Daniel C. Elton, Ph.D.

EDUCATION

Ph.D., Physics
Stony Brook University, Stony Brook, NY — Dec. 2016

Bachelor of Science, Physics
Rensselaer Polytechnic Institute, Troy, NY — Aug. 2009
GPA 3.87

PROFESSIONAL EXPERIENCE

Mass General Brigham AI, Boston, MA
Data Scientist — Jul 2021 -

- Deployed multiple AI systems for testing and validation in the radiology clinic, working closely with researchers, clinicians, engineers, and industry partners.
- Developed machine learning models for segmentation, classification, and anomaly detection.
- Developed a no-code machine learning framework that allows radiologists to train their own models.
- Deployment of a "stroke mimic" detector for triage with head CT, including a conformal prediction method to identify uncertain cases.
- Fine tuned and tested the open source LLaVA multimodal transformer for medical applications.
- Supervised one intern (Ryan Liu).

National Institutes of Health, Bethesda, MD
Staff Scientist — Jan 2019 - Jul 2021
KGS Contractor supervised by Dr. Ronald M. Summers at the NIH Clinical Center, Department of Radiology and Imaging Sciences.

- Worked on automated algorithms that extract biomarkers from CT scans for disease risk prediction. The OSCAR biomarker suite includes algorithms for plaque, fat, bone mineral density, muscle, and liver fat.
- Developed a state-of-the-art deep learning based system for kidney stone detection and size quantification on CT scans.
- Developed a patch-based 3D U-Net model for segmentation of plaque in the aorta and pelvic arteries.
- Developed a state-of-the-art model for pancreas segmentation on non-contrast CT using active learning. Ran the model on over $20,000$ scans from 9,000 patients to correlate pancreas features with diabetes diagnosis.
- Developed a patch-based 2D U-Net++ model which can segment vesicles in electron microscope (EM) images of neural tissue.
- Helped construct a large dataset of about 20,000 MRI scans and performed registration of MRI series.
- Used the CycleGAN and UNIT image translation models for synthetic data augmentation to help train deep learning models.
- Performed GPU server installation, maintenance, and backups.
- Supervised and mentored a post-baccalaureate fellow (Hima Tallam) and three summer interns.

University of Maryland, College Park, MD
Postdoctoral Researcher — March 2017 – Dec 2019
Supervised by Prof. Peter W. Chung and Prof. Mark Fuge.

- Demonstrated for the first time how machine learning models can predict the properties of novel energetic materials.
- Developed a natural language processing pipeline to extract relations between chemicals and applications from text corpora.
- Supervised a masters student and an undergraduate student.

- Explained the utility of machine learning methods to program managers and chemists in DoD research labs by participating in numerous talks and discussions. Wrote a four page white paper grant proposal.
- Studied interpretability methods for machine learning models for the discovery of new structure-property relations in chemistry.
- Wrote a review article on deep learning techniques for molecular design and demonstrated how a generative adversarial network can be used to generate sets of potentially useful molecules.

Stony Brook University, Stony Brook, NY

Graduate Research Assistant June 2012 – December 2016

Ph.D. adviser: Prof. Marivi Fernández-Serra. Thesis: *Understanding the Dielectric Properties of Water.*

- Wrote a Fortran code (*PIMD-F90*) for simulation of nuclear quantum effects in liquid water and a Python package (*spectrumfitter*) for fitting dielectric spectra.
- Planned and executed a detailed simulation study of the dielectric properties of water which led to the discovery of optical phonon-like modes in liquid water.

Graduate Teaching Assistant September 2010 - May 2012

- Taught "Physics for the Life Sciences II" lab component and tutored students in help room.

Los Alamos National Laboratory, Los Alamos, NM

Science Undergraduate Laboratory Internship June – August 2010

- Worked with Dr. Garrett Kenyon on biologically-inspired neural networks for computer vision.

