Szeged (Hungary)
1985-1986	Research Associate , Inorganic Chemistry Division of Kiev State University (Ukraine)

Research Interests:

- 1) Synthesis, spectroscopic characterization, and medical-biological applications of oxime-based ligands and their bivalent Pd and Pt complexes.
- 2) Light-insensitive 2D coordination polymers based on Ag(I)-cyanoximates and their sensoric applications.
- 3) Self-assembled nano-size 1D coordination polymers.
- 4) X-ray crystallography of small molecules.

Practical Skills:

- Synthesis of organic, inorganic and coordination compounds with 28 years experience.
- Proficient in instrumentation, experiment and glassware design, anaerobic technique (Schlenk lines, glove box). Some of the glassware invented has been commercialized by ALDRICH Chemical Company.
- Experienced in running and interpretation of data of multinuclear 1D-, 2D NMR, IR, and UV-visible spectroscopy. Highly skilled in elucidation of molecular structure of compounds by physical methods.
- Proficient in practical X-ray diffractometry:
 - a) operation, maintenance and repairs of a single crystal diffractometer APEX 2; personally solved and refined 290+ crystal structures of inorganic, organometallic and coordination compounds;
 - b) operation of a powder Discover diffractometer [both by BRUKER].
- Expert in using crystallographic (Apex Suite, Mercury, ORTEP, OLEX) and scientific graphing software (ORIGIN, Peak Fitting Module, GRAMS-32).

Publications:

Authored or co-authored 93 journal articles since 1982, and presented at 50 conferences. Scopus *h*-index 17 at 46 entries; the ISI citation index *h*=18 with 72 entries; Research Gate index 31.96 with 96 entries.

- Wrote with Prof. K. Bowman-James a chapter "Mixed Donor Ligands" into the eight volumes set "Encyclopedia of Inorganic Chemistry" (1994, v.5, John Wiley & Sons; England);
- Coauthored book chapter: Magda, D. J.; Gerasimchuk, N.; Wang, Z.; Sessler, J. L.; Miller, R. A. "Mechanistic Studies of Motexafin Gadolinium (Xcytrin®): A Redox Active Agent that Reacts with Electron-rich Biological Substrates," Chapter 8 in *American Chemical Society Symposium Series*, N° 903, p.110-136. American Chemical Society, Washington, DC; 2005.

Publications since coming to MSU in 2001 (full list of publications available upon request):

1. Ryabchuk, P.; Edwards, A.; Gerasimchuk, N.; Rubina, M.; Rubin, M. "Dual Control of Selectivity in the Synthesis of Homochiral Densely Substituted Cyclopropanes via the Addition of Nucleophiles to *in situ* Generated Cyclopropenes." *Organic Letters*. **2013**, *15* (23), 6010-6013.
2. Ramidi, P.; Gerasimchuk, N.; Gartia, Y.; Felton, C.M.; Ghosh, A. "Influence of substituents on the reactivity of cobalt(III) amidoamine complexes for the catalytic synthesis of cyclic carbonate from epoxide and carbon dioxide". *Dalton Transactions*. **2013**, *42*, 13151-13160.
3. Eakins, G.L.; Cooper, M.; Phillips, T.; Gerasimchuk, N.; Breyfogle, B.; Stearman, C.J. "Structural Influences Impacting the Role of the 9-Ylidene Bond in the HOMO-LUMO Tuning of Structures Built upon 9-Fluorenylidene Scaffolds". *Can. J. Chem.* **2013**, *91* (11), 1059-1071.
4. Cheadle, C.; Gerasimchuk, N.; Barnes, C.L.; Tyukhtenko, S.I.; Silchenko, S. "First bis-cyanoxime: synthesis and properties of a new versatile and accessible polydentate bifunctional building block for coordination and supramolecular chemistry" *Dalton Transactions*. **2013**, *42* (14), p. 4931 – 4946.
5. Gudima, A.O.; Shovkova, G.V.; Trunova, O.K.; Grandjean, F.; Long, G.J.; Gerasimchuk, N. "Sodium-Centered Dodecanuclear Co(II) and Ni(II) Complexes with 2-(Phosphono methylamino)succinic Acid: Studies of Spectroscopic, Structural, and Magnetic Properties." *Inorganic Chemistry*. **2013**, *52* (13), p. 7467-7477.
6. Hilton, M.; Gerasimchuk, N.; Silchenko, S.; Charlier, H. , "Synthesis, Properties and Crystal Structure of the 2,4-dichlorophenyl-cyanoxime - a powerful carbonyl reductase inhibitor." *J. Chem. Crystallography*. **2013**, *43* (3), p.157-164.
7. Curtis, S.; Ilkun, O.; Brown, A.; Silchenko, S.; Gerasimchuk, N. "Synthesis, spectroscopic and structural characterization of the first phenyl bis-cyanoximes: non-chelating extended ionisable building block ligands for new MOFs." *Cryst. Eng. Comm.* **2013**, *15*, p.152-159
8. D. Marcano, N. Gerasimchuk, V. Nemykin, S. Silchenko. "Synthesis, Characterization and Studies of Coordination Polymers With Isomeric Pyridylcyanoximes: Route to Metal Ribbons With Very Short Tl---Tl separations." *Cryst. Growth Des.*, **2012**, *12*, 2877-2889.
9. Ratcliff, J.; Kuduk-Jaworska, J.; Chojnacki, H.; Nemykin, V.N.; Gerasimchuk, N. "Part 1: Experimental and theoretical studies of 2-cyano-2-isonitroso-N-piperidynylacetamide (HPiPCO),

- 2-cyano-2-isonitroso-N-morpholyacetamide (HMCO) and their Pt- and Pd-complexes.” *Inorganica Chimica Acta*. **2012**, 385, 1-11.
10. Ratcliff, J.; Durham, P.; Keck, M.; Mokhir, A.; Gerasimchuk, N. “Part 2: *In vitro* Cytotoxicity Studies of Two ML_2 Complexes (M = Pd, Pt; L = 2-cyano-2-isonitroso-N-morpholyacetamide, HMCO.” *Inorganica Chimica Acta*. **2012**, 385, 11-20.
 11. Solntsev, P.V.; Neisen, B.D.; Sabin, J.R.; Gerasimchuk, N.N.; Nemykin, V.N. “Synthesis, characterization, X-ray structure, and mixed-valence states of *trans*-dichlorotin(IV)-5,10,15,20-tetraferrocenylporphyrin.” *J. Porphyrins Phthalocyanines* **2011**; 15: 612–621.
 12. Gerasimchuk, N. “An Excursion into the Intriguing World of Polymeric Tl(I) and Ag(I) Cyanoximates.” *Polymers* **2011**, 3, 2-37.
 13. Albright, A.; Eddings, D.; Black, R.; Welch, C.J.; Gerasimchuk, N.; Gawley, R.I. “Design, Synthesis and Application of A Novel Class of Chiral *N*-Heterocyclic Carbene Precursors and Metal Carbenoids.” *Journal of Organic Chemistry*. **2011**, 76, p. 7341–7351
 14. Gerasimchuk, N. “Synthesis, Characterization and Remarkable Applications of Light-insensitive Silver(I) Cyanoximates,” in *New Trends in Coordination, Bioinorganic, and Applied Inorganic Chemistry*. p.106-113; M. Melník, P. Segl’a, and M. Tatarko (Eds.), Slovak University of Technology Press, 2011; ISBN 978-80-227-3509-4.
 15. Beckford, F.; Thessing, J.; Woods, J.; Didion, J.; Gerasimchuk, N.; Gonzalez-Sarrias, A.; Seeram, N.P. “Synthesis and structure of $[(\eta^6\text{-}p\text{-cymene})\text{Ru}(2\text{-anthracene-9-ylmethylene-N-ethylhydrazinecarbothioamide})\text{Cl}]\text{Cl}$: biological evaluation, topoisomerase II inhibition and reaction with DNA and human serum albumin.” *Metallomics*. **2011**, 3, 491-502.
 16. Beckford, F.; Dourth, D.; Shaloski, M. Jr.; Didion, J.; Thessing, J.; Woods, J.; Crowell, V.; Gerasimchuk, N.; Gonzalez-Sarrias, A.; Seeram, N.P. "Half-sandwich ruthenium-arene complexes with thiosemicarbazones: Synthesis and biological evaluation of $[(\eta^6\text{-}p\text{-cymene})\text{Ru}(\text{piperonal thiosemicarbazones})\text{Cl}]\text{Cl}$ complexes" *Journal of Inorganic Biochemistry*, **2011**, 1019-1029.
 17. Gerasimchuk, N.; Gamian, A.; Glover, G.; Szponar, B. “Light Insensitive Silver(I) Cyanoximates As Antimicrobial Agents for Indwelling Medical Devices”. *Inorganic Chemistry*. **2010**, 49 (21), 9863-9874.
 18. Solntsev, P.; Sabin, J.R.; Dammer, S.J.; Gerasimchuk, N.N.; Nemykin, V.N. “Unexpected Fluorescence properties in the axially σ -bonded ferrocenyl-containing porphyrin.” *Chemical Communications*. **2010**, 46, 6581-6583.
 19. Filatov, A.S.; Hietsoi, O.; Sevrygina, Y.; Gerasimchuk, N.N.; Petruhina, M.A. “Reversible $\text{Cu}_4 \rightarrow \text{Cu}_6$ core interconversion and temperature induced single-crystal-to-single-crystal phase transition for Copper(I) carboxylate”. *Inorganic Chemistry*. **2010**, 49 (4), p.1626-1633.
 20. Gerasimchuk, N.; Barnes, C.L.; Boaz, D. “Preparation, spectroscopic and structural characterization of the first Co(III) cyanoxime complex: two polymorphs of *fac*-, *tris*-(benzoylcyanoximato)cobalt(III), $\text{Co}(\text{BCO})_3$.” *Journal of Coordination Chemistry*, **2010**, 63 (6), p.943.
 21. Gerasimchuk, N.; Esaulenko, A.N.; Dalley, N.K.; Moore, C. “2-Cyano-2-isonitrosoacetamide and its Ag(I) complexes. Silver(I) cyanoximate as a non-electric gas sensor.” *Dalton Transactions*, **2010**, 39, p. 749-764.

22. Glower G.; Gerasimchuk, N.; Biagioni, R.; Domasevitch, K.V. "Monovalent K, Cs, Tl and Ag Nitrosodicyanomethanides: Completely Different 3D Networks with Useful Properties of Luminescent Materials and Nonelectric Sensors for Gases." *Inorg. Chem.* **2009**, *48* (6), p.2371-2382.
23. Ilkun, O.T.; Archibald, S.; Barnes, C.L.; Gerasimchuk, N.; Biagioni, R.; Silchenko, S.; Gerasimchuk, O.A.; Nemykin, V. "Benz(2-heteroaryl)cyanoximes and their Tl(I) complexes: new room temperature blue emitters." *Dalton Transactions*, **2008**, p.5715-5729.
24. Owen, T.; Grandjean, F.; Long, G.J.; Domasevitch, K.V.; Gerasimchuk, N. "Synthesis and Characterization of Two Intensely Colored tris(benzoylcyanoxime)iron(II) Anionic Complexes" *Inorganic Chemistry*, **2008**, *47*, N°19, p.8704-8713.
25. Gerasimchuk, N.; Goeden, L.; Durham, P.; Barnes, C.; Cannon, J.F. "Synthesis and Characterization of the First Disubstituted Arylcyanoximes and their Several Metal Complexes." *Inorganica Chimica Acta*, **2008**, *361*, p.1983-2001.
26. Maher, T.; Gerasimchuk, N.; Durham, P.; Domasevitch, K.V.; Wilking, J.; Mokhir, A. "Tin(IV) Cyanoximates: Synthesis, Characterization and in vitro Cytotoxicity." *Inorganic Chemistry*, **2007**, *46*, N°18, p.7268-7284.
27. Robertson, D.; Cannon, J.F.; Gerasimchuk, N. "Double-Stranded Metal-Organic Networks for One-Dimensional Mixed Valence Coordination Polymers". *Inorganic Chemistry*. **2005**, *44*, N°23, p.8326-8342.
28. Magda, D. J.; Gerasimchuk, N.; Wang, Z.; Sessler, J. L.; Miller, R. A. "Mechanistic Studies of Motexafin Gadolinium (Xcytrin®): A Redox Active Agent that Reacts with Electron-rich Biological Substrates," Chapter 8 in *American Chemical Society Symposium Series*, N° 903, p.110-136. American Chemical Society, Washington, DC; 2005.
29. Gerasimchuk, N.N., Dalley, K.N. "Demetallation of Ni(II) tetraazamacrocyclic complex by cyanoxime resulting in the formation of stereospecific trinuclear compound $[\text{Na}(\text{H}_2\text{O})_6]^+[\text{NaNi}_2\text{L}_6]^-$ (L= NC-C(NO)-C(O)NH₂)." *Journal of Coordination Chemistry*, **2004**, *57*, N°16, p.1431-1445.
30. Eddings, D., Barnes, C., Durham, P., Gerasimchuk, N.N., Domasevich, K.V. "First bivalent palladium and platinum cyanoximates: synthesis, characterization and biological activity." *Inorganic Chemistry*, **2004**, *43*, N°13, pp. 3894-3909.
31. Robertson, D., Barnes, C., Gerasimchuk, N.N. "Synthesis of the monosubstituted arylcyanoxime and its Na, Tl(I) and Ag(I) compounds." *Journal of Coordination Chemistry* **2004**, *57*, N°14, pp.1205-1216.
32. Magda, D., Wang, Z., Gerasimchuk, N., Wenhao, W., Anzenbacher, P., Sessler, J. "Synthesis of Texaphyrin Conjugates", *Pure and Applied Chemistry*. **2004**, *76*, N°2, pp.365-374.
33. S. Hannah, V. Lynch, D.M. Guldi, N.N. Gerasimchuk, C.B. MacDonald, D. Magda, J.L. Sessler. "Late First-Row Transition-Metal Complexes of Texaphyrin." *J. Am. Chem. Soc.*, **2002**, *124*, N°28, p.8416-8427.
34. D. Magda, N.N. Gerasimchuk, P. Lecane, R.A. Miller, J.E. Biaglow, J.L. Sessler. "Motexafin gadolinium reacts with ascorbate to produce reactive oxygen species." *Chemical Communications*, **2002**, p.2730-2731.

Applications of Research: Patents

Seven patents on useful properties of synthesized coordination compounds were registered:

P A T E N T N° 1480346 (USSR), 1989

“Tetra-(Nitrosocarbamylcyanmethanid)(ethylenediamine)dication as a Bacteriostatic Compound Towards *Staphylococcus Aureus*”.

Skopenko V. V., Palii G. K., Gerasimchuk N. N., Domashevskaya O. A., Vievskii A. N.

P A T E N T N° 1405281 (USSR), 1988

“Nitrosothiocarbamylcyanmethanid of Potassium or Sodium Which Show Antimicrobial Activity”

Skopenko V. V., Palii G. K., Gerasimchuk N. N., Makats E. F., Domashevskaya O. A., Rakovskaya R. V.

P A T E N T N° 1405282 (USSR), 1988

“Bis-(Nitrosothiocarbamylcyanmethanid) Copper(II) or Nickel(II) Which Show Antimicrobial Activity”

Palii G. K., Skopenko V. V., Gerasimchuk N. N., Makats E. F., Domashevskaya O. A., Rakovskaya R. V.

P A T E N T N° 1487422 (USSR), 1989

“Di-(Nitrosothiocarbamylcyanmethanid)-di-(pyridine)-Copper Which Shows Bacteriostatic Activity Towards *Staphylococcus Aureus*, and Method of Preparation of the Complex”

Skopenko V. V., Palii G. K., Gerasimchuk N. N., Domashevskaya O. A., Makats E. F.

P A T E N T N° 1466229 (USSR), 1989

“Di-(Nitrosothiocarbamylcyanmethanid)-(tetramethylcyclam)-Copper Which Shows Bacteriostatic Activity Towards *Staphylococcus Aureus*”

Skopenko V. V., Palii G. K., Gerasimchuk N. N., Domashevskaya O. A., Kovalchuk V.

P A T E N T N° 06919327 C1 (USA), 2005

“Texaphyrin Coordination Compounds and Uses Thereof”

Magda, D., Miles, D., Gerasimchuk, N., Lepp, C.

