A person wearing glasses and a bow tie

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**Jonathan D. Gough, Ph.D.**

Practice Lead – AI/Machine Learning and Custom AppDev

Converge Technology Solutions Corp.

Jonathan is the Practice Lead for AI/Machine Learning and Custom AppDev at Converge Technology Solutions Corp. He leads a team within the Advanced Analytics practice of 25+ Full stack developers, data engineers, data scientists’, machine learning experts, UI/UX product design, business analysts, and DevOps/DataOps engineers; known within Converge as “The Strike Team.”

At Converge Technology Solutions Corp, Jonathan and his team assist their clients in solving business problems using AI/ML and custom application development. Projects include an AI/ML driven platform for managing the lifecycle of Ad placement. From predicting viewership and impressions, optimizing Ad placement, campaign portfolio optimization, and reporting. A 911 call taking platform to assist operators in effectively capturing information and quickly dispatching resources. A multi-lingual search tool for an international bank that leverages deep learning models to identify critical information, resources, and people. An application for optimizing production line manufacturing. A demand planning and PNL tool for inventory management. A platform for optimizing the customer journey using location analytics in retail stores. An application for reporting results of at home Covid-19 tests using visual AI.

As a data scientist Jonathan’s experience ranges from supervised to unsupervised learning, predictive analytics, AI driven visual inspection, Speech to text/text to speech, and NLP/NLU.

Jonathan was born with an innate curiosity and a natural talent for problem-solving. His first words were "apart apart," and from an early age, he showed a fascination with taking things apart and putting them back together again. As he grew older, he developed a keen interest in science, particularly chemistry. Jonathan earned a Bachelor of Science in Chemistry from Eastern Nazarene College, went on to study protein folding and earned a Ph.D. in Chemistry from Syracuse University. As a Post-Doctoral Fellow at Yale University, in New Haven CT, he studied Chemical Biology. He was an Assistant Professor: Long Island University, Brooklyn NY and a visiting Professor at Lehman College, Bronx NY before joining Converge Technology Solutions.

Jonathan Spent 20+ Years in academics studying and publishing papers across multiple fields. Protein folding, excited state molecules, computer aided drug design, water on the surface of proteins, high energy astronomy and gravitational waves. The throughline for him is solving problems using math and computational resources.

Jonathan’s publications include the following.

1. Jr-Wei Tsai, John H. Simonetti, **Jonathan D. Gough**, Michael Kavic “Simultaneous Observations of Giant Pulses from Pulsar PSR B0950+08 at 38 MHz and 74 MHz” *The Astronomical Journal,* 2016. 151(3). 65-85.
2. Jr-Wei Tsai, John H. Simonetti, Bernadine Aukukwe, **Jonathan D. Gough**, Michael Kavic “Simultaneous Observations of Giant Pulses from Pulsar PSR B0031-07 at 42 MHz and 74 MHz” *The Astronomical Journal,* 2016. 151(2). 28-48.
3. Cregg C. Yancey, Brandon E. Bear, Bernadine Akukwe, Kevin Chen, Jayce Dowell, **Jonathan D. Gough**, Jonah Kanner, Michael Kavic, Kenneth Obenberger, Peter Shawhan, John H. Simonetti, Gregory B. Taylor, Jr-Wei Tsai “Multi-Messenger Astronomy of Gravitational-Wave Sources with Flexible Wide-Area Radio Transient Surveys” *The Astrophysical Journal,* 2015. 812, 168.
4. Jr-Wei Tsai , John H. Simonetti , Bernadine Akukwe , Brandon Bear , Sean E Cutchin , Jayce D Dowell , **Jonathan D. Gough** , Jonah Kanner , Namir E. Kassim , Frank K. Schinzel , Peter S. Shawhan , Gregory B. Taylor , Cregg Christopher Yancey, Leandro Quezada “Observations of Giant Pulses from Pulsar B0950+08 Using LWA1” *The Astronomical Journal,* 2015. 149, 65.
5. Rohith Chindam, Hoque M. Hoque, Amar S. Ali, Fatima Z. Rafique, **Jonathan D. Gough** "Theoretical Assessment of Indolylfulgimides and Novel Asymmetric Di-Indolylfulgimide Photochromes" *Journal of Photochemistry and Photobiology A*, 2014. 279, 38-46.
6. Kellon A. A. Belfon and **Jonathan D. Gough** "Geometry Deformation and Mesomeric Effect at the Minimal- Energy Conical Intersections and Their Relationship to the Photoreactivity of Indolylfulgides: a TD-DFT Study" *Chemical Physics Letters*, 2014. 593, 174-180.
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8. Kellon A. A. Belfon and **Jonathan D. Gough.** "Theoretical Analysis of an All-Photonic Multifunctional Molecular Logic Device: Using TD-DFT//DFT to Assess Photochromic Activity of Multimeric Photochrome" *Chemical Physics Letters*, 2013. 585, 63-68.
9. John Hines, **Jonathan D. Gough**, Timothy W. Corson, Craig M. Crews. "Posttranslational protein knockdown coupled to receptor tyrosine kinase activation with phosphoPROTACs" *Proceedings of the National Academy of Science*, 2013. 110 (22), 8942-8947.
10. Michael B. Tsinberg, Rohith Chindam, **Jonathan D. Gough** "Structural and charge transfer properties of indolylfulgides" *International Journal of Quantum Chemistry*, 2013. 113, 1945-1955
11. Michael B. Tsinberg, Stephanie Y. Lew, **Jonathan D. Gough** "Analysis of indolylfulgide spectral properties using time dependent density functional theory" *Journal of Luminescence*, 2012. 132, 1929-1934
12. **Jonathan D. Gough** and Craig M. Crews. Using Natural Products to Unravel Cell Biology, Book Chapter in

