

Prof. Dr. Nina Merkert (née Gunkelmann)

Publications

1. I. A. Alhafez, O. R. Deluigi, N. Merkert, H. M. Urbassek, E. M. Bringa. Cluster impact into high-entropy alloys: Deformation, hardness changes, and subgrain formation. *J. Mater. Res. Technol.* 42:104, DOI: 10.1016/j.jmrt.2026.03.093, 2026.
2. S. Lyu, N. Merkert. Investigation of Al/Cu Wetting System: A Molecular Dynamics Study. *Proceedings of 14th Global Conference on Materials Science and Engineering. CMSE 2025. Springer Proceedings in Materials* 107:16, DOI:10.1007/978-981-95-6461-3_2, 2026.
3. H. Zhang, S. Lyu, M. Reder, N. Merkert, B. Nestler. A phase-field model: Contact angle hysteresis driven by multistable surface composition. *J. Colloid Interface Sci.* 708:139781, DOI:10.1016/j.jcis.2025.13978, 2026.
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6. I. A. Alhafez, O. R. Deluigi, D. Tramontina, F. Valencia, N. Merkert, D. Farkas, A. Caro, H. M. Urbassek, E. M. Bringa. Nanoindentation into a dual-phase bicontinuous lamellar high-entropy alloy. *J. Mater. Res. Technol.* 37:1406, DOI: 10.1016/j.jmrt.2025.05.257, 2025.
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9. M. Shaban, N. Merkert, A. C. T. van Duin, D. van Duin, A. P. Weber. Advancing DBD Plasma Chemistry: Insights into reactive nitrogen species (RNS) such as NO₂, N₂O₅, and N₂O Optimization and Species Reactivity through Experiments and Molecular Dynamics Simulations. *Environ. Sci. Technol.* 58(36):16087, DOI: 10.1021/acs.est.4c04894, 2024.
10. S. Hampel, I. A. Alhafez, A. Schnickmann, S. Wunderlich, H. Li, M. Fischlschweiger, T. Schirmer, N. Merkert, U. E. A. Fittschen. Experimental and Simulation Studies on the Mn Oxidation State Evolution of a Li₂O–MnO_x–CaO–SiO₂ Slag Analogue. *Minerals* 14(9):868, 2024.
11. D. Thürmer, O. R. Deluigi, H. M. Urbassek, E. M. Bringa, N. Merkert. Atomistic Simulations of the Shock and Spall Behavior of the Refractory High-Entropy Alloy HfNbTaTiZr. *High Entropy Alloys & Materials*, DOI: 10.1007/s44210-024-00042-2, 2024.

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