P A T E N T N° 7,727,967 B2 (USA), 2010

"Cyanoxime Inhibitors of Carbonyl Reductase and methods of Using Said Inhibitors in Treatments Involving Antracyclines" Henry Charlier, Nikolay Gerasimchuk

Recently Filed Patent Application:

- 1) Full patent – September 12th, 2012. “Visible and UV-light insensitive Silver(I) cyanoximates that show antimicrobial activity” by Nikolay Gerasimchuk and Andrzej Gamian.
- 2) Provisional patent – November 2013, “Antimicrobial, thermally and visible light stable silver(I) cyanoximates that inhibit biofilm formation” by Nikolay Gerasimchuk and Marianna Patrauchan.

Awards and Honors:

Feb. 1980	Gold Medal of Ukrainian Academy of Sciences for outstanding student research project.
May 1988	Received Best Young Faculty Member Award in the College of Natural Sciences at Kiev State University (Ukraine).
July 2004	College of Natural and Applied Sciences of SMSU Research Award
August 2005	College of Natural and Applied Sciences of Missouri State University Teaching Award
August 2006	College of Natural and Applied Sciences of Missouri State University Service Award
April 2011	Best Undergraduate Research Student Mentor Award, for 2 nd place student presentation.
May 2012	College Research Award

Foreign Languages: fluently Russian and Ukrainian, communicate in German, Hungarian

Professional Service:

- Chairman of the "Inorganic Chemistry" section on 40th Regional American Chemical Society Meeting, October 2005, Joplin, Missouri.
- Chairman of the "Inorganic Chemistry" section on 38th Regional American Chemical Society Meeting, November 2003, Columbia, Missouri.
- Chaired, organized and successfully conducted 20th Missouri Inorganic Day, May 2006
- Chaired, organized and successfully conducted 24th Missouri Inorganic Day, April 2011
- Program Chair of the 48th Midwest Regional Meeting of the ACS, October 16-18, 2013.

Peer-reviewing:

- For the *Journal of Catalysis. A, Journal of Coordination Chemistry, Synthesis and Reactivity of Inorganic and Organometallic Compounds, Australian Journal of Chemistry, Chemical Communications, Inorganic Chemistry Communications, Inorganic Chemistry, Journal of American Chemical Society, Dalton Transactions, Inorganica Chimica Acta.*
- Research proposals: for the Cottrell College Research Corporation (one proposal, 2006), American Chemical Society PRF grants (4 proposals in 2004-2006), NSF (one grant proposal), NIH (two research proposal 2004-2013)

Professional Membership:

- American Chemical Society
- American Crystallographic Association
- Mid-South Inorganic Chemists Association, MICA

Community Service:

- Regional schools Science Olympiad event leader (2002-2008)
- Continuous participation in recruitment activities and chemical demonstrations for students of local colleges and schools.
- Founder and Treasurer of the Kiev State Alumni Abroad Association CTPYMOK (Engl.: creek) (since year 2000)

Graduate Students:

Ph.D. students in Ukraine:

- Dr. Konstantin V. Domasevitch, dissertation entitled: "Synthesis and Investigation of Donor Properties of New Cyanoxime Acidoligands" (Kiev State University, Ukraine, 1993)
- Dr. Olesya A. Domashevskaya, dissertation entitled: "Nickel(II) and Copper(II) Coordination Compounds with Nitroso-containing Methanide Type Acidoligands" (Kiev State University, Ukraine, 1989)

M.S. students in Ukraine:

- Nelli Zaporozhets (Kiev State University, Ukraine, 1984)
- Sergiy Dolzhenko (Kiev State University, Ukraine, 1989)
- Michail Fedorenko (Kiev State University, Ukraine, 1993)
- Konstantin V. Domasevitch (Kiev State University, Ukraine, 1992)
- Olga A. Zhmourko (Kiev State University, Ukraine, 1992)

M.S. students in the USA:

- Daniel Eddings, thesis title:

- "The Synthesis, Characterization, Spectroscopic, and Biological Activity Studies of Pt(II) and Pd(II) Cyanoximates." (Southwest Missouri State University, Springfield, USA, 2003)
- Tiffany Maher, thesis title: "Synthesis, characterization and Anti-cancer properties of Organotin(IV) Cyanoximates" (Southwest Missouri State University, Springfield, USA, 2004)
 - Leon Goeden, thesis title: "The Synthesis, Characterization and Biological Activity Studies of Pt(II) and Pd(II) Disubstituted Arylcyanoximates." (Southwest Missouri State University, Springfield, USA, 2005)
 - Daniel Robertson, thesis title: "Thallium(I) Coordination Polymers Based on Monosubstituted Arylcyanoximes" (Missouri State University, Springfield, USA, 2006)
 - Jennifer Snyder, thesis title: "Synthesis and Investigations of Several Dibutyltin(IV) Cyanoximates" (Missouri State University, Springfield, USA, 2007)
 - Jessica Ratcliff, thesis title: "Further Investigations of Cytotoxic Metalloxyanoximates" (Missouri State University, Springfield, USA, 2007)
 - Daniela Marcano, thesis title: "Pyridylcyanoximes and Their Metal Complexes" (Missouri State University, USA, 2007)
 - Carl Cheadle, thesis title: "Synthesis and Studies of N¹,N²-piperazine *bis*-(2-oximino-2-cyano) Acetamide and its Several Metal Complexes" (Missouri State University, USA, 2008)
 - Jeffrey Morton, thesis title: "Further investigations of silver(I) cyanoximates" (Missouri State University, USA, 2010)
 - Scott Curtis, thesis title: "Synthesis and characterization of the first non-chelating bis-cyanoximes and their metal complexes." (Missouri State University, USA, 2013)
 - Michael Hilton, thesis title: "Synthesis and Characterization of Oximes-based Platinum Complexes" (Missouri State University, USA, 2013)

Research Funding:

Department of Chemistry general start-up fund:	\$18,500 / 5 years
SMSU Faculty Research Grant, 2002:	\$6,350
SMSU Faculty Summer Research Fellowship, 2002:	\$2,000
American Chemical Society PRF grant, 2003-2006:	\$49,825
SMSU Faculty Research Grant, 2004:	\$5,670
Research Corporation Award, 2006-2008:	\$34,776
MSU Faculty Research Award, 2007:	\$6,490
MSU Provost Fund Research Award (co-PI) for purchase of X-ray single crystal and powder diffractometers, 2007:	\$250,000
NSF Major Instrumentation Award (co-PI) for purchase of SQUID magnetometer, 2007:	\$353,252
MSU Provost Research Fund Award (co-PI), for the 400 MHz NMR spectrometer upgrade for solid state capabilities, 2008:	\$150,000
MSU Faculty Summer Research Fellowship, 2008:	\$6,000
MSU Faculty Research Award, 2008:	\$6,877
MSU Faculty Summer Research fellowship, 2010:	\$6,000
MSU Faculty Research Award, 2011:	\$6,150

NIH R15 AREA award, 2012-2015:
MSU Faculty Research Award, 2013:

\$396,400
\$ 6,450

List of Presentations 2002-2013 (descending) at Regional, National ACS Meetings and International Conferences

Regional Meetings:

38th Midwest Regional ACS Meeting (November 5-7, 2003; Columbia, MO):

1. Gerasimchuk, N.N., Barnes, C., Domasevich, K.V. "An excursion into coordination chemistry of Thallium: first complexes with oximes." Proceedings of 38th Midwest Regional Meeting of the ACS; p. 157.
2. Robertson, D., ** Barnes, C., Cannon, J., Gerasimchuk, N.N. "Synthesis and investigation of the first mono-substituted arylcyanoximes and their monovalent metal complexes." Proceedings of 38th Midwest Regional Meeting of the ACS; p. 187.
3. Goeden, L., * Barnes, C., Gerasimchuk, N.N. "Preparation and studies of disubstituted arylcyanoximes and their Tl(I) and Ag(I) coordination compounds." Proceedings of 38th Midwest Regional Meeting of the ACS; p. 188.
4. Maher, T., * Durham, P., Gerasimchuk, N.N. "Synthesis, spectroscopic, structural characterization and anti-proliferating activity of new bis{organotin(IV)}cyanoximates." Proceedings of 38th Midwest Regional Meeting of the ACS; p. 233.

39th Midwest Regional ACS Meeting (October 22-26, 2004; Manhattan, KS):

5. Gerasimchuk, N., Durham, P., Eddings, D. "First biologically active Pd(II) and Pt(II) cyanoximates." Proceedings of 39th Midwest Regional Meeting of the ACS; p. 291.
6. Goeden, L., * Gerasimchuk, N., Barnes, C., Cannon, J. F. "Preparation and studies of disubstituted arylcyanoximes and their bivalent platinum and palladium complexes." Proceedings of 39th Midwest Regional Meeting of the ACS; p. 292.
7. Robertson, D., * Gerasimchuk, N., Cannon, J.F., Barnes, C. "Design of new types of metal-organic networks for one-dimensional mixed-valence coordination polymers." Proceedings of 39th Midwest Regional Meeting of the ACS; p. 213.

40th Midwest Regional ACS Meeting (October 25-27, 2005; Joplin, MO)

8. Owen, T. *; Domasevitch, K.V.; Barnes, C.; Gerasimchuk, N. "Preparation and studies of highly-colored anionic Fe(II) tris(cyanoximates)." Proceedings of 40th Midwest Regional Meeting of the ACS; p. 49.
9. Gerasimchuk, N.; Durham, P.; Goeden, L. *; Abbey, M.; Bowen, E.; Eddings, D. "Synthesis, characterization and anticancer activity studies of several Pd(II) and Pt(II) cyanoximates." Proceedings of 40th Midwest Regional Meeting of the ACS; p.52.
10. Maxwell, J. *; Barnes, C.; Gerasimchuk, N.; Boaz. "Synthesis and characterization of cobalt(III) cyanoximates - precursors for chiral ethylenediamines." Proceedings of 40th Midwest Regional Meeting of the ACS; p. 146.

42nd Midwest Regional ACS Meeting (November 7-10, 2007; Kansas City, MO)

11. Gerasimchuk, N.; Domasevitch, K.V.; Glover, G. *; Lewis, D. *; Dalley, N.K.; Rath, N.P. "Silver(I) cyanoximates: synthesis, characterization and applications." Proceedings of 42nd Midwest Regional Meeting of the ACS, p.81.

12. Cheadle, C.*; Gerasimchuk, N.; Kolesnichenko, V.; Ratcliff, J. "Nickel triad complexes of the amide-cyanoximes containing N-morpholyl-, N-piperidine- and bis-N-piperazine groups." Proceedings of 42nd Midwest Regional Meeting of the ACS, p.138.
13. Marcano, D.*; Nemykin, V.; Barnes, C.; Domasevitch, K.V.; Gerasimchuk, N. "Pyridylcyanoximes and their metal complexes". Proceedings of 42nd Midwest Regional Meeting of the ACS, p.139.

43rd Midwest Regional ACS Meeting (October 8-11, 2008; Kearney, NE)

14. Cheadle, C.*; Keene, M.; Gerasimchuk, N. "Synthesis and characterization of several cyanacetamide-oximes and their Pt(II) and Pd(II) complexes." Proceedings of 43rd Midwest Regional Meeting of the ACS, talk #45, p.63.
15. Glover, G.*; Gerasimchuk, N.; Domasevitch, K.V. "Heavy metals (M=Cs, Ag(I), Tl(I)) nitrosodicyanmethanides M[ONC(CN)₂]: synthesis, crystal structures and properties." Proceedings of 43rd Midwest Regional Meeting of the ACS, talk #49, p.64.
16. Gerasimchuk, N.; Glover, G.; Gamian, A.; Domasevitch, K.V. "Further investigations of silver(I) cyanoximates". Proceedings of 43rd Midwest Regional Meeting of the ACS, talk #52, p.66.

