Piper J. Klemm
Publisher, The Plaid Horse, Canton, New York, 13617
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Education

Ph.D. in Chemistry. University of California, Berkeley. Berkeley, California, December 2012. Research advisor: Professor Kenneth N. Raymond. Dissertation: "Next generation magnetic resonance imaging (MRI) contrast agents."

B. S. Chemistry with Honors. Trinity College**.** Hartford, Connecticut, May 2009.
Thesis: "Using the Transmission electron microscope (TEM) to image the osteocalcin binding location on type I tropocollagen."

Professional Experience

Publisher, The Plaid Horse Magazine (2014-present). The largest horse show magazine in North America.

Adjunct Professor, St. Lawrence University (Fall 2018, Fall 2019, Summer 2020)

Graduate Student Instructor, University of California, Berkeley (August 2009- May 2012)
Organic Chemistry (Fall 20009), Organic Chemistry (Fall 2010), Organic Chemistry (Summer 2012)

St. Lawrence University Courses

SSES 3019: Grit, Toughness, and Contemporary Equestrian Coaching
SSES 3020: English Riding: History, Culture, and Industry Evolution, 1950 to Present
GNDR 3078: Business and Bias in the Equestrian Industry
First-Year Program: Scientific Discovery
First-Year Program: Entrepreneurship in the Netflix Era

Publications

Klemm, Piper J.; Hoch, Anne Z. Evaluation of Biomechanical Performance of Equestrian Helmets. *Submitted to the Clinical Jounral of Sports Medicine, 2018.*

Winter, Michael B.; **Klemm, Piper J.;** Phillips-Piro, Christine M.; Raymond, Kenneth N.; Marletta, Michael A. High-relaxivity and high-stability porphyrin-substituted H-NOX proteins for magnetic resonance imaging technology. *Inorganic Chemistry,* **2013**, *52*, 2277-2279.

Klemm, Piper J.; Floyd, William C., III; Smiles, Danil E.; Fréchet, Jean M. J.; Raymond, Kenneth N. Improving T_1 and T_2 magnetic resonance imaging (MRI) contrast agents through the conjugation of an esteramide dendrimer to high water coordination Gd(III) hydroxypyridinone (HOPO) complexes. *Contrast Media and Molecular Imaging,* **2012**, *7*, 95-99.

Klemm, Piper J.; Floyd, William C., III; Andolina, Christopher M.; Fréchet, Jean M. J.; Raymond, Kenneth N. Conjugation to biocompatible dendrimers increases lanthanide T_2 relaxivity of

hydroxypyridinone (HOPO) complexes for magnetic resonance imaging (MRI). *European Journal of Inorganic Chemistry*. **2012**, *12,* 2108-2114. **Invited Paper for Special Issue on MRI Probes*

Bailey, Mark J.; van der Weegen, Rob; **Klemm, Piper J.**; Baker, Suzanne L.; Helms, Brett. Direct transfer of hydrophobic rare earth oxide nanodiscs into aqueous media using PEGylated polyacrylic acids for magnetic resonance imaging. *Advanced Healthcare Materials,* **2012**, *1,* 437-442.

Duncan, Alexandra K.; **Klemm, Piper J.**; Raymond, Kenneth N.; Landry, Christopher C. Silica microparticles as a solid support for gadolinium-based magnetic resonance imaging (MRI) contrast agents. *Journal of the American Chemical Society,* **2012**, *134*, 8046-8049.

Andolina, Christopher M.; **Klemm, Piper J.**; Floyd, William C. III.; Fréchet, Jean M. J.; Raymond, Kenneth N. Analysis of lanthanide complex dendrimer conjugates for bimodal NIR and MRI imaging. *Macromolecules,* **2012**, *45,* 8982-8990.

Floyd, William C., III; **Klemm, Piper J.;** Smiles, Danil E.; Kohlgruber, Ayano C.; Pierre, Valerie C.; Mynar, Justin L.; Fréchet, Jean M. J.; Raymond, Kenneth N. Conjugation effects of various linkers on Gd(III) MRI contrast agents with dendrimers: optimizing the hydroxypyridinonate (HOPO) ligands with nontoxic, degradable esteramide (EA) dendrimers for high relaxivity. *Journal of the American Chemical Society,* **2011**, *133*, 2390-2393.

Posters

Murphy, Rebecca A.; Kisunzu, Jessica K.; **Klemm, Piper J.**; Douglas, Jessica D.; Lee, Olivia P.; Doan, Hoang; Weeber, Kaitlyn M.; Rubin, Leah. Chemistry Outreach at Iota Sigma Pi- Hydrogen Chapter at the University of California at Berkeley. ACS National Meeting, Philadelphia, PA, August 19-23, 2012. CHED

Klemm, Piper J.; Raymond, Kenneth N. Us ing Macromolecules as Scaffolds for Next Generation MRI Contrast Agents. PacifiKen II, Timberline Lodge, OR. August 1-2, 2012.

