

#### **Additive manufacturing of CMCs with bimodal microstructure**

**Maurya, Himanshu Singh; Vikram, R. J.; Kosiba, Konrad; Juhani, Kristjan; Sergejev, Fjodor; Suwas, Satyam; Prashanth, Konda Gokuldoss** Journal of alloys and compounds 2023 / art. 168416, 5 p. : ill <https://doi.org/10.1016/j.jallcom.2022.168416> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Additive manufacturing of TiC-based cermet with stainless steel as a binder material**

**Maurya, Himanshu Singh; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Materials today: proceedings 2022 / p. 824-828 <https://doi.org/10.1016/j.matpr.2022.02.428> [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

#### **Additive manufacturing of TiC-based cermets : a detailed comparison with spark plasma sintered samples**

**Maurya, Himanshu Singh; Jayaraj, Jayamani; Vikram, Raja Jothi; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Journal of alloys and compounds 2023 / art. 170436 <https://doi.org/10.1016/j.jallcom.2023.170436> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Additive manufacturing of TiC-based cermets with Fe-based binders using novel laser scan techniques =**

**Titaankarbiidsete Fe-baasil sideainega kermiste valmistamine uudse laserskaneeriva kihtlisandustehnoloogia teel**

**Maurya, Himanshu Singh** 2023 <https://doi.org/10.23658/taltech.61/2023> <https://digikogu.taltech.ee/et/Item/3dad7b12-4a7a-4c9d-8162-30388c52bf5e> [https://www.ester.ee/record=b5645217\\*est](https://www.ester.ee/record=b5645217*est)

#### **Advanced machine learning and experimental studies of polypropylene based polyesters tribological composite systems for sustainable recycling automation and digitalization**

**Hussain, Abrar; Kübarsepp, Jakob; Sergejev, Fjodor; Goljandin, Dmitri; Hussainova, Irina; Podgurski, Vitali; Karjust, Kristo; Maurya, Himanshu Singh; Rahmani Ahranjani, Ramin; Sinka, Maris** International journal of lightweight materials and manufacture 2025 / p. 252-263 <https://doi.org/10.1016/j.ijlmm.2024.11.001>

#### **Binder jetting 3D printing of green TiC-FeCr based cermets- Effect of sintering temperature and systematic comparison study with Laser powder bed fusion fabricated parts**

**Maurya, Himanshu Singh; Marczyk, J.; Juhani, Kristjan; Sergejev, Fjodor; Kumar, R.; Hussain, Abrar; Akhtar, F.; Hebda, M.; Prashanth, Konda Gokuldoss** Materials Today Advances 2025 / art. 100562 <https://doi.org/10.1016/j.mtadv.2025.100562>

#### **Bioinspired and multifunctional tribological materials for sliding, erosive, machining, and energy-absorbing conditions : A review**

**Kumar, Rahul, 1993-; Rezapourianghahfarokhi, Mansoureh; Rahmani Ahranjani, Ramin; Maurya, Himanshu Singh; Kamboj, Nikhil Kumar; Hussainova, Irina** Biomimetics 2024 / art. 209 <https://doi.org/10.3390/biomimetics9040209> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **EBSD investigation of microstructure and microtexture evolution on additively manufactured TiC-Fe based cermets— Influence of multiple laser scanning**

**Maurya, Himanshu Singh; Vikram, R. J.; Kumar, Rahul, 1993-; Rahmani Ahranjani, Ramin; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Micron 2024 / art. 103613 <https://doi.org/10.1016/j.micron.2024.103613> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Effect of powder bed preheating on the crack formation and microstructure in ceramic matrix composites fabricated by laser powder-bed fusion process**

**Maurya, Himanshu Singh; Kosiba, Konrad; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Additive manufacturing 2022 / art. 103013, 13 p. : ill <https://doi.org/10.1016/j.addma.2022.103013> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Effect of preheating and cooling of the powder bed by laser pulse shaping on the microstructure of the TiC based cermets**

**Maurya, Himanshu Singh; Kollo, Lauri; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Ceramics international 2022 / p. 20612-20618 <https://doi.org/10.1016/j.ceramint.2022.04.029> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Effect of the laser processing parameters on the selective laser melting of TiC–Fe-based cermets**

**Maurya, Himanshu Singh; Kollo, Lauri; Tarraste, Marek; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Journal of manufacturing and materials processing 2022 / art. 35, 11 p. : ill <https://doi.org/10.3390/jmmp6020035> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Exploring microstructural properties, phase transformations, and wettability in high-chromium content iron-bonded Ti(C,N)-based cermet**

**Pampori, Tabeen Halawat; Kolnes, Märt; Juhani, Kristjan; Tarraste, Marek; Maurya, Himanshu Singh; Kübarsepp, Jakob** Journal of the Japan Society of Powder and Powder Metallurgy 2025 / p. S1533-S1540 <https://doi.org/10.2497/jjspm.16P-T14-06>

#### **Forming ability of the WC-based ceramic metal composites with different Fe-based binders by unique laser beam modulation**

**Maurya, Himanshu Singh; Juhani, Kristjan; Sergejev, Fjodor; Kumar Yadav, Mayank; Hussain, Abrar; Prashanth, Konda Gokuldoss** Next Materials 2025 / art. 100524 <https://doi.org/10.1016/j.nxmate.2025.100524>

**Impact of Nb content on the morphology and properties of Ti (C0.5N0.5)-FeCrMo-based green cermets**

**Maurya, Himanshu Singh; Tarraste, Marek; Viljus, Mart; Juhani, Kristjan; Sergejev, Fjodor; Kübarsepp, Jakob** Ceramics international 2024 / 10 p <https://doi.org/10.1016/j.ceramint.2024.11.188>

**Industrial sustainable fabrication, SEM characterization, mechanical testing, ANOVA analysis of PP-PETF recycled composites : artificial intelligence and deep learning studies for nuclear shielding applications**

**Hussain, Abrar; Goljandin, Dmitri; Podgurski, Vitali; Yörük, Can Rüstü; Sergejev, Fjodor; Kübarsepp, Jakob; Maurya, Himanshu Singh;** Rahmani Ahranjani, Ramin European polymer journal 2024 / art. 113082

<https://doi.org/10.1016/j.eurpolymj.2024.113082> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Influence of strong carbide-forming elements (Nb and Ta) on the development of the green (Ti, Me)(C,N)-high chromium Fe-based cermets**

**Maurya, Himanshu Singh; Juhani, Kristjan; Tarraste, Marek; Viljus, Mart; Kumar, Rahul, 1993-; Hussain, Abrar; Sergejev, Fjodor; Kübarsepp, Jakob** Vacuum 2024 / art. 113723, 12 p <https://doi.org/10.1016/j.vacuum.2024.113723>

**Investigation of the tribological behavior of the additively manufactured TiC-based cermets by scratch testing**

**Maurya, Himanshu Singh; Jayaraj, Jayamani; Wang, Z.; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Journal of alloys and compounds 2023 / art. 170496, 9 p. : ill <https://doi.org/10.1016/j.jallcom.2023.170496> [Journal metrics at Scopus](#)

[Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Load and temperature dependent sliding wear performance of Binder Jet 3D printed stainless-steel bonded cermet**

**Maurya, Himanshu Singh; Akhtar, F.; Prashanth, Konda Gokuldoss** Journal of materials research and technology 2025 / p. 1199-1212 <https://doi.org/10.1016/j.jmrt.2025.06.095>

**Microstructural evolution and mechanical properties of Ti(C,N)-FeCrMo-based green cermets**

**Maurya, Himanshu Singh; Juhani, Kristjan; Viljus, Mart; Sergejev, Fjodor; Kübarsepp, Jakob** Ceramics international 2024 / p. 8695-8705 <https://doi.org/10.1016/j.ceramint.2023.12.186> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Selective laser melting of Inconel 718 : effect of thermal treatment on mechanical properties**