45rd Midwest Regional ACS Meeting (October 27-30, 2010; Wichita, KS)

17. Ratcliff, J.* Kolesnichenko, V.; Berezin, M.; Pal'shin, V.; Cheadle, C.*; Gerasimchuk, N. "Pt-cyanoximates: self-assembled nano-size electrical conductors." Proceedings of 45rd Midwest Regional Meeting of the ACS, poster #383, p.42 of the program booklet.

46th Midwest Regional ACS Meeting (October 27-30, 2011; St. Louis, MO)

18. Hilton, M.*; Gerasimchuk, N.; Charlier, H. "Preparation, characterization and *Human Carbonyl Reductase* (HCBR) inhibition studies of 2,4-dichlorophenyl-cyanoxime, H(2,4-diCl-PhCO)." Poster presentation at the 46th Regional Meeting of the ACS joint Midwest and Great Lakes sections. October 27-30, St. Louis.
19. Gross, S.; Hougas, R.,* Gerasimchuk, N. "Synthesis, characterization and applications of light-insensitive silver(I) cyanoximates." Oral presentation at the 46th Regional Meeting of the ACS joint Midwest and Great Lakes sections. October 27-30, St. Louis.

47th Midwest Regional ACS Meeting (October 24-27, 2012; Omaha, NE)

20. Hilton, M.*; Gerasimchuk, N. "Synthesis and characterization of 1D cyanoxime and nitrosonaphthol coordination complexes with semiconducting properties." Abstracts, 47th Midwest Regional Meeting of the American Chemical Society, Omaha, NE, United States, October 24-27 (2012), MW RM-434.
21. Curtis, S. M.*; Gerasimchuk, N.; Ilkun, O.; Brown, A. "First bis-cyanoximes: synthesis, spectroscopic studies, metal complexes, and coordination polymer studies." Abstracts, 47th Midwest Regional Meeting of the American Chemical Society, Omaha, NE, United States, October 24-27, MW RM-319.

48th Midwest Regional ACS Meeting (October 16-19, 2013; Springfield, MO)

22. D. R. Klaus,* M. Keene,* N. Gerasimchuk. "Synthesis, Spectra, and Crystal Structures of N,N'-diethylamide-2-cyano-2-oximino-acetamide and its Pt+2 and Pd+2cyanoximates." Abstracts, 48th Midwest Regional ACS Meeting, Springfield, MO. United States, October 16-19; MW RM-9.

23. M. O. Whited,* C. N. Riddles,* N. N. Gerasimchuk, S. R. Lotlikar, M. R. Patrauchan, S. Silchenko. "Synthesis and characterization of cyanoxime ligands, their precursors, and light insensitive silver(I) cyanoximates". Abstracts, 48th Midwest Regional ACS Meeting, Springfield, MO. United States, October 16-19; MWRM-63.
24. Hilton, M.* , Gerasimchuk, N. "Synthesis and characterization of 1D platinum cyanoximes and nitroso-naphthols coordination complexes with conducting properties". Abstracts, 48th Midwest Regional ACS Meeting, Springfield, MO. United States, October 16-19; MWRM-64.
25. N. Gerasimchuk. "Structural peculiarities of oximes-based coordination polymers of monovalent silver and thallium." Abstracts, 48th Midwest Regional ACS Meeting, Springfield, MO. United States, October 16-19; MWRM-284.

National ACS Meetings:

26. Domasevich, K.V., Gerasimchuk, N.N., Mokhir A. "Synthesis, spectroscopic and structural studies of new organotin, antimony and organoantimony cyanoximates". Coordination chemistry section, presentation 505 (oral). Spring 2002 ACS Meeting, April 6-11, Orlando, FL.
27. Gerasimchuk, N.N., Domasevich, K.V. "Building with oximes: synthesis and properties of monovalent thallium and silver cyanoximates". Coordination chemistry section, presentation 907 (oral). Spring 226 ACS Meeting, March 23-29, 2003, New Orleans, LA.
28. Maher, T.,* Gerasimchuk, N.N. "Synthesis and studies of new bis{organotin(IV)}cyanoximates". Bioinorganic chemistry section, presentation 105 (oral). Spring 226 ACS Meeting, March 23-29, 2003, New Orleans, LA.
29. Eddings, D.,* Gerasimchuk, N.N. "Synthesis, spectroscopic, structural studies and activity of novel Pd(II) and Pt(II) cyanoximates". Bioinorganic chemistry section, presentation 132 (poster). Spring 226 ACS Meeting, March 23-29, 2003, New Orleans, LA.
30. Goeden, L.,* Cannon, J., Barnes, C., Gerasimchuk, N. "Synthesis of new disubstituted arylcyanoximes and their transition metal complexes". Inorganic chemistry section, poster presentation. Fall 228 ACS Meeting, August, 22-26; 2004, Philadelphia, PA.
31. Robertson, D.,** Cannon, J., Gerasimchuk, N. "First monosubstituted arylcyanoximes and their Tl(I) and Ag(I) complexes." Inorganic chemistry section, poster presentation. Fall 228 ACS Meeting, August, 22-26; 2004, Philadelphia, PA.
32. Gerasimchuk, N.N., Durham, P., Eddings, D.* "Synthesis, spectroscopic characterization and biological activity of the first Pd(II) and Pt(II) cyanoximates". Inorganic chemistry section, poster presentation. Fall 228 ACS Meeting, August, 22-26; 2004, Philadelphia, PA.
33. Maher, T.,* Snyder, J.,* Durham, P., Gerasimchuk, N.N. "New anticancer active bis-{organotin (IV)-cyanoximates}". Inorganic chemistry section, poster presentation (719). Spring 229 ACS Meeting, March 13-17th, 2005, San Diego, CA.
33. Robertson, D.,* Cannon, J., Barnes, C., Gerasimchuk, N.N. "One-dimensional coordination polymers for molecular electronics." Inorganic chemistry section, poster presentation (721). Spring 229 ACS Meeting, March 13-17th, 2005, San Diego, CA.
34. Maxwell, J.,* Boaz, D.,* Gerasimchuk, N.N., Barnes, C.L. "Synthesis and characterization of cobalt(III) cyanoximates: precursors for chiral ethylenediamines." Inorganic chemistry section, poster presentation (733). Spring 229 ACS Meeting, March 13-17th, 2005, San Diego, CA.
35. Durham, P., Sedivy, D.,* Keck, M., Ratcliff, J.,* Gerasimchuk, N.N. "New cytotoxic bivalent Pd and Pt cyanoximates." Inorganic chemistry section, poster presentation (733). Fall 232 ACS Meeting, September 7-11th, 2006, San Francisco, CA.
36. Cheadle, C.,* Ratcliff, J.,* Kolesnichenko, V., Gerasimchuk, N. "Synthesis, characterization and studies of Pt(II) complexes with several substituted acetamide-oximes." Inorganic chemistry section, poster presentation (158). Spring ACS Meeting, April 4-7th, 2008, New Orleans, LA.