Hill, Adam D.; Pailloux, Sylvie L.; **Klemm, Piper J.**; Harris, Charles B.; Raymond, Kenneth N. Synthesis, characterization, and theoretical description of novel gadolinium and iron HOPO-based MRI contrast agents. PacifiKen II, Timberline Lodge, OR. August 1-2, 2012.

Pailloux, Sylvie L.; Hom, Marisa; Keyser, Michelle N.; **Klemm, Piper J.**; Xu, Jide.; Raymond, Kenneth N. Design and synthesis of new hydroxypyridinone (HOPO) for new generation MRI contrast agents. PacifiKen II, Timberline Lodge, OR. August 1-2, 2012.

Duncan, Alexandra K.; **Klemm, Piper J.**; Landry, Christopher C. Silica microparticles as a solid support for gadolinium-based magnetic resonance imaging (MRI) contrast agents. Materials Research Society, San Francisco, CA, April 9-13, 2012.
**Highlighted in MRS Meeting News*

Klemm, Piper J.; Keyser, Michelle N.; Straney, Patrick J.; Pailloux, Sylvie L.; Millstone, J.; Raymond, Kenneth N. Gold nanoparticles as a surface to immobilize gadolinium-hydroxypyridinone

(HOPO) complexes for use as magnetic resonance imaging (MRI) contrast agents. American Chemical Society National Meeting, San Diego, CA, March 25-29, 2012. INOR

Faris, Anna E. R.; **Klemm, Piper J.;** Pailloux, Sylvie L.; Raymond, Kenneth N. Synthesis of novel capping moieties for increased *q* value in gadolinium hydroxypyridinone (HOPO) chelators. American Chemical Society National Meeting, San Diego, CA, March 25-29, 2012. INOR

Keyser, Michelle N.; **Klemm, Piper J.**; Pailloux, Sylvie L.; Raymond, Kenneth N. Synthesis of macromolecular gadolinium hydroxypyridinone complexes as magnetic resonance imaging (MRI) contrast agents. American Chemical Society National Meeting, San Diego, CA, March 25-29, 2012. INOR

Hill, Adam D.; Pailloux, Sylvie L.; **Klemm, Piper J.**; Harris, Charles B.; Raymond, Kenneth N. Synthesis, characterization, and theoretical description of novel gadolinium and iron HOPO-based MRI contrast agents. American Chemical Society National Meeting, San Diego, CA, March 25-29, 2012. INOR

Hom, Marisa E.; Pailloux, Sylvie L.; **Klemm, Piper J.;** Raymond, Kenneth N. Recent development in design and synthesis of new HOPO in the goal to improve solubility and kinetic stability. American Chemical Society National Meeting, San Diego, CA, March 25-29, 2012. INOR

Klemm, Piper J.; Winter, Michael B.; Phillips-Piro, Christine M.; Raymond, Kenneth N.; Marletta, Michael A. High-relaxivity and high-stability porphyrin-substituted H-NOX proteins for magnetic resonance imaging technology. American Chemical Society National Meeting, San Diego, CA, March 25-29, 2012. BIOL

Klemm, Piper J.; Murphy, Rebecca; Kinzuzu, Jessica.; Kieler-Ferguson, Heidi M. Chemistry outreach at Iota Sigma Pi- Hydrogen Chapter. American Chemical Society National Meeting, San Diego, CA, March 25-29, 2012. CHED

Kieler-Ferguson, Heidi M.; **Klemm, Piper J.**; Fréchet, Jean M. J. Conjugation of DOTA to ester amide dendrimer for increased T1 and T2 MRI relaxivity. American Chemical Society National Meeting, Denver, CO, August 28-September 1, 2011, INOR-133.

Klemm, Piper J. Iota Sigma Pi- Hydrogen Chapter, Iota Sigma Pi Triennial Convention, Cleveland, OH, United States June 23-26, 2011.

Klemm, Piper J.; Floyd, William C.; Andolina, Christopher M.; Kieler-Ferguson, Heidi M.; Smiles, Danil E.; Fréchet, Jean M. J.; Raymond, Kenneth N. Using macromolecular conjugation with the esteramide dendrimer to increase the T1 and T2 relaxivity of hydroxypyridinone (HOPO) magnetic resonance imaging (MRI) contrast agents, American Chemical Society National Meeting, Anaheim, CA, March 27-31, 2011, INOR-189.

