

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>

Application of agricultural waste as heterogeneous catalysts for biodiesel production

Khan, Haris Mahmood; Iqbal, Tanveer; Yasin, Saima; Ali, Chaudhry Haider; Abbas, Muhammad Mujtaba; Jamil, Muhammad Asif; Hussain, Abrar; Soudagar, Manzoore Elahi M.; Rahman, Muhammad Muhtur Catalysts 2021 / art. 1215, 17 p. : ill <https://doi.org/10.3390/catal11101215> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

Circular economy approach to recycling technologies of post-consumer textile waste in Estonia : a review

Hussain, Abrar; Kamboj, Nikhil Kumar; Podgurski, Vitali; Antonov, Maksim; Goljandin, Dmitri Proceedings of the Estonian Academy of Sciences 2021 / p. 80-90 : ill <https://doi.org/10.3176/proc.2021.1.07> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Circular production, designing, and mechanical testing of polypropylene-based reinforced composite materials : statistical analysis for potential automotive and nuclear applications

Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Antonov, Maksim; Sergejev, Fjodor; Krasnou, Illia Polymers 2023 / art. 3410, 30 p. : ill <https://doi.org/10.3390/polym15163410> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of sustainable polypropylene based composites = Polüpropeeni baasil jätkusuutlike komposiitide arendus

Hussain, Abrar 2023 <https://doi.org/10.23658/taltech.64/2023> <https://digikogu.taltech.ee/et/Item/ffead123-ec1c-4d27-baa6-ed82c6d527cc> https://www.ester.ee/record=b5645373*esthttps://www.ester.ee/record=b5645373*est

Effect of biodiesel-dimethyl carbonate blends on engine performance, combustion and emission characteristics

Razzaq, Luqman; Mujtaba, M. A.; Shahbaz, M.A.; Nawaz, Saad; Mahmood Khan, Haris; Hussain, Abrar; Ishtiaq, Usama; Kalam, M. A.; M. Soudagar, Manzoore Elahi; Ismail, Khadiga Ahmed; Elfasakhany, Ashraf; Rizwan, Hafiz Muhammad Alexandria Engineering Journal 2022 / p. 5111 - 5121 <https://doi.org/10.1016/j.aej.2021.10.015> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Environmental performance of alternative hospital waste management strategies using life cycle assessment (LCA) approach

Mushtaq, Muhammad Hammad; Noor, Fahad; Mujtaba, M. A.; Asghar, Salman; Yusuf, Abdulfatah Abdu; Soudagar, Manzoore Elahi M.; Hussain, Abrar; Badran, Mohamed Fathy; Shahapurkar, Kiran Sustainability 2022 / art. 14942 <https://doi.org/10.3390/su142214942> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimental analysis of engine performance and exhaust pollutant on a single-cylinder diesel engine operated using moringa oleifera biodiesel

Soudagar, Manzoore Elahi M.; Khan, Haris Mahmood; Khan, M. Yunus; Razzaq, Luqman; Asif, Tahir; Mujtaba, M. A.; Hussain, Abrar Applied sciences 2021 / p. 7071-7089 <https://doi.org/10.3390/app11157071> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimental damage mechanics of cotton wastes

Hussain, Abrar; Podgurski, Vitali; Antonov, Maksim; Gonjandin, Dmitri; Viljus, Mart Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 19 I. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

Experimental mechanics analysis of recycled polypropylene-cotton composites for commercial applications

Hussain, Abrar; Goljandin, Dmitri; Podgurski, Vitali; Abbas, Muhammad Mujtaba; Krasnou, Illia Advanced industrial and engineering polymer research 2023 / p. 226-238 : ill <https://doi.org/10.1016/j.aiepr.2022.11.001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

Hydraulic characterization of Diesel, B50 and B100 using momentum flux

Atique, Muhammad Numan; Imran, S.; Razzaq, Luqman; Mujtaba, M. A.; Nawaz, Saad; Kalam, M. A.; Soudagar, Manzoore Elahi M.;

Hussain, Abrar; Veza, Ibharm; Arshad, Attique Alexandria engineering journal 2021 / p. 4371-4388 : ill <https://doi.org/10.1016/j.aej.2021.09.064> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Industrial approach to circularity of polymer composites : processing, characterization, mechanical testing, and wear regression

Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Antonov, Maksim Journal of reinforced plastics and composites 2024 / p. 456-472 : ill <https://doi.org/10.1177/07316844231164563> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

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>

Machine learning-based prediction of specific energy consumption for cut-off grinding

Awan, Muhammad Rizwan; Rojas, Hernan A. Gonzalez; **Hameed, Saqib;** Riaz, Fahid; Hamid, Shahzaib; **Hussain, Abrar** Sensors 2022 / art. 7152 <https://doi.org/10.3390/s22197152> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Mild steel tribology for circular economy of textile industries

Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Antonov, Maksim; Basit, Muhammad Abdul; Ahmad, Tahir Tribology in Industry 2021 / p. 552-560 <https://doi.org/10.24874/ti.1050.02.21.04> [Journal metrics at Scopus](#) [Article at Scopus](#)

Potential of utilization of renewable energy technologies in Gulf countries

Basha, J. Sadik; Jafary, Tahereh; Vasudevan, Ranjit; **Hussain, Abrar** Sustainability 2021 / art. 10261, 29 p. : ill <https://doi.org/10.3390/su131810261> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A review of elemental mass origin and fundamental forces unification for nuclear and aerospace industries

Hussain, Abrar; Abbas, Muhammad Mujtaba Journal of Modern Nanotechnology 2021 / 8 p. <https://doi.org/10.53964/jmn.2021002>

The role of paradigms and technical strategies for implementation of the circular economy in the polymer and composite recycling industries

Hussain, Abrar; Podgurski, Vitali; Viljus, Mart; Awan, Muhammad Rizwan Advanced Industrial and Engineering Polymer Research 2023 / p. 1-12 <https://doi.org/10.1016/j.aiepr.2022.10.001> [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>

Specific energy modeling of abrasive cut off operation based on sliding, plowing, and cutting

Awan, Muhammad Rizwan; Gonzalez-Rojas, Hernan Alberto; Perat Benavides, Jose I.; Hameed, Saqib; **Hussain, Abrar;** Sanchez Egea, Antonio J. Journal of materials research and technology 2022 / p. 3302-3310 <https://doi.org/10.1016/j.jmrt.2022.03.185> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

Sustainable fabrication of polypropylene-postconsumer cotton composite materials : circularity, characterization, mechanical testing, and tribology

Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Antonov, Maksim; Viljus, Mart; Krasnou, Illia Materials today sustainability 2023 / art. 100344, 16 p. : ill <https://doi.org/10.1016/j.ntsust.2023.100344> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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.ijrmhm.2024.106723>

Tekstiilijäätmete ringmajandamine nõuab praegusest tõhusamat tehnoloogiat [Võrguväljaanne]
Hellerma, Juhan novaator.err.ee 2021 / fot [Tekstiilijäätmete ringmajandamine nõuab praegusest tõhusamat tehnoloogiat](#)

TiAlN coatings tribology for textile machinery parts
Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Antonov, Maksim Proceedings of the Estonian Academy of Sciences 2021 / p. 163-171 : ill <https://doi.org/10.3176/proc.2021.2.04> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

TiCN coating tribology for the circular economy of textile industries
Hussain, Abrar; Podgurski, Vitali; Antonov, Maksim; Viljus, Mart; Goljandin, Dmitri Journal of industrial textiles 2022 / p. 8947S-8959S <https://doi.org/10.1177%2F15280837211025726> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tribological and circular economy aspects of polypropylene/cotton fibre hybrid composite
Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Antonov, Maksim; Kumar, Rahul, 1993-; Kamboj, Nikhil Kumar; Rahmani Ahranjani, Ramin; Viljus, Mart; Ahmad, Tahir; Krumme, Andres; Krasnou, Illia Proceedings of the Estonian Academy of Sciences 2022 / p. 186-193 : ill <https://doi.org/10.3176/proc.2022.2.03> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tribological and mechanical properties investigations of post-consumer cotton textiles
Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Viljus, Mart; Antonov, Maksim; Bogatov, Andrei; Krasnou, Illia Solid state phenomena ; 320 2021 / p. 97-102 <https://doi.org/10.4028/www.scientific.net/SSP.320.97> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Tribology of alumina materials for the circular economy of manufacturing textile industries
Hussain, Abrar; Podgurski, Vitali; Goljandin, Dmitri; Antonov, Maksim; Viljus, Mart Proceedings of the Estonian Academy of Sciences 2021 / lk. 215-220 : ill <https://doi.org/10.3176/proc.2021.3.01> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tungsten carbide material tribology and circular economy relationship in polymer and composites industries
Hussain, Abrar; Podgurski, Vitali; Antonov, Maksim; Abbas, Muhammad Mujtaba; Rizwan, Muhammad Proceedings of the Institution of Mechanical Engineers, Part L : Journal of Materials : Design and Applications 2022 / p. 2066-2073
<https://doi.org/10.1177%2F14644207221096929> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

WC tribology for circular economy of manufacturing textile industries
Hussain, Abrar; Podgurski, Vitali; Antonov, Maksim; Goljandin, Dmitri; Viljus, Mart GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / P 33 https://fmttk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf