Marek Locmelis, Ph.D. – Publications

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Peer-Reviewed Publications

**Indicates student (co-)advisee, **postdoctoral (co-)advisee*

38. Clark, S.*, **Locmelis, M.**, Moroni, M., Savard, D., Sessa, G. (2026): Carbon-sulfur interactions in the lower continental crust: Implications for Ni-Cu-PGE sulfide ore genesis. *Lithos,* 540-541: p.108668. https://doi.org/10.1016/j.lithos.2026.108668.

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36. Lin, T-C., Mbanugo, V.S., Ojo, B.S., Huang, Y.W., **Locmelis, M.** and Han, D. (2025): Cold Atmospheric Plasma Induced Degradation of Organophosphate Pesticides on Kevlar Swatches. *Plasma Processes and Polymers*. e70070. https://doi.org/10.1002/ppap.70070.

35. Nakhaei, F., **Locmelis, M.**, Alagha, L., Moats, M. (2025): Characterization and leaching feasibility studies of copper flue dust for the recovery of main and trace metals. *Journal of Sustainable Metallurgy*. v. 11, p. 2215-2235. https://doi.org/10.1007/s40831-025-01158-4.

34. Dashtseren, K., ***Tunnell, B. N.,*****, Boldbaatar E., Sereenen J., **Locmelis, M.**, Yang, Y., Yang, M., Hames, W., Nakano, N., Adachi, T. (2025): Genesis and geochronology of the Bayanteeg Li-mineralized pegmatite in the Idermeg terrane, Central Mongolia. *Journal of Asian Earth Sciences.* v. 287, p. 106615. https://doi.org/10.1016/j.jseaes.2025.106615.

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32. Corchado-Albelo, J. L., **Locmelis, M.,** Moats, M.S. and Alagha, L. (2025): Approaches for Coprocessing Tellurides: A Critical Minerals Perspective with Emphasis on Mineralogy and Metallurgy. *Mineral Processing and Extractive Metallurgy Review*, pp.1-21. https://doi.org/10.1080/08827508.2024.2352508.

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30. Adesina, K., Lin, T-C., Huang, Y.-W, **Locmelis**, M., Han, D. (2024): A Review of Dielectric Barrier Discharge Cold Atmospheric Plasma for Surface Sterilization and Decontamination. *IEEE Transactions on Radiations and Plasma Medical Sciences*, v. 8, no. 3, p. 295-306 https://doi.org/10.1109/TRPMS.2024.3349571.

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22. ***Tunnell, B. N.****, **Locmelis, M.**, Seeger C., Mathur, R., Dunkl, I., *Sullivan, B.**, Lori, L. (2021): The Pilot Knob Iron Ore Deposits in Southeast Missouri: A High-To-Low Temperature Magmatic-Hydrothermal Continuum. *Ore Geology Reviews*, p. 103973. https://doi.org/10.1016/j.oregeorev.2020.103973

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13. Funderburg, R., Arevalo Jr. R., ***Locmelis, M.***, Adachi, T. (2017): Improved Precision and Accuracy of Quantification of Rare Earth Element Abundances via Medium-Resolution LA-ICP-MS. *Journal of The American Society for Mass Spectrometry*, v. 28, no. 11, p. 2344–2351. https://doi.org/10.1007/s13361-017-1745-5

12. Baumgartner, R. J., Fiorentini, M. L., Baratoux, D., Ferrière, L., **Locmelis, M.**, Tomkins, A., Sener, A. K. (2017): The variability of Ru in chromite from Chassignite and olivine-phyric Shergottite meteorites: constraints on the behavior of PGE and sulfur in Martian magmatic systems. *Meteoritics & Planetary Science,* v. 52, no. 2, p. 333-350. https://doi.org/10.1111/maps.12795

11. **Locmelis, M.**, Fiorentini, M. L., Rushmer, T., Arevalo Jr., R., Adam, J., Denyszyn, S. W. (2016): Sulfur and metal fertilization of the lower continental crust. *Lithos*, v. 244, p. 74-93. https://doi.org/10.1016/j.lithos.2015.11.028

10. Gonzalez-Jimenez, J. M., **Locmelis, M.**, Belousova, E., Griffin, W. L., Gervilla, F., Kerestedjian, T. N., O'Reilly, S. Y., Pearson, N. J., Sergeeva, I. (2015): Genesis and tectonic implications of podiform chromitites in the metamorphosed Ultramafic Massif of Dobromirtsi (Bulgaria). *Gondwana Research,* v. 27, no. 2, p. 555-754. https://doi.org/10.1016/j.gr.2013.09.020

9. Adam, J., **Locmelis, M.**, Afonso, J. C., Rushmer, T., Fiorentini, M. L. (2014): The capacity of hydrous fluids to transport and fractionate incompatible elements and metals within the Earth's mantle. *Geochemistry, Geophysics, Geosystems (G-cubed),* v. 15, no. 6, p. 2241-2253. https://doi.org/10.1002/2013GC005199

8. Zaccarini, F., Garuti, G., Fiorentini, M. L., **Locmelis, M.**, Kollegger, P., Thalhammer, O. A. R. (2014): Mineralogical residence of platinum group elements (PGE) and rhenium in the magmatic Ni-Fe-Cu sulfide deposits of the Ivrea Verbano Zone (Italy): An electron microprobe study. *Journal of Mineralogy and Geochemistry (Neues Jahrbuch für Mineralogie - Abhandlungen)*, v. 191, no. 2, p. 169-187. https://doi.org/10.1127/0077-7757/2014/0255