COMPUTER SKILLS

- My primary programming language is Python. I have past experience with Fortran, Matlab, and C++.
- Python libraries: pytorch, tensorflow, keras, scikit-learn, pandas, numpy, matplotlib.
- git, Docker, LaTeX, GNU/Linux, HPC/slurm, bash, 3D Slicer

PEER REVIEWED JOURNAL ARTICLES

K. Yatim, G. T. Ribas, **D. C. Elton**, M. A. B. C. Rockenbach, P. J. Pickhardt, J. W. Garrett, B. C. Bizzo, L. V. Riella. "Applying Artificial Intelligence to Quantify Body Composition on Abdominal CTs and Better Predict Kidney Transplantation Waitlist Mortality" (under review) (2024)

A. N. Angelopoulos, S. Pomerantz, S. Bates, C. P. Bridge, **D. C. Elton**, S. Do, M. Lev, R. G. Gonzalez, M. I. Jordan, J. Malik. "Conformal Triage for Medical Imaging AI Deployment". To appear in *Radiology: Artificial Intelligence.* (2024)

G. Dasegowda, J. Y. Sato, **D. C. Elton**, E. Garza-Frias, T. Schultz, C. P Bridge, B. Bizzo, K. J. Dreyer, M. K. Kalra. "No code machine learning: validating the approach on use-case for classifying clavicle fractures". *Clinical Imaging.***112**, 110207. (2024)

P. Mukherjee, S. Lee, **D. C. Elton**, R. M. Summers. "Longitudinal Follow-up of Incidental Renal Calculi on Computed Tomography" *Abdominal Radiology.* (2023)

P. Mukherjee, S. Lee, **D. C. Elton**, S. Y. Nakada, P. J. Pickhardt, R. M. Summers. "Fully Automated Longitudinal Assessment of Renal Stone Burden on Serial CT Imaging Using Deep Learning". *Journal of Endourology.* **37**, pgs 948-955. (2023)

P. Mukherjee, S. Lee, **D. C. Elton**, S. Y Nakada, P. J. Pickhardt, R. M. Summers. "Fully Automated Longitudinal Assessment of Renal Stone Burden on Serial CT Imaging Using Deep Learning" *Journal of Endourology.* (2023)

T. S. Mathai, S. Lee, T. C. Shen, **D. C. Elton**, Z. Lu, R. M. Summers. "Universal detection and segmentation of lymph nodes in multi-parametric MRI". *International Journal of Computer Assisted Radiology and Surgery.* (2023)

S. Lee, **D. C. Elton**, A. Yang, C. Koh, D. Kleiner, P.J. Pickhardt, R. M. Summers. "Fully-automated Liver Couinaud and Spleen Segmentation in CT for Diagnosing Liver Cirrhosis and Advanced Fibrosis". *Radiology: Artificial Intelligence.* **4** (5) pgs e210268, 2022

D. C. Elton, E. B. Turkbey, P. J. Pickhardt, R. M. Summers. "A deep learning system for automated kidney stone detection and volumetric segmentation on non-contrast CT scans". *Medical Physics*, **49** (4) pgs 2545-2554, 2022.

H. B. Tallam, **D. C. Elton**, S. Lee, P. Wakim, R. M. Summers. "Fully-automated Abdominal CT Imaging Biomarkers for Type 2 Diabetes using Deep Learning". *Radiology*, **304** (1), pgs 85-95, 2022.

S. Lee, **D. C. Elton**, J. L. Gulley, P. J. Pickhardt, W. L. Dahut, R. A. Madan, P. A. Pinto, D. E. Citrin, R. M. Summers. "Assessment of aortoiliac atherosclerotic plaque on CT in prostate cancer patients undergoing treatment." *Tomography* **8** (2) pgs 607–6, 2022.

S. Wang, Y. Zhu, S. Lee, **D. C. Elton**, T. Shen, Y. Tang, Y. Peng, Z. Lu, R. M. Summers. "Global-Local Attention Network with Multi-task Uncertainty Loss for Abnormal Lymph Node Detection in MR Images". *Medical Image Analysis.* **77**, pg 102345, 2022.

A. A. Perez, V. Noe-Kim, M. G. Lubner, P. M. Graffy, J. W. Garrett, **D. C. Elton**, R. M. Summers, P. J. Pickhardt. "Automated Deep Learning CT-based Liver Volume Segmentation: Defining Normal and Hepatomegaly for Clinical Practice." *Radiology.* **302** (2) pgs 336-342. 2021.

P. J. Pickhardt, P. M. Graffy, A. A. Perez, M. G. Lubner, **D. C. Elton**, R. M. Summers. 'Opportunistic Screening at Abdominal CT: Use of Automated Body Composition Biomarkers for Added Cardiometabolic Value". *Radiographics*, **41**(2), 524-542, 2021.

D. C. Elton. "Applying Deutsch's concept of good explanations to artificial intelligence and neuroscience - an initial exploration". *Cognitive Systems Research*, **67**, 9, 2021.

