

Propuneri de teme de cercetare pentru domeniul de doctorat

INGINERIE CHIMICĂ

Tema 1: Cercetări privind influența nanomaterialelor asupra proprietăților tribologice ale lubrifanților.

Referințe bibliografice

1. Mang, T., Dresel, W., Lubricants and lubrication, Wiley, 2007, 2nd Edition
2. Spear, J., Ewers, B., Batteas, J., 2D-nanomaterials for controlling friction and wear at interfaces, Nano Today (2015) 10, 301-314
3. Ali, I., Basheer, A.A., Kucherova, A., et al., Advances in carbon nanomaterials as lubricants modifiers, Journal of Molecular Liquids 279 (2019) 251-266
4. Zhai, W., Srikanth, N., Kong, L.B., Zhou, K., Carbon nanomaterials in tribology, Carbon 119 (2017) 150-171
5. Ohmae, N., Nanotribology and Nanoscale Materials Coatings for Lubricants, Elsevier 2011

Tema 2: Cercetări privind sinteza și caracterizarea unor membrane compozite pentru purificarea apei

Referințe bibliografice:

1. Priya, A.K., Gnanasekaran, L., Kumar, S.P., Recent trends and advancements in nanoporous membranes for water purification, Chemosphere 303 (2022) 135205
2. Xu, X., Yang, Y., Liu, T., Chu, B., Cost-effective polymer-based membranes for drinking water purification, Giant 10 (2022) 100099
3. Homocianu, M., Pascariu, P., High-performance photocatalytic membranes for water purification in relation to environmental and operational parameters, Journal of Environmental Management 311 (2022) 114817
4. Gu, J., Chen, T., Xiao, P., Ni, P., Yan, L., Nie, Y., Chen, T., Constructing oxidized carbon spheres-based heterogeneous membrane with high surface energy for energy-free water purification, Chemical Engineering Journal 431 (2022) 134132
5. Kumari, P., Tripathi, K.M., Jangir, L.K., Gupta, R., Awasthi, K., Recent advances in application of the graphene-based membrane for water purification, Materials Today Chemistry 22 (2021) 100597

Tema 3: Cercetări privind sinteza sinteza biodieselului din deșeuri alimentare

Referințe bibliografice:

1. Corrado S., Sala S., Food waste accounting along global and European food supply chains: State of the art and outlook, Waste Management 79 (2018) 120-131
2. Caldeira C., De Laurentiis V., Corrado S., Van Holsteijn F., Sala S., Quantification of food waste per product group along the food supply chain in the European Union: a mass flow analysis, Resources, Conservation & Recycling 149 (2019) 479-488
3. Cristóbal J., Caldeira C., Corrado S., Sala S., Techno-economic and profitability analysis of food waste biorefineries at European level, Bioresource Technology 259 (2018) 244-252

4. Ojha S., Bußle S., Schlüter O.K., Food waste valorisation and circular economy concepts in insect production and processing, *Waste Management* 118 (2020) 600-609
5. Bedir O., Tuba Hatice Dogan T.H., Use of sugar industry waste catalyst for biodiesel production, *Fuel* 286 (2021) 119476
6. Berchmans H.J., Morishita K., Takarada T., Kinetic study of hydroxide-catalyzed methanolysis of *Jatropha curcas*–waste food oil mixture for biodiesel production, *Fuel* 104 (213) 46-52
7. Kumar M.D., Kavitha S., Banu J.R., Valorization of food waste for biodiesel production, *Food Waste to Valuable Resources*, Chapter 4, 2020
8. Carmona-Cabello M., Saez-Bastante J., Pinzi S., Dorado M.P., Auxiliary energy-assisted biodiesel production data from solid food waste oil, *Data in Brief* 30 (2020) 105456