37. Gerasimchuk, N.; Glover, G.* "Visible light insensitive silver(I) cyanoximates." Inorganic chemistry section, poster presentation (196). Spring ACS Meeting, March 22-26th, 2009, Salt Lake City, UT.
38. Morton J. R.*; Gerasimchuk, N. "Silver(I) Cyanoximates: Synthesis, Crystal Structures and Physical Properties." Presentation at the 239th National American Chemical Society Meeting, San Francisco, CA, USA, March 21-25th 2010, INOR-947.
39. Curtis, S.*; Gerasimchuk, N.; Ilcun, O.; Brown, A. "First bis-cyanoximes: Synthesis, spectroscopic studies, crystal structures, and alkaline metals complexes" Abstracts of Papers, 243rd ACS National Meeting, San Diego, CA, USA, March 25-29, 2012, INOR-796.
40. Whited, M.*; Morton, J.*; Gerasimchuk, N. "Investigations of stability of polyacrylamide composites containing antimicrobial silver(I) cyanoximates to high intensity visible and UV-light." Abstracts of Papers, 243rd ACS National Meeting, San Diego, CA, USA, March 25-29, 2012, INOR-314.
41. Whited, M.; Korey, S.; Lotikar, S.R.; Patrauchan, M.; Gerasimchuk, N. "Light insensitive silver(I) cyanoximates as antimicrobial agents." Abstracts of Papers, 245th ACS National Meeting, New Orleans, LA, USA, April 4-8, 2013. INOR-400.
42. Whited, M.; Morton, J.R.; Gerasimchuk, N. "Investigations of the stability of acrylate based composites containing antimicrobial silver(I) cyanoximates to high intensity visible light and their antimicrobial effects." Abstracts of Papers, 245th ACS National Meeting, New Orleans, LA, USA, April 4-8, 2013. MEDI-193.

International Conferences:

35th International Conference on Coordination Chemistry (Heidelberg, Germany; 2002).

43. Gerasimchuk, N.N. "Coordination chemistry of cyanoximes". P. 276 in Proceedings of 35th International Conference on Coordination Chemistry, Heidelberg, July 21-26, 2002. Germany.

36th International Conference on Coordination Chemistry (Merida, Mexico; 2004).

44. Gerasimchuk, N., Domasevich, K.V. "An excursion into coordination chemistry of thallium: design of new types of mixed valence coordination polymers as potential electric conductors". P. 236 in Proceedings of 36th International Coordination Chemistry Conference (ICCC-36); Merida, July 18-24th 2004; Mexico.
45. Gerasimchuk, N., Durham, P., Eddings, D.* "First Pd(II) and Pt(II) cyanoximates: synthesis, structures and biological activity". P. 475 in Proceedings of 36th International Coordination Chemistry Conference (ICCC-36); Merida, July 18-24th 2004; Mexico.

37th International Conference on Coordination Chemistry (Cape Town, South Africa; 2006).

46. Gerasimchuk, N.N., Domasevitch, K.V., Barnes, C., Dalley, N.K. "Design of oxime-based metal-organic networks for one-dimensional coordination polymers." P. 194 in Proceedings of the ICC-37 Oral Abstracts book; Cape Town, August 13th - 18th 2006, South Africa.
47. Durham, P., Sedivy, D.,* Keck, M., Ratcliff, J.,* Gerasimchuk, N.N. "New cytotoxic bivalent Pd and Pt cyanoximates." P. 314 in Proceedings of the ICC-37 Posters Abstracts book; Cape Town, August 13th - 18th 2006, South Africa.

23rd International Conference on Coordination and Bioinorganic Chemistry (Smolenice, Slovakia, June 5-10; 2011).

48. Gerasimchuk, N. "Synthesis, Characterization and Remarkable Applications of Light-Insensitive Silver(I) Cyanoximates", p. 49 in Book of Abstracts and Program of the Conference.

40th International Conference on Coordination Chemistry (Valencia, Spain; 2012).