P. J. Pickhardt, G. Blake, P. M. Graffy, V. Sandfort, **D. C. Elton**, A. A. Perez, R. M. Summers. "Liver Steatosis Categorization on Contrast-Enhanced CT Using a Fully-Automated Deep Learning Volumetric Segmentation Tool: Evaluation in 1,204 Healthy Adults Using Unenhanced CT as Reference Standard", *American Journal of Roentgenology*, **217**(2), 359-367, 2020.

P. M. Graffy, P. J. Pickhardt, **D. C. Elton**, S. J. Lee, J. Liu, V. Sandfort, R. M. Summers. "Fully-automated CT Imaging Biomarkers of Bone, Muscle, and Fat: Correcting for the Effect of Intravenous Contrast", *Abdominal Radiology*, **46**, pgs 1229–1235, 2020.

R. M. Summers, **D. C. Elton**, S. Lee, Y. Zhu, J. Liu, M. Bagheri, V. Sanfort, P. C. Grayson, N. N. Mehta, P. A. Pinto, W. M. Linehan, A. A. Perez, P. M. Graffy, S. O'Connor, P. J. Pickhardt. "Atherosclerotic Plaque Burden on Abdominal CT: Automated Assessment with Deep Learning on Noncontrast and Contrast-enhanced Scans", *Academic Radiology*, **28**(11), pgs 1491-1499, 2020.

D. C. Elton. P. D. Spencer, J. D. Riches, E. D. Williams. "Exclusion zone phenomena in water - a critical review of experimental findings and theories", *International Journal of Molecular Sciences*, **21** (14), 5041, 2020.

D. C. Elton, Z. Boukouvalas, M. D. Fuge, and P. W. Chung. "Deep learning for molecular design - a review of the state of the art", *Molecular Systems Design & Engineering*, **4**, 828, 2019.

G. Kumar, F. G. VanGessel, **D. C. Elton**, and P. W. Chung. "Phonon Lifetimes and Thermal Conductivity of the Molecular Crystal α-RDX", *MRS Advances*, **4**, 2191, 2019.

D. C. Elton, M. Fritz, and M.-V. Fernández-Serra, "Using a monomer potential energy surface to perform approximate path integral molecular dynamics simulation of ab-initio water at near-zero added cost", *Phys. Chem. Chem. Phys.*, **21**, 409, 2019.

D. C. Elton, Z. Boukouvalas, M. S. Butrico, M. D. Fuge, and P. W. Chung, "Applying machine learning techniques to predict the properties of energetic materials", *Scientific Reports* **8**, 9059, 2018.

D. C. Elton "The origin of the Debye relaxation in liquid water and fitting the high frequency excess response", *Phys. Chem. Chem. Phys.*, **19**, 18739, 2017.

D. C. Elton and M.-V. Fernández-Serra, "The hydrogen-bond network of water supports propagating optical phonon-like modes", *Nature Communications*, **7**, 10193, 2016.

D. C. Elton and M.-V. Fernández-Serra, "Polar nanoregions in water - a study of the dielectric properties of TIP4P/2005, TIP4P/2005f and TTM3F", *The Journal of Chemical Physics*, **140**, 124504, 2014.

J. J. Podesta, M. A. Forman, C. W. Smith, **D. C. Elton**, and Y. Malecot, "Accurate Estimation of Third-Order Moments from Turbulence Measurements", *Nonlin. Proc. Geophys*, **16**, 99, 2009.

PEER REVIEWED CONFERENCE PAPERS

Tejas S. Mathai, S. Lee, **D. C. Elton**, Tommy Shen, R. M. Summers. "Lymph node detection in T2 MRI with transformers". *Proceedings of SPIE Medical Imaging 2022: Computer-Aided Diagnosis.* (2022)

D. C. Elton, A. Chen, P. J. Pickhardt, R. M. Summers. "Cardiovascular disease and all-cause mortality risk prediction from abdominal CT using deep learning". *Proceedings of SPIE Medical Imaging 2022: Computer-Aided Diagnosis.* (2021)

Y. Zhu, S. Wang, S. Lee, Q. Chen, **D. C. Elton**, T. Shen, Y. Tang, Z. Lu, R. M. Summers. "Learning Structured Graphs from Visual/Semantic Feature and Radiology Ontology Graph for Lymph Node Classification". *Proceedings of the 2021 Machine Learning in Medical Imaging (MLMI) MICCAI workshop.*

D. C. Elton. "Common pitfalls when explaining AI and why mechanistic explanation is a hard problem". *Proceedings of the 6th International Congress on Information and Communication Technology*, 2021.