*Chemical Biology: From Small Molecules to Systems Biology and Drug Design.* Wiley Press, 2007

1. **Jonathan D. Gough** and Craig M. Crews. Probing Protein Function with Small Molecules. *Ernst Schering Research Foundation Workshop.* Chemical Genomics, 2005. 58, 61-74.
2. **Jonathan D. Gough,** Elvis J. Barrett, Yenia Silva,Watson J. Lees. “*ortho*-and *meta-*Substituted Aromatic Thiols as Efficient Redox Buffer for Increasing the Folding Rate of a Disulfide Containing Protein” *Journal of Biotechnology,* 2006. 125, 39-47.
3. **Jonathan D. Gough** and Watson J. Lees. Increased Catalytic Activity of Protein Disulfide Isomerase (PDI) in the Presence of Aromatic Thiol Based Redox Buffers” *Bioorganic Medicinal Chemistry Letters,* 2005. 15, 777- 781.
4. **Jonathan D. Gough** and Watson J. Lees, “Effects of Redox Buffer Properties on the Folding of a Disulfide Containing Protein: Dependence upon pH, Thiol pKa, and Thiol Concentration” *Journal of Biotechnology,* 2005. 115, 279-290.
5. **Jonathan D. Gough**, Joseph M. Gargano, Anthony E. Donofrio, and Watson J. Lees “Aromatic Thiol pKa Effects on the Folding Rate of a Disulfide Containing Protein” *Biochemistry*, 2003. 42, 11787-11797.
6. **Jonathan D. Gough**, Rhondye H. Williams, Jr., Anthony E. Donofrio, Watson J. Lees “Folding Disulfide- Containing Proteins Faster with an Aromatic Thiol” *Journal of the American Chemical Society*, 2002. 124, 3885- 3892.
7. Hassan Musa, **Jonathan D. Gough**, Watson J. Lees, Richard D. Veenstra, “Ionic Blockade of the Rat Connexin40 Gap Junction Channel by Large Tetraalkylammonium Ions” *Biophysical Journal*, 2001. 81, 3253- 3274.
8. **Jonathan D. Gough**, and Lowell H. Hall, “Modeling Antileukemic Activity of Carboquinones with Electrotopological State and Chi Indices” *Journal of Chemical Information and Computer Sciences*, 1999. 39, 356-361.
9. **Jonathan D. Gough**, and Lowell H. Hall, “Modeling the Toxicity of Amide Herbicides Using the Electrotopological State” *Environmental Toxicology and Chemistry*, 1999. 18, 1069-1075.