49. Gerasimchuk, N. "Light-insensitive Silver(I) Cyanoximates: Properties and Remarkable Applications." Oral talk, at ICC-40, September 9th-13th, 2012.
50. Curtis, S.; Cheadle, C.; Ilcun, O.; Gerasimchuk, N. "First Bis-Cyanoximes: New Versatile Multidentate Building Blocks for MOFs." Poster presentation at ICC-40, September 9th-13th, 2012.

* - graduate student; * - undergraduate student

Conducted Seminars and Invited Lectures in 2002-2012:

1. Wichita State University, Wichita, KS, Chemistry Department invited speaker, March, 5th 2014
2. Seminar at the Department of Chemistry of the University of Kansas, April 11th, 2012.
3. Seminar at the Department of Agricultural Biology of the University of Missouri-Columbia, April 4th, 2012.
4. Invited speaker at Missouri University of Science and Technology in Rolla, November 28th, 2011.
5. Public lecture at Missouri State University: "Metals and metal compounds in medical practice"; October, 2011.
6. Presentation "Atomic Electric Power" at Springfield Business Rotary Club, July 26th, 2011.
7. Presentation "Chemical Aspects of Climate Change", MSU, Plaster Union, March 3rd, 2011.
8. Seminar at Creighton University, Omaha, Nebraska, February 12th, 2011.
9. Lecture at Arkansas State University, Jonesboro, AR, November 16th, 2010.
10. Seminar at University of Central Arkansas, Conway, November 4th, 2010.
11. Seminar at the Department of Chemistry, Missouri State University; October 13th, 2010.
12. Seminar at the Chemistry Department of University of Hull, England; December 9th, 2009.
13. Seminar at Anorganische Chemische Institut im Ruprecht-Karls Universität, Heidelberg, Germany; November 24th, 2009.
14. Lecture at the University of Pecs, Hungary; November 16th, 2009.
15. Seminar at the Department of Chemistry of Debrecen University, Hungary; November 13th, 2009.
16. Lecture at the Institute of Inorganic and Analytical Chemistry at the University of Szeged, Hungary; November 12th, 2009.
17. Seminar at the Department of Chemistry of Wroclaw University, Poland; September 26th 2009.
18. Lecture at the Institute of Immunology and Experimental Therapy of Polish Academy of Sciences; Wroclaw, Poland; September 27th, 2009.
19. Invited speaker at the Department of Chemistry of the University of Iowa, April 15th, 2009.
20. Invited speaker at the Chemistry Department of Xavier University of Louisiana, New Orleans, October 18th, 2007. The title of seminar is "Metal-based anticancer drugs."
21. Seminar at the Department of Chemistry and Biochemistry of University of Minnesota-Duluth, March 23rd, 2007.
22. Seminar at the Department of Chemistry of University of North Dakota, Grand Forks, March 22nd, 2007.
23. Seminar at the Department of Chemistry and Molecular Biology of North Dakota State University, Fargo, March 20th, 2007
24. Missouri-Oklahoma-Kansas ACS speaker at Missouri State Southern University, November 2006
25. Seminar at the Department of Chemistry of MSU, September 11th, 2006.
26. Lecture "Metal-based drugs" at the Chemistry Department of National University of Ukraine, Kiev, May 28th 2006.
27. Seminar at the Department of Chemistry of the University of Missouri - St. Louis April 11th, 2005.

28. Seminar at the Department of Chemistry and Biochemistry the University of Oklahoma. March 25th, 2005.
29. Seminar at the Department of Chemistry of SMSU. November 1st, 2004.
30. Seminar at the Department of Chemistry of University Missouri Kansas City. October, 28th 2004.
31. Seminar on Inorganic Chemistry Colloquium of the Department of Chemistry of University of Kansas. October, 5th 2004
32. Seminar at the Chemistry Department of University of Missouri-Rolla; February, 16th 2004.
33. Invited speaker for the Department of Chemistry of Kansas State University; April, 8th 2004
34. Presentation on CNAS Lecture Series at SMSU; March, 30th 2004.
35. CNAS, Summer Seminar Series, SMSU Presentation, June, 24th 2003
36. CNAS, Lunch Seminar Series, SMSU Presentation, October, 21st 2003
37. Arkansas State University, Jonesboro, AR. Invited speaker of the ACS local section. November, 22nd, 2002
38. CNAS, Department of Agriculture, SMSU, Springfield Invited speaker November 4th 2002
39. Department of Chemistry, SMSU, October, 21st 2002, Departmental seminar
40. Wichita State University, Wichita, KS, Chemistry Department invited speaker, October, 16th 2002
41. English Language Institute, SMSU, Springfield, MO; Invited presentation on Seminar Lecture Series. March, 20th 2002
42. Southeast Oklahoma State University, Durant, OK; February, 28th 2002, invited speaker of the ACS local section

Other oral presentations at professional meetings:

- at the Missouri Inorganic Days:
17th (2002, University of Missouri St. Louis),
18th (2004, University of Missouri-Columbia),
19th (2005, Washington University);
20th (2006, Missouri State University).
21st (2007, University of Missouri-Kansas City)
22nd (2009, University of Missouri-Columbia)
23rd (2010, University of St. Louis)
24th (2011, Missouri State University)
26th (2013, Missouri University of Science & Technology)
- IV Mid-South Inorganic Chemists Association (2005, October 1, University of Central Arkansas, Conway); and MICA Spring-2007 and Fall-2007 meetings, 2009, 2010, 2012.
- Missouri Academy of Sciences Meetings (April 22, 2002 at Southwest Missouri State University and April 20, 2006 at Truman State University)
- Bruker CCD Users Meeting: 2009, 2011, 2013 (Madison, WI, USA) and 2010 (Karlsruhe, Germany)