Y. Peng, S. Lee, **D. C. Elton**, T. Shen, Y. Tang, Q. Chen, S. Wang, Y. Zhu, R. M. Summers, Z. Lu "Automatic recognition of lymph nodes from clinical text". *Proceedings of the 3rd Workshop on Clinical Natural Language Processing (ClinicalNLP)*, 101-110, 2020.

S. Y. Shin, S. Lee, **D. C. Elton**, J. Gulley, R. M. Summers. "Deep Small Bowel Segmentation with Cylindrical Topological Constraints", *Medical Image Computing and Computer Assisted Intervention (MICCAI) 2020*, edited by Anne L. Martel et al., Springer International Publishing, **12264**, 207–15.

Y. Zhu, Y. Tang, Y. Tang, **D. C. Elton**, S. Lee, P. J. Pickhardt, R. M. Summers. "Cross-Domain Medical Image Translation by Shared Latent Gaussian Mixture Model", *Medical Image Computing and Computer Assisted Intervention (MICCAI) 2020*, edited by Anne L. Martel et al., Springer International Publishing, **12262**, 379–389, 2020.

Z. Boukouvalas, M. Puerto, **D. C. Elton**, P. W. Chung, M. D. Fuge. "Independent Vector Analysis for Molecular Data Fusion: Application to Property Prediction and Knowledge Discovery of Energetic Materials", *Proceedings of the 28th European Signal Processing Conference (EUSIPCO)*, 2020.

D. C. Elton."Self-explaining AI as an alternative to interpretable AI", *Proceedings of the 13th Annual Conference on Artificial General Intelligence*, pg. 95, 2020.

Y. Zhu, **D. C. Elton**, S. Lee, P. J. Pickhardt, R. M. Summers. "Image Translation by Latent Union of Subspaces for Cross-Domain Plaque Detection", *Proceedings of the International Conference on Medical Imaging with Deep Learning (MIDL)*, 2020.

D. C. Elton, V. Sandfort, P. J. Pickhardt, R. M. Summers. "Accurately identifying vertebral levels in large datasets", *Proceedings of SPIE: Medical Imaging: Computer-Aided Diagnosis, 113140O*, 2020.

D. C. Elton, D. Turakhia, N. Reddy, Z. Boukouvalas, R. M. Doherty, M. D. Fuge, and P. W. Chung. "Using natural language processing techniques to extract information on the properties and functionalities of energetic materials from large text corpora", *Proceedings of the 22nd International Seminar on New Trends in Research of Energetic Materials*, 2019.

Z. Boukouvalas, **D. C. Elton**, M. D. Fuge, and P. W. Chung. "Independent Vector Analysis for Data Fusion Prior to Molecular Property Prediction with Machine Learning", *2018 Neural Information Processing Systems (NeurIPS) workshop on Machine Learning for Molecules and Materials*, 2018.

B. C. Barnes, **D. C. Elton**, Z. Boukouvalas, D. E. Taylor, W. D. Mattson, M. D. Fuge, and P. W. Chung, "Machine Learning of Energetic Material Properties", *Proceedings of the 16th International Detonation Symposium, Cambridge MD*, 2018.

F. G. VanGessel, G. Kumar, **D. C. Elton**, and P. W. Chung, "A Phonon Boltzmann Study of Microscale Thermal Transport in α-RDX Cook-Off", *Proceedings of the 16th International Detonation Symposium*, Cambridge MD, 2018.

M. A. Forman, C. W. Smith, B. J. Vasquez, B. T. MacBride, J. E. Stawarz, J. J. Podesta, **D. C. Elton**, U. Y. Malecot, and Y. Gagne. "Using Third-Order Moments of Fluctuations in V and B to Determine Turbulent Heating Rates in the Solar Wind", *AIP Conference Proceedings, 12th International Solar Wind Conference*, **1216**, 176, 2009.

PEER REVIEWED BOOK CHAPTERS

D. C. Elton and P. D. Spencer. "Four examples of pathological water science and what they have in common". *Water in Biomechanical & Related Systems*, A. Gadomski, editor. Springer, Cham. pg 155, 2021.