7. **Locmelis, M.**, Fiorentini, M. L., Barnes, S. J., Pearson, N. J. (2013): Ruthenium variation in chromite from komatiites and komatiitic basalts - a potential mineralogical indicator for nickel-sulfide mineralization. *Economic Geology*, v. 108, no. 2, p. 355-364. https://doi.org/10.2113/econgeo.108.2.355

6. Oberthür, T., Melcher, F., Bucholz, P., **Locmelis, M.**, (2013): The oxidized ores of the Main Sulfide Zone, Great Dyke, Zimbabwe. Turning resources into minable reserves – mineralogy is the key: *The Journal of The Southern African Institute of Mining and Metallurgy,* v. 113, p. 191-201. ISSN 2411-9717

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3. Dadd, K. A., **Locmelis, M.**, Higgins, K., Hashimoto, R. Daniell, J. (2011): Cenozoic volcanism of the Capel-Faust Basins, Lord Howe Rise, SW Pacific Ocean. *Deep Sea Research Part II: Topical Studies in Oceanography,* v. 58, no.7-8, p. 922-932. https://doi.org/10.1016/j.dsr2.2010.10.048

2. **Locmelis, M.**, Melcher, F., Oberthür, T. (2010): Platinum-group element distribution in the oxidized Main Sulfide Zone, Great Dyke, Zimbabwe. *Mineralium Deposita*, v. 45, 93-109. https://doi.org/10.1007/s00126-009-0258-y

1. **Locmelis, M.**, Barnes, S. J., Pearson, N. J., Fiorentini, M. L., (2009): Anomalous sulfur-poor Platinum-group element mineralization in komatiitic cumulates, Mount Clifford, Western Australia. *Economic Geology*, v. 104, no. 6, p. 841-855. https://doi.org/10.2113/gsecongeo.104.6.841

PEER-REVIEWED EXTENDED ABSTRACTS AND REPORTS

****Indicates student (co-)advisee, ***postdoctoral (co-)advisee*

xx. Gale, J. F. W., Elliott, B. A., Elliott, S. J., Kyle, J. R., **Locmelis, M.**, Ugurhan, M., Rogers, H. H. III, Averett, A., Scanlon, B., Dunlap, D. (under review): Economic Mineral Resources of Texas. Bureau of Economic Geology Report of Investigations.

8. Asem, P., Gardoni, P., **Locmelis, M.**, Elliott, B. (2026): Mobility of rare earth elements (REEs) in aqueous environment at low temperature and ionic strength. American Rock Mechanics Association (ARMA) p. D032S049R007.

7. ***Clark, S.****, **Locmelis, M.**, Moroni, M., Sessa, G., Pistone, M, Elliott, S. (2025): Understanding lower crustal sulfide ore systems: Insights from ultramafic pipes in the Ivrea-Verbano Zone, Italy. 2025. In: Proceedings of the 18th Biennial Meeting of the Society of Geology Applied to Mineral Deposits, Boulder, Colorado, USA, 2: 583-586.

6. ***Swain, R.****, **Locmelis, M.**, ***Clark, S.****, Seeger, C., Elliott, S. (2025): The Origin of the Bourbon Iron Ore Deposit in Southeast Missouri, USA. In: Proceedings of the 18th Biennial Meeting of the Society of Geology Applied to Mineral Deposits, Boulder, Colorado, USA, 2: 959-962.

5. **Locmelis, M.,** ***Tunnell, B. N.****, ***Sullivan, B.****, Seeger. C., Dare, S., Moroni, M., Mathur, R., (2023): The Formation of the Pilot Knob Iron Ore Cluster in Southeast Missouri, USA: Implication for the Exploration for Iron Oxide Apatite Deposits. In: Proceedings of the 17th Biennial Meeting of the Society of Geology Applied to Mineral Deposits, Zurich, Switzerland,

4. ***Clark, S.****, **Locmelis, M.**, Savard, D., Moroni, M., Fiorentini, M. (2023): The role of carbon in the formation of Ni-Cu-PGE mineralization in the Valmaggia ultramafic pipe: Insights from laser-ablation-time-of-flight ICP-MS. In: Proceedings of the 17th Biennial Meeting of the Society of Geology Applied to Mineral Deposits, Zurich, Switzerland, 2: 129-132.

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2. Fiorentini, M., Denyszyn, S., Dering, G., Holwell, D., Blanks, D., Maas, R., **Locmelis, M.**, LaFlamme, C. (2019): In: Proceedings of the 15th SGA Biennial Meeting of the Society of Geology Applied to Mineral Deposits, Glasgow, United Kingdom, 2: 1302-1305.

1. **Locmelis, M.**, Pearson, N.J., Fiorentini, M.L., Barnes, S.J. (2009): Platinum-group element mineralization in sulfide-poor komatiites – a case study from Mt. Clifford, Western Australia. In: Proceedings of the 10th Biennial Meeting of the Society of Geology Applied to Mineral Deposits, Townsville, Australia, 1:185-187.