**Mohanty, Shalini; Maurya, Himanshu Singh; Prashanth, Konda Gokuldoss** Materials today: proceedings 2023 / 5 p. : ill <https://doi.org/10.1016/j.matpr.2023.03.164> [Journal metrics at Scopus](#) [Article at Scopus](#)

**Selective laser melting of TiC-based cermet : HIP studies**

**Maurya, Himanshu Singh; Kollo, Lauri; Tarraste, Marek; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Transactions of the Indian Institute of Metals 2023 / p. 565-570 : ill <https://doi.org/10.1007/s12666-022-02684-5> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Selective laser melting of TiC-Fe via laser pulse shaping : microstructure and mechanical properties**

**Maurya, Himanshu Singh; Kollo, Lauri; Tarraste, Marek; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** 3D Printing and Additive Manufacturing 2023 / p. 640-649 <https://doi.org/10.1089/3dp.2021.0221> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Sliding Wear and Debris Evolution in LPBFed Ceramic-Reinforced Steel Composites Under Variable Loads and Temperatures**

**Maurya, Himanshu Singh; Kumar, Rahul, 1993-; Subramaniyan, Anand Kumar; Tarraste, Marek; Hussain, Abrar; Rahmani Ahranjani, Ramin; Juhani, Kristjan; Sergejev, Fjodor; Prashanth, Konda Gokuldoss** Materials Chemistry and Physics 2025 / art. 131195 <https://doi.org/10.1016/j.matchemphys.2025.131195>

**Structural analysis of selective laser melted copper-tin alloy**

**Rahmani Ahranjani, Ramin; Resende, Pedro R.; Couto, Ruben; Lopes, Sérgio Ivan; Kumar, Rahul, 1993-; Maurya, Himanshu Singh; Karimi, Javad; Afonso, Alexandre M.; Hussain, Abrar; Abrantes, Joao C. C.** Journal of alloys and metallurgical systems 2024 / art. 100097 <https://doi.org/10.1016/j.jalms.2024.100097>

**Sustainable additive manufacturing : an overview on life cycle impacts and cost efficiency of laser powder bed fusion**

**Rahmani, Ramin; Bashiri, Bashir; Lopes, Sergio Ivan; Hussain, Abrar; Maurya, Himanshu Singh; Vilu, Raivo** Journal of manufacturing and materials processing 2025 / art. 18 <https://doi.org/10.3390/jmmp9010018>

**Synergistic effect of Nb and Mo on the microstructural formation of the Ti(C,N)-high chromium ferrous-based cermets**

**Maurya, Himanshu Singh; Juhani, Kristjan; Tarraste, Marek; Viljus, Mart; Sergejev, Fjodor; Pampori, Tabeen Halawat; Hussain, Abrar; Kübarsepp, Jakob** International journal of refractory metals and hard materials 2024 / art. 106723 <https://doi.org/10.1016/j.jirmhm.2024.106723>

**Temperature-induced wear micro-mechanism transition in additively deposited nickel alloys with different solid lubricants**  
**Kumar, Rahul, 1993-; Hussainova, Irina; Antonov, Maksim;** Maurya, Himanshu Singh; Rodríguez Ripoll, Manel Wear 2024 / art. 205452 <https://doi.org/10.1016/j.wear.2024.205452>

**Wear mechanisms of PM-HIP tool steels under low and high-stress abrasion : role of carbide type and content**  
**Kumar, Rahul, 1993-; Antonov, Maksim;** Berglund, Tomas; **Pampori, Tabeen Halawat;** Maurya, Himanshu Singh; **Viljus, Mart**  
Journal of materials research and technology 2025 / p. 7016-7025 <https://doi.org/10.1016/j.jmrt.2025.04.317>