



SCIENTIFIC PUBLICATION REPORT 2023

Scientific Publication Report 2023
College of Engineering
King Saud University

MESSAGE

Quality research is a priority for our college of engineering and the university. It is encouraging to find a considerable improvement in the publication of research papers by our faculty members in peer-reviewed journals of high reputation listed in the Web of Science. I am very optimistic that it will further accelerate in the days to come. To assess and monitor this progress, the college conducts an annual survey and assessment to track the total number of published papers as well as the quartile of each corresponding journal.



The college of engineering through its different departments, namely: -

1. The Department of Chemical Engineering.
2. The Department of Civil Engineering.
3. The Department of Electrical Engineering.
4. The Department of Industrial Engineering.
5. The Department of Mechanical Engineering.
6. The Department of Petroleum and Natural Gas Engineering.

published a total of 664 papers in peer-reviewed journals of high reputation during the academic year of 1444 Hijri (2022-2023). On average, 30% of the papers were published in journals ranked in the highest quartile (Q1) based on the web-of-science classification, and 55% were in the subsequent quartile (Q2). This high percentage of publications in the best quartiles is an indication of the high quality of the research conducted within the college, yet we believe that there is room for further improvement.

I would like to congratulate the college's staff and faculty on these accomplishments and hope that there will be many more achievements in the coming years in research and innovation that are relevant to the needs of industry and society.

Dr. Majid Altamimi

Dean, College of Engineering

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INTRODUCTION

This report covers all the research articles published by the College of Engineering faculty and staff in the journals that are indexed in the web-of-science (WoS) database within an indexing period starting from the 1st of September 2022 till the 31st of August 2023, covering the academic year 1444 Hijri.

After browsing the details of articles and the journals where they were published within the stated timeframe, the journal quartile and the topic classification were recorded for each publication. For the College of Engineering as well as each department individually, two charts summarizing the findings of this report are provided:

1) A distribution of the journal publications' quartile.

The journals included in the WoS Science Citation Index-Expanded (SCIE) are classified into quartiles based on information obtained from the Journal Citation Reports (JCR) by Clarivate. This chart provides a breakdown of the number of publications within each quartile. As WoS encompasses various categories for each field, this chart serves as an indicator of a department's excellence within its specialty or related fields of study.

2) Classification of Published Papers by WoS Meso-Topic

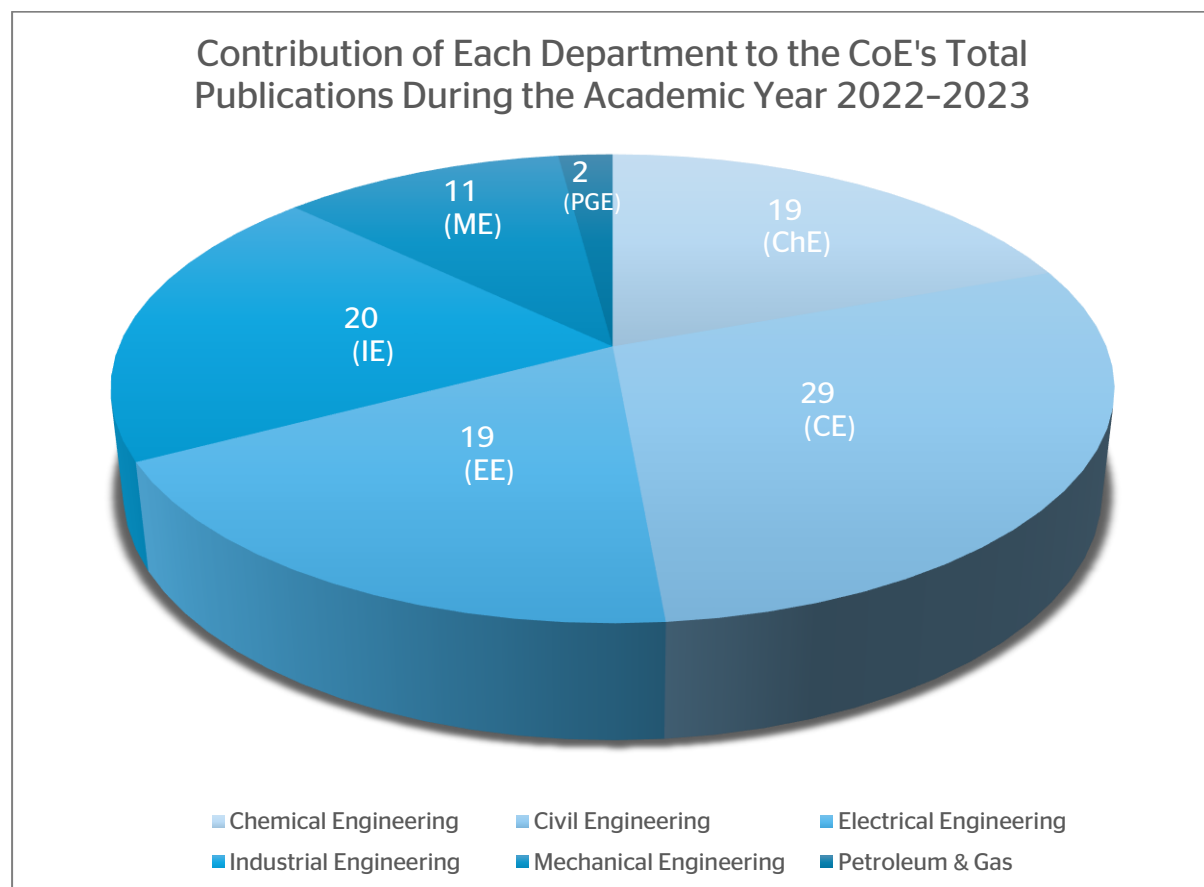
WoS citation topics are algorithmically derived citation clusters. Within WoS, these clusters are organized into three levels of hierarchy. This analysis focuses on the mid-level hierarchy known as the meso-topic classification. By applying this classification to the published papers of each department, as well as the college as a whole, the research areas within the college and departments can be effectively categorized and understood. This chart provides valuable insights into the most active fields of interest within the college, serving as an indicator of its areas of strength.

A full list of publications is also included in Appendix A of this document.

A Summary of Research Articles Published in the Academic Year 2022-2023 by different departments in the College of Engineering

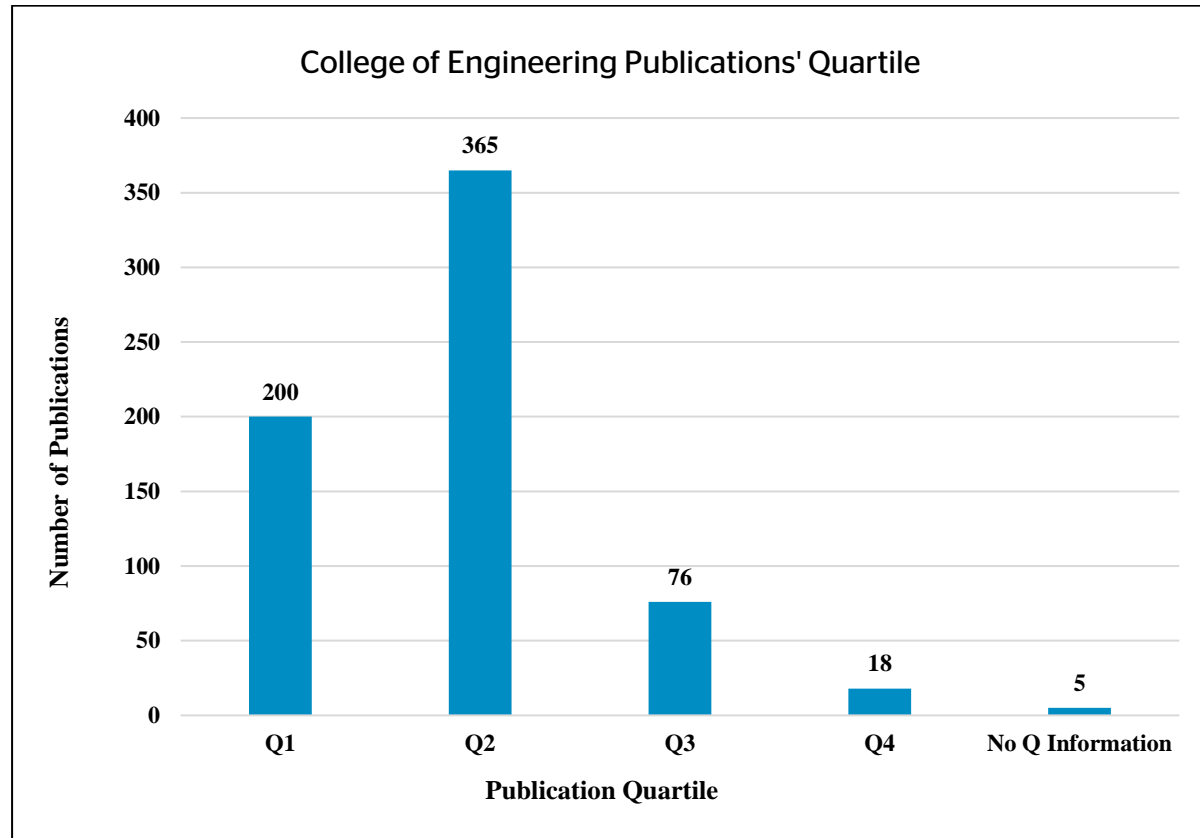
Department	Number of Publications
Chemical Engineering	131
Civil Engineering	197
Electrical Engineering	126
Industrial Engineering	134
Mechanical Engineering	73
Petroleum & Natrual Gas Engineering	14

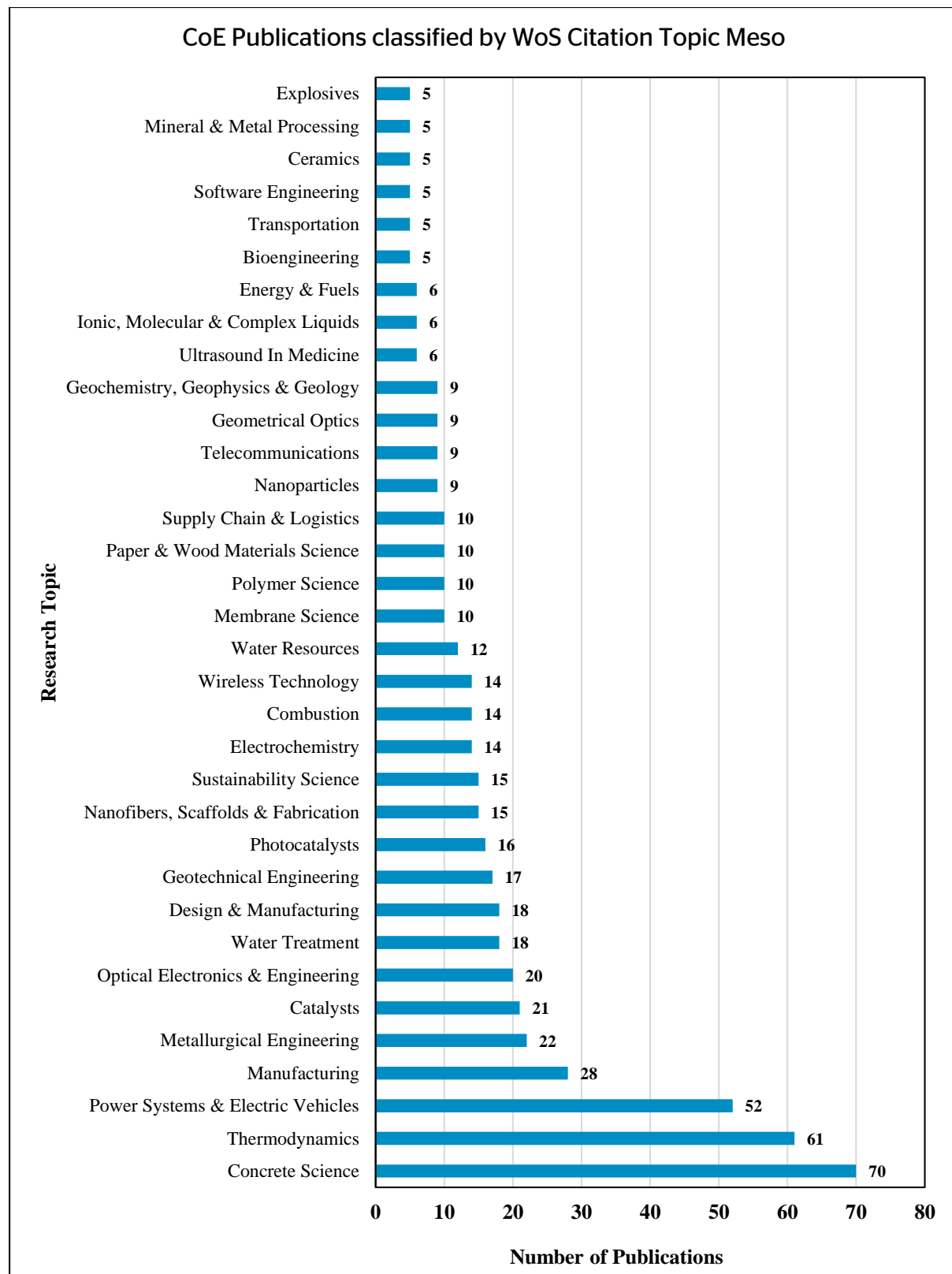
Note: Eleven of the publications in this table were published as collaborative works among the college's different departments; as a result, they have been included in the list of two departments based on the affiliations of the collaborating authors.