UNPUBLISHED PREPRINTS

D. C. Elton, G. Dasegowda, J. Y. Sato, E. Garza-Frias, T. Schultz, C. P Bridge, A. B. Mamonov, M. Walters, M. Ziemelis, B. Bizzo, K. J. Dreyer, M. K. Kalra. "No-code machine learning in radiology: implementation and validation of a platform that allows clinicians to train their own models". *medRxiv preprint*. 2024.

B. Nielson, **D. C. Elton**. "Induction, Popper, and machine learning". *arXiv preprint*.

C. S. Greene, D. S. Himmelstein, **D. C. Elton**, A. J. Titus, A. Gitter, B. C. Christensen, J. J. Levy, et al. "Opportunities and obstacles for deep learning in biology and medicine: Version 2.0 Update". 2021.

HONORS

NIH Future Research Leaders Conference participant, 2021
NIH Kelly Government Solutions Distinguished Achievement Award, 2020, 2021
Foresight Institute Foresight Fellow in Artificial Intelligence, 2020
Talent, MindFire Mission-1, 2018
Peter B. Kahn travel prize, Stony Brook University Physics Department, 2014
Rensselaer Founder's Award of Excellence, 2009
Sigma Pi Sigma, 2008
Rensselaer Medal/Scholarship, 2006
Willits Foundation Scholarship, 2006
RIT Computing Award/Scholarship, 2006
National Merit Scholarship Finalist, 2006

TALKS

07-26-2024 "Deep learning models for opportunistic screening and risk prediction". AICamp Boston meetup, Microsoft New England, Cambridge, Massachusetts.

06-07-2024 "How to regulate AI doctors". AICamp Boston meetup, Microsoft New England, Cambridge, Massachusetts.

11-14-2023 "GenAI Applications in Large Hospitals". AICamp Boston meetup, Microsoft New England, Cambridge, Massachusetts.

09-12-2023 "Transformative applications of GenAI in healthcare". GAI World Conference, Royal Sonesta Hotel, Cambridge, Massachusetts.

07-05-2023 "AI for Preventative Healthcare: Filling the Gaps in Radiology Practice". Medical Imaging and Therapeutics Conference, Online.

05-15-2023 "Moving from sickcare to healthcare with AI". TEDxBoston AI & Future of Healthcare.

03-30-2023 "How not to waste your medical images". TEDx Boston: AGI.

12-02-2021 "Fully Automated CT Biomarkers for Risk Prediction using Deep Learning". International Conference on Medical Imaging Science and Technology, Online.

11-10-2020 "Applying Deutsch's concept of good explanations to artificial intelligence and neuroscience - an initial exploration", Biologically Inspired Cognitive Architectures (BICA) conference, Online.

11-13-2020 "Why self-explanation and applicability domain analysis are key to building more robust and trustworthy AI systems", INFORMS 2020 Conference, Online.

07-07-2020 “Pitfalls with explainability techniques and self-explaining AI as a possible remedy”, Foresight Institute Salon on “Key issues in near-term AI Safety research”, Online.

06-24-2020 “Self-explaining AI as an alternative to interpretable AI”, Artificial General Intelligence Conference, Online.

04-22-2020 “AI for medical imaging”, TAFFD’s International Conference on Future Africa, Online.

02-17-2020 “Accurately identifying vertebral levels in large datasets”, SPIE: Medical Imaging Conference, Houston, Texas.

11-28-2019 “Societal, Policy, and Regulatory Implications of AI for Healthcare and Medicine”, Envision Conference, Princeton University, Princeton, New Jersey.

09-21-2018 “Introduction to machine learning topics: optimization techniques and convolutional neural networks”, Deep Learning RIT (Research Interaction Team), UMD Mathematics Department, College Park, MD.

08-02-2018 “Machine learning and AI for navy energetics”, Talk to SEAP interns from Indian Head Naval Surface Warfare Center, College Park, MD.

06-07-2018 “Machine learning for design and discovery of new energetic materials”, Broad Institute Seminar, Cambridge, Massachusetts.

07-03-2018 “Machine learning for design and discovery of new energetic materials”, Gordon Research Seminar - Advances in Modeling, Experimental Developments and Synthesis of Energetic Materials, Newry, Maine.

04-20-2018 “Machine learning of energetic molecule performance”, Army Research Laboratory, Aberdeen, MD.

02-21-2018 “Pitfalls of machine learning”, Artificial Intelligence Information Meetup, Silver Spring, MD.

02-10-2018 “Pitfalls and biases in machine learning”, Bellevue Machine Learning & Artificial Intelligence Meetup, Bellevue, WA.

