Publications: (underlined are undergraduate co-authors, * are Sparks Group members)

Submitted

2. Christopher M. Collins†, Hasan M. Sayeed*, George R. Darling, John B. Claridge, Taylor D. Sparks, and Matthew J. Rosseinsky "Integration of generative machine learning with the heuristic crystal structure prediction code FUSE" under review.
4. Hasan M. Sayeed* and Taylor D. Sparks "Structural feature vectors derived from word embeddings of RoboCrystallographer descriptions" under review.
5. Marcus E. Parry*, Cheng Sun, Boopathy Kombaiah, Wen Jiang, Xiaofei Pu, David Frazer, Seongtae Kwon, Jeffery A. Aguiar, and Taylor D. Sparks "Microstructure, mechanical properties, and irradiation response of ABxCrFeNi(Cu,Mn) multi-principal element alloys" under review.

Accepted or published

1. Federico Ottomano, Giovanni De Felice, Vladimir Gusev, and Taylor D. Sparks “Not as simple as we thought: A rigorous examination of data aggregation in materials informatics” accepted to Digital Discovery on December 28 2023.
4. Travis Allen*, Jake Graser*, Ramsey Issa*, and Taylor D. Sparks “Machine learning predictions of low thermal conductivity: comparing TaV05 and GdTa04” accepted to Advances in Applied Ceramics on October 19 2023.
5. Taylor D. Sparks "Tales from Sabbatical II: Coming Home" Matter, 6 [12], 4111-4115 (2023). [DOI]


59. (invited) Marcus Parry*, Samantha Couper, Aria Mansouri Tehrani, Anton O. Oliynyk, Jakoah Brgoch, Lowel Miyagi, and **Taylor D. Sparks** “Lattice strain and texture analysis of superhard Mo0.9W1.1BC and ReW0.8 via diamond anvil cell deformation” Journal of Materials Chemistry A, **7**, as part of the Emerging Investigators Special Issue, 24012-24018 (2019). [DOI]


61. Alexander Szendrei*, **Taylor D. Sparks**, and Anil V. Virkar “Three and Four-Electrode Electrochemical Impedance Spectroscopy Studies using Embedded Composite Thin Film Pseudo-


64. Shadi Al Khateeb* and Taylor D. Sparks “Pore-graded and conductor and binder free FeS2 films deposited by spray pyrolysis for high performance lithium ion batteries” *Journal of Materials Research*, **34**, [14], 2456-2471 (2019). [DOI]


96. Ram Seshadri and Taylor D. Sparks “Perspective: Interactive materials properties databases through aggregation of literature data” invited article, APL Materials 4, [5], 053206 (2016) [DOI].


107. Wan Chunlei, Taylor D. Sparks, Pan Wei, David R. Clarke, "Thermal Conductivity of the Rare-Earth Strontium Aluminates,” Journal of the American Ceramic Society, 93, [5], 1457-1460 (2010). [DOI]

108. Wei Liu, Yanyi Liu, Bin Li, Taylor D. Sparks, Xi Wei and Wei Pan “Ceria (Sm3+, Nd3+)/carbonates composite electrolytes with high electrical conductivity at low temperature” Composites Science and Technology, 70, [1], 181-185 (2010). [DOI]


Patents:

Conference Proceedings: (underlined names are undergraduate co-authors)

Materialism Podcast Episodes (co-authors Taylor D. Sparks and Andrew Falkowski)
34. "Was the Challenger an Engineering Failure?," Materialism Podcast August 2021.

❖ **Non-Research Publications:**
1. **Taylor D. Sparks** “Materials Informatics: Reducing Trial & Error from the Discovery of New Materials” TEDxSaltLakeCity, September 22 2019, published online at TED.com
2. **Taylor D. Sparks** “Opinion: Energy leadership scholars program provides unique research opportunities,” published online on Utahpolicy.com, Utahpulse.com, and KSL.com, 10/1/2014.