COLLEGE OF ENGINEERING

The College of Engineering has published a total of 664 journal articles. Approximately 30% of those articles were published in Q1-ranked journals, while 55% were published in Q2-ranked journals. The top three research topic focus areas were: Concrete Science, Thermodynamics and Power Systems and Electric Vehicles.

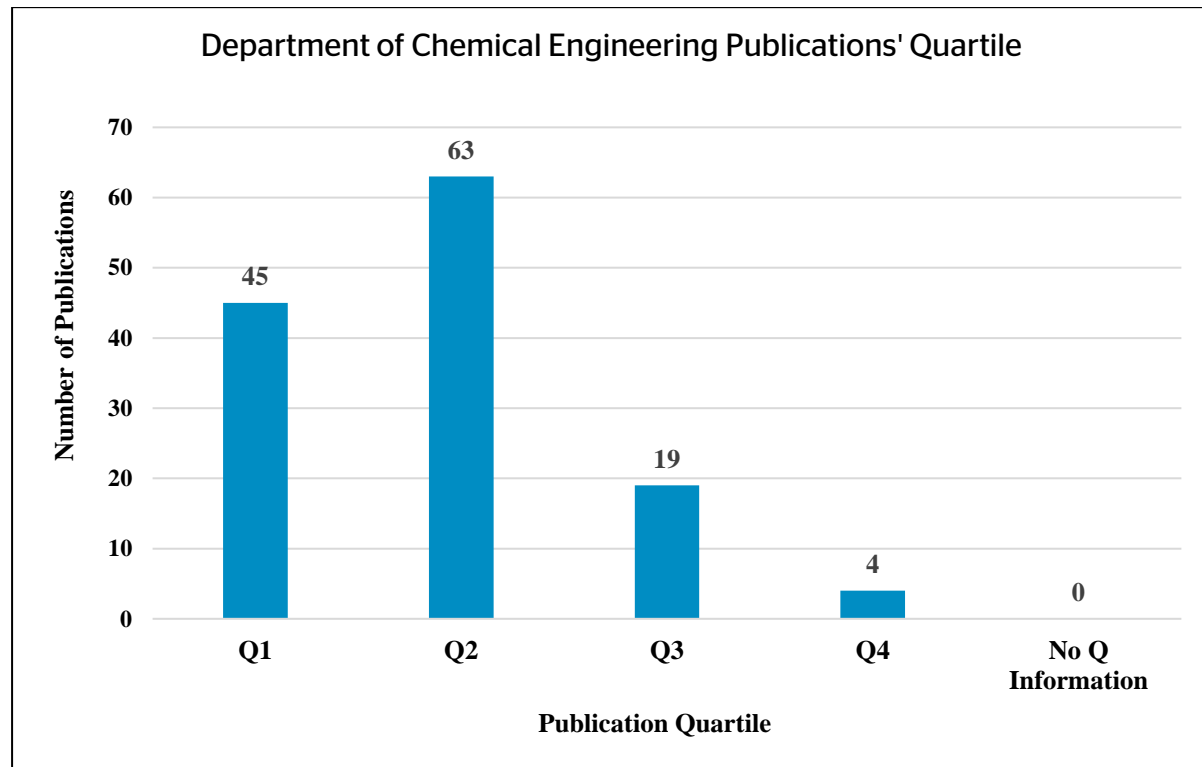


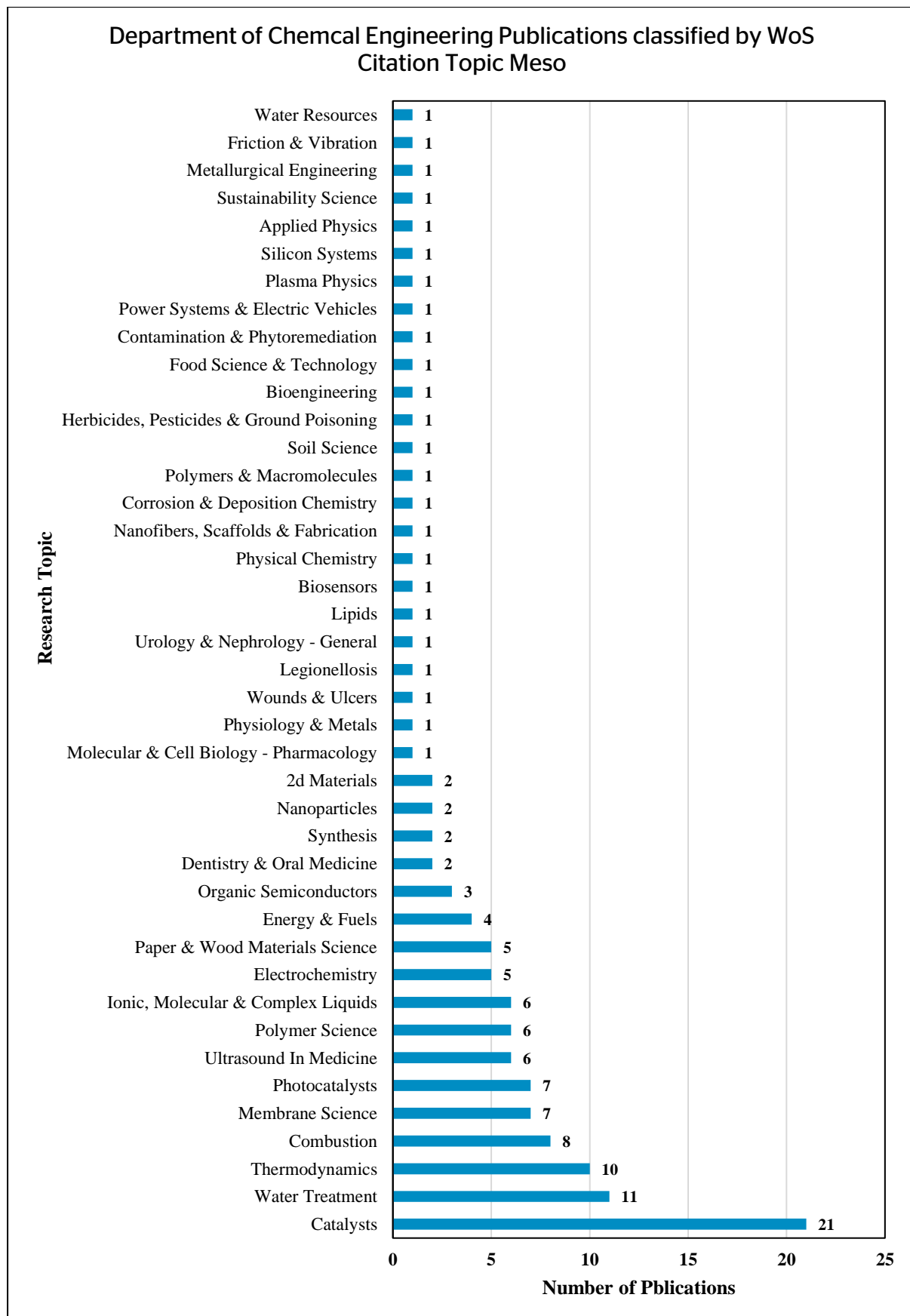


Note: Other than those on this list of research topics here, there are another 66 topics where 113 more research articles were published, bringing the total number of publications by CoE to 664.

DEPARTMENT OF CHEMICAL ENGINEERING

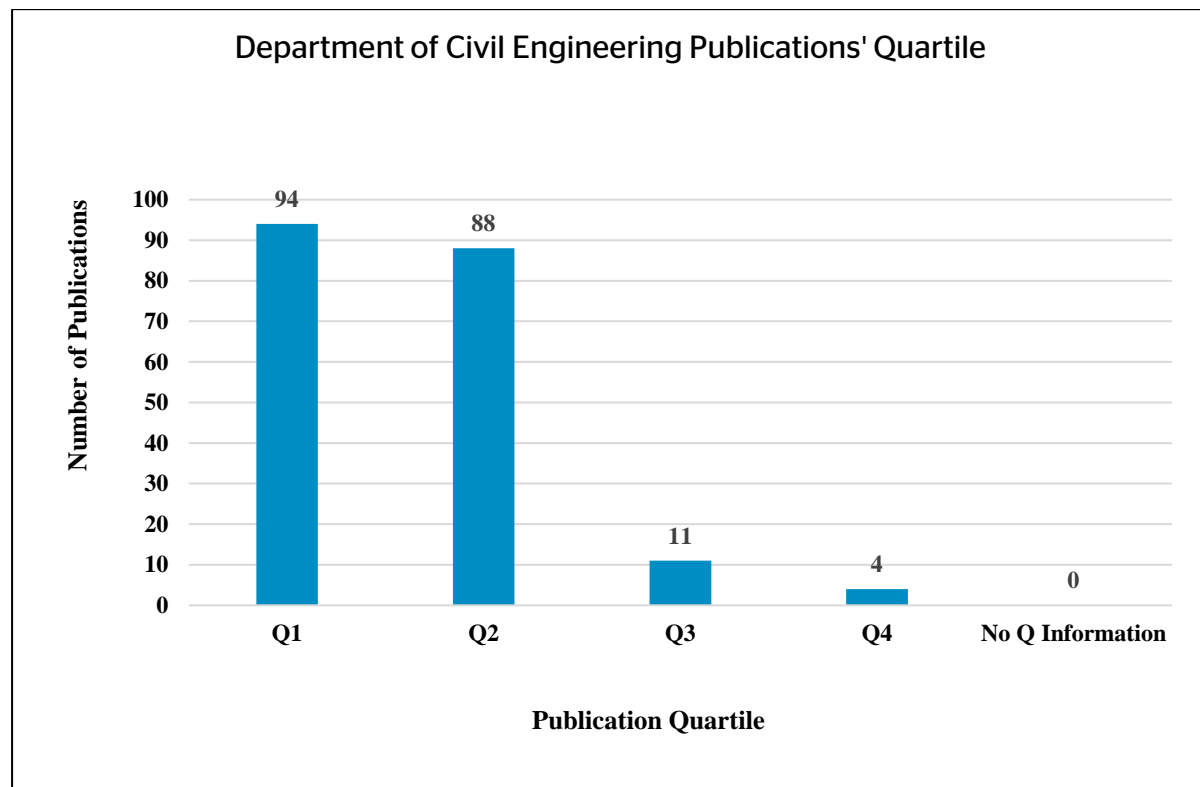
The Department of Chemical Engineering has published a total of 131 journal articles. Approximately 34.3% of those articles were published in Q1-ranked journals, while 48% were published in Q2-ranked journals. The top three research focus areas were Catalysts, Water Treatment, and Thermodynamics.



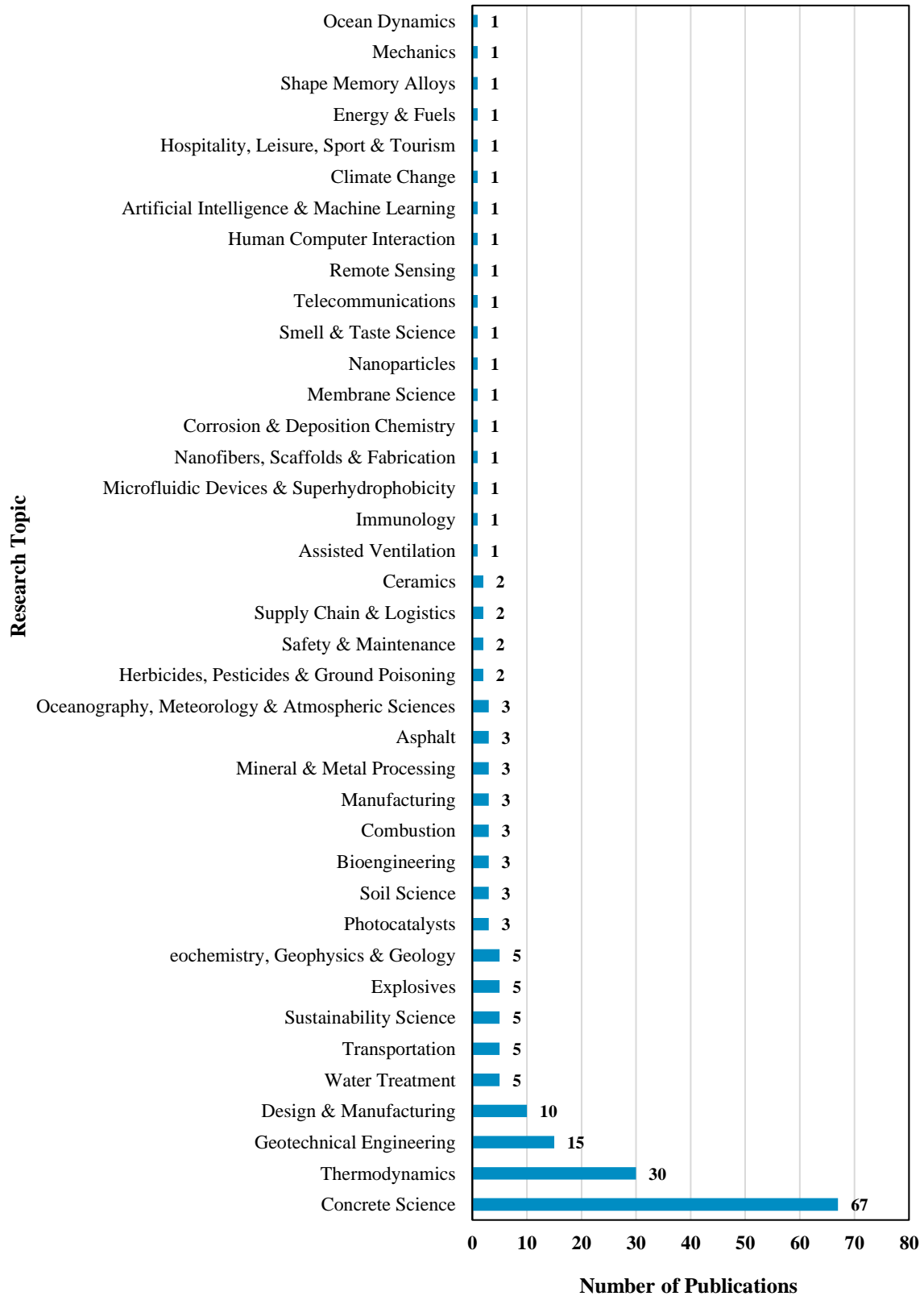


DEPARTMENT OF CIVIL ENGINEERING

The Department of Civil Engineering has published a total of 197 journal articles. Approximately 47.7% of those articles were published in Q1-ranked journals, while 44.7% were published in Q2-ranked journals. The top research focus areas were Concrete Science, Thermodynamics and Geotechnical Engineering.

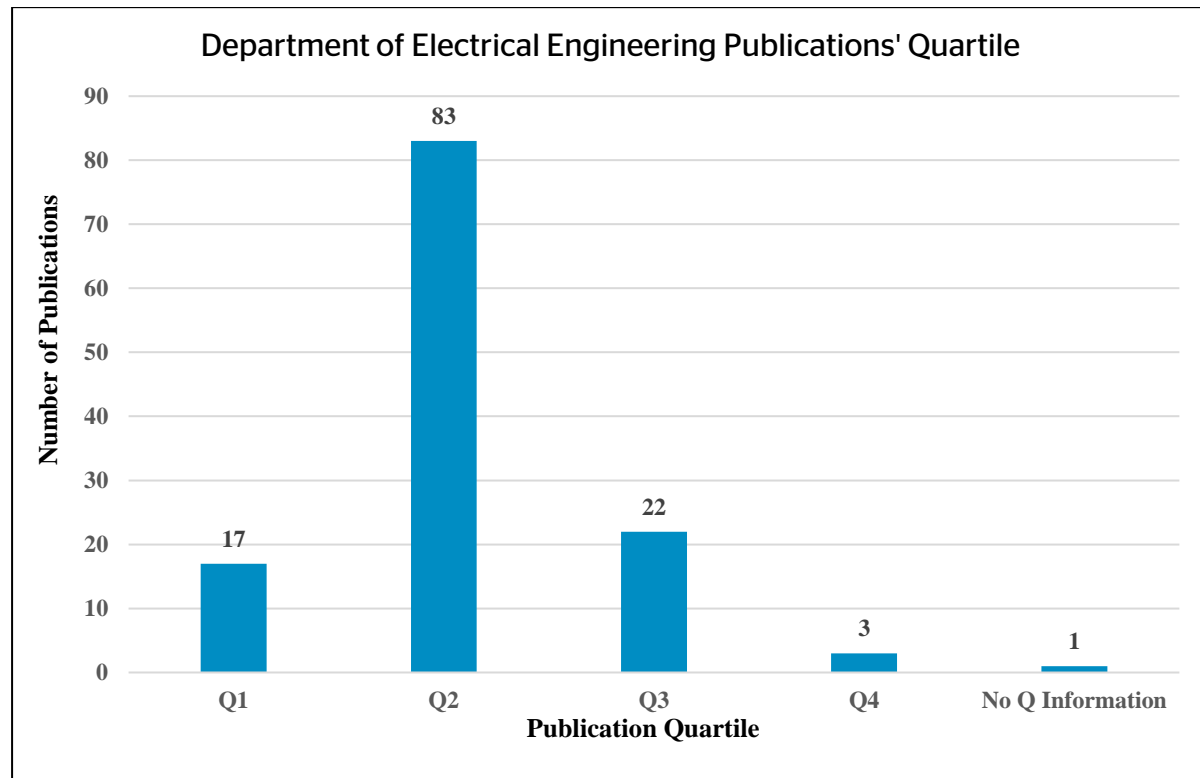


Department of Civil Engineering Publications classified by WoS Citation Topic Meso

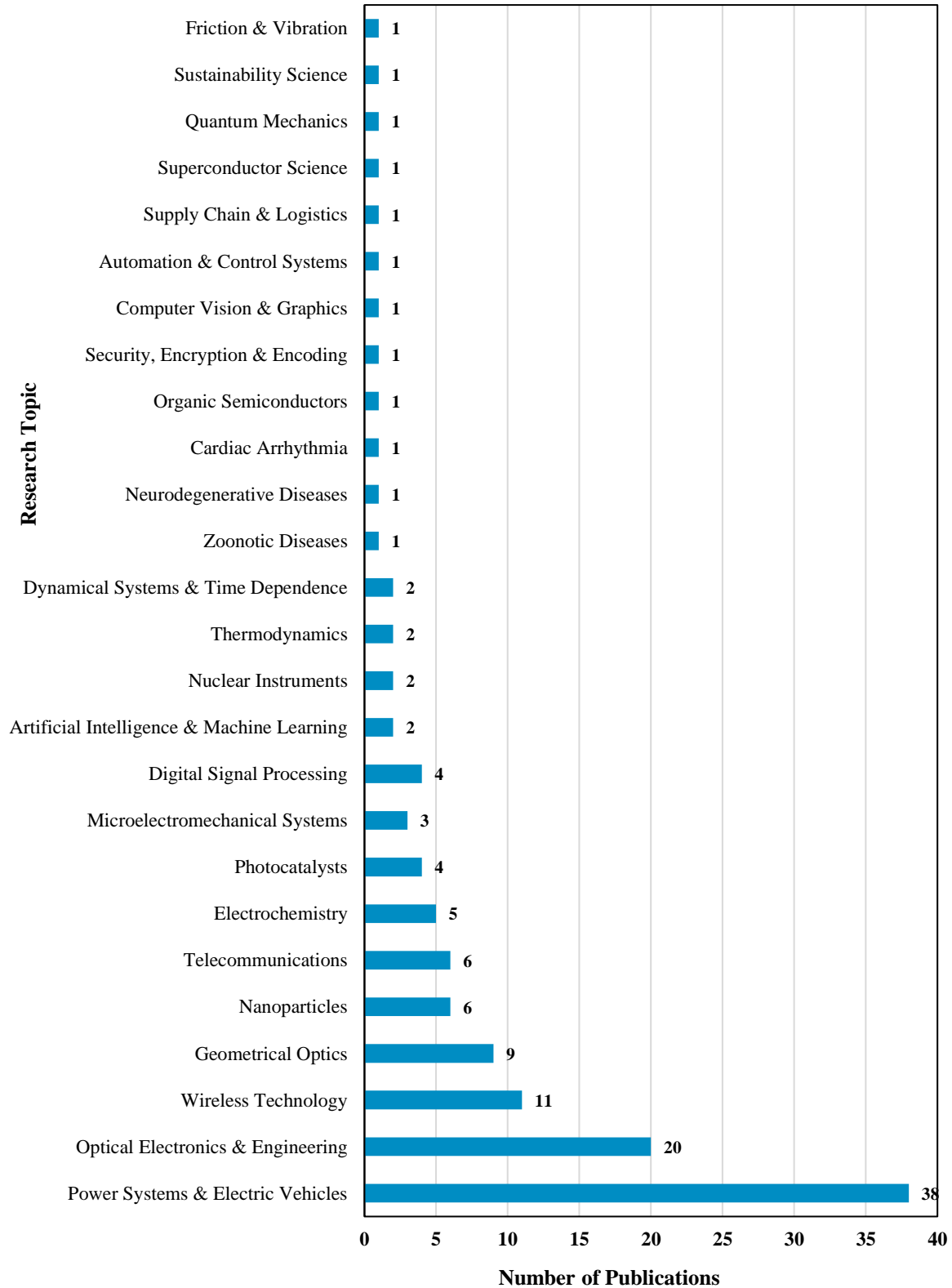


DEPARTMENT OF ELECTRICAL ENGINEERING

The Department of Electrical Engineering has published a total of 126 journal articles. Approximately 13.5% of those articles were published in Q1-ranked journals, while 65.9% were published in Q2-ranked journals. The top three research focus areas were: Power Systems and Electric Vehicles, Optical Electronics and Engineering and Wireless Technology.