12-28-2017 “Machine learning pitfalls”, Tech Valley Machine Learning Meetup, Troy, NY. 28 December 2017.

11-20-2016 “Interpretable machine learning for molecular design and discovery”, Tech Valley Machine Learning Meetup, Troy, NY.

03-03-2016 “Accurate path integral molecular dynamics simulation of ab-initio water at near-zero added cost”. American Physical Society March Meeting, Baltimore, MD.

02-27-2016 “Scikit-learn & Keras applied to digit recognition”, Tech Valley Machine Learning Meetup, Troy, NY.

02-03-2016 “Propagating optical phonon-like modes in liquid water”, Institute for Advanced Computational Science, Stony Brook University.

11-27-2015 “Propagating optical phonon-like modes in liquid water”, Young Researcher Symposium, Brookhaven National Lab.

03-02-2015 “Exploring the nonlocal dielectric susceptibility of liquid water in the terahertz regime - propagating modes, Debye relaxation, and overscreening”, American Physical Society March Meeting, San Antonio, Texas.

07-26-2014 “Water - a relaxor ferroelectric?”, Gordon Research Seminar - Water & Aqueous Solutions, Holderness, NH.

04-04-2014 “Water - a relaxor ferroelectric?”, Graduate Student Friday Afternoon Seminar, Stony Brook University, Stony Brook, NY.

03-05-2014 “Polar nanoregions in water - a study of the dielectric properties of TIP4P/2005, TIP4P2005f and TTM3F”, American Physical Society March Meeting, Denver, Colorado.

POSTER PRESENTATIONS

04-01-2024 "Conformal Triage for Safe Medical AI Deployment", MIT-MGB AI Cures Conference, Mass General Brigham, Somerville, Massachusetts.

04-24-2023 "Cardiovascular disease risk prediction from abdominal CT using deep learning", MIT-MGB AI Cures Conference, MIT, Cambridge, Massachusetts.

01-21-2022 "Cardiovascular disease and all-cause mortality risk prediction from abdominal CT using deep learning", SPIE: Medical Imaging Conference, San Diego, California.

02-18-2020 "Accurately identifying vertebral levels in large datasets", SPIE: Medical Imaging Conference, Houston, Texas.

09-17-2018 "Machine learning for molecular property prediction and discovery", Postdoctoral Research Symposium, University of Maryland, College Park, Maryland.

08-07-2018 "Machine learning for molecular property prediction and discovery", Artificial Intelligence for Materials Science (AIMS) Workshop, NIST, Gaithersburg, Maryland.

06-03-2018 "Machine learning for molecular property prediction and discovery", Gordon Research Seminar - Advances in Modeling, Experimental Developments and Synthesis of Energetic Materials, Newry, Maine.

02-05-2018 "Interpretable machine learning for molecular property prediction and discovery", New Deep Learning Techniques Workshop, Institute for Pure and Applied Mathematics.

06-29-2017 "Fitting and Understanding the Dielectric Spectra of Liquid Water", Machine Learning for Materials Research Workshop, University of Maryland.

04-13-2016 "The H-bond network of liquid water supports propagating phonons", Institute for Advanced Computational Sciences Research Day, Stony Brook University.

03-17-2016 "The hydrogen bond network of water supports propagating optical phonon-like modes", American Physical Society March Meeting, Baltimore, Maryland.

10-23-2015 "The H-bond network of liquid water supports propagating phonons", Chemistry Research Day, Stony Brook University.

09-18-2015 "The H-bond network of liquid water supports propagating phonons", Institute for Advanced Computational Science Grand Opening, Stony Brook University.

07-29-2014 "Water - a Relaxor Ferroelectric?", Gordon Research Conference - Water & Aqueous Solutions, Holderness School, NH.

03-21-2014 "Polar nanoregions in water - a study of the dielectric properties of TIP4P/2005, TIP4P/2005f and TTM3F", 5th New York Theoretical and Computational Chemistry Conference, Stony Brook University.

01-14-2013 "The Dielectric Properties and Dipolar Correlations of Liquid Water Investigated using TIP4P/2005 Rigid and Flexible Models", 4th New York Theoretical & Computational Chemistry Conference, City University of New York.

11-6-2012 "The Dielectric Properties and Dipolar Correlations of Liquid Water Investigated using TIP4P/2005 Rigid and Flexible Models", 8th Gotham-Metro Condensed Matter Meeting, New York Academy of Sciences.