Pailloux, Sylvie L.; **Klemm, Piper J.;** Xu, Jide; Raymond, Kenneth N. Using a bicapped TREN terephthalamide (TAM) macrocycle for magnetic resonance imaging (MRI) contrast agent, American Chemical Society National Meeting, Anaheim, CA, United States, March 27-31, 2011, INOR-216.

Peretz, Ryan H.; Pailloux, Sylvie L.; **Klemm, Piper J.;** Raymond, Kenneth N. Design and synthesis of Gd(III) magnetic resonance imaging (MRI) contrast agent ligand caps for hydroxypyridinone (HOPO) oxygen donor chelators and their T1 and T2 relaxivity, American Chemical Society National Meeting, Anaheim, CA, March 27-31, 2011, INOR-311.

Faris, Anna E.; **Klemm, Piper J.;** Pailloux, Sylvie L.; Raymond, Kenneth N. Exploring the T2 relaxivity of lanthanide hydroxypyridinone (HOPO) magnetic resonance imaging (MRI) contrast agents, American Chemical Society National Meeting, March 27-31, 2011, INOR-310.

Smiles, Danil E.; **Klemm, Piper J.;** Floyd, William C.; Frechét, Jean M. J.; Raymond, Kenneth N. Conjugation effects of various linkers on Gd(III) MRI contrast agents and dendrimers: Optimizing the hydroxypyridinone (HOPO) ligands with nontoxic, degradable esteramide (EA) dendrimers for high relaxivity, American Chemical Society National Meeting, March 27-31, 2011, INOR-309.

Klemm, Piper; Prigodich, Richard V. Using transmission electron microscopy (TEM) to image the osteocalcin binding site on type I tropocollagen, AbstracAmerican Chemical Society National Meetingg\, Salt Lake City, UT, March 22-26, 2009, BIOL-150.

Klemm, Piper; Prigodich, Richard V. Using transmission electron microscopy (TEM) to image the osteocalcin binding site on type I tropocollagen, American Chemical Society Regional Meeting-Connecticut Valley Section, New London, CT, April 26, 2009.

Klemm, Piper J.; Maier, Claudia. Using H/D Exchange-MS to Determine Protein Dynamics on AhpC, a Peroxiredoxin-Type Antioxidant Enzyme, 1st Annual Pacific NW Undergraduate Research Symposium on Organic Chemistry, Corvallis, OR, August 11, 2008.
**Co-Winner Best Poster Presentation Award*

Klemm, Piper; Prigodich, Richard V. Imaging the osteocalcin binding site on collagen, Abstracts of Papers, 1st Annual Pacific NW Undergraduate Research Symposium on Organic Chemistry, Corvallis, OR, August 11, 2008.
**Co-Winner Best Poster Presentation Award*

Klemm, Piper; Lehman, Ann; Prigodich, Richard V. Imaging the osteocalcin binding site on collagen, American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008, CHED-857.

Professional Affiliations

United States Equestrian Federation (USEF) – Life Member (1999 – present).

- US Olympic Committee Safe Sport Certified 2018, 2019, 2020

United States Hunter Jumper Association (USHJA) – Life Member (2011 – present).

United States Hunter Jumper Association Diversity Task Force (USHJA) — Member (2020-present)

American Chemical Society (2008-2015). National member; active member of the local Women Chemists Committee (WCC) Chapter.

Iota Sigma Pi (2009-2015). Iota Sigma Pi (National Women's Honor Society in Chemistry). Social media coordinator for the national organization (since 2011), maintaining Facebook, Twitter, and LinkedIn communication. Hydrogen Chapter (Berkeley, CA) delegate to the 2011 Triennial Convention (Cleveland, Ohio), and was Social Chair (2011-2012) (organizing events and fundraising), historian, and web designer, responsible for building and maintaining the chapter website and Facebook.

Equestrian Magazine Publications

Publisher for over 60 full print issues of The Plaid Horse Magazine. Over 2,000 blog posts. Hundreds of thousands of blog posts, social media updates, and media uploads, over 200+ articles and photography published in the equestrian field in The Plaid Horse, Horse & Style Magazine, The Chronicle of the Horse, ProEquest, USHJA In Stride & Sidelines and others.

Author of Show Strides Series.

200+ Podcasts recorded on The Plaid Horse Magazine Podcast, the #Plaidcast,
as well as guest appearances on Horses in the Morning Radio Show, Horse Sense, The Equestrian Podcast, Horse Chats, and Equestrian Author Spotlight Series.

Additional Mentorship

- Weekly Zoom meetings with Pony Clubs, study groups, etc. to discuss horsemanship and education in the equestrian industry.
- Over last five years, managed over 250 interns and ambassadors and 12 full-time employees of The Plaid Horse, including facilitating educational trips to horse shows and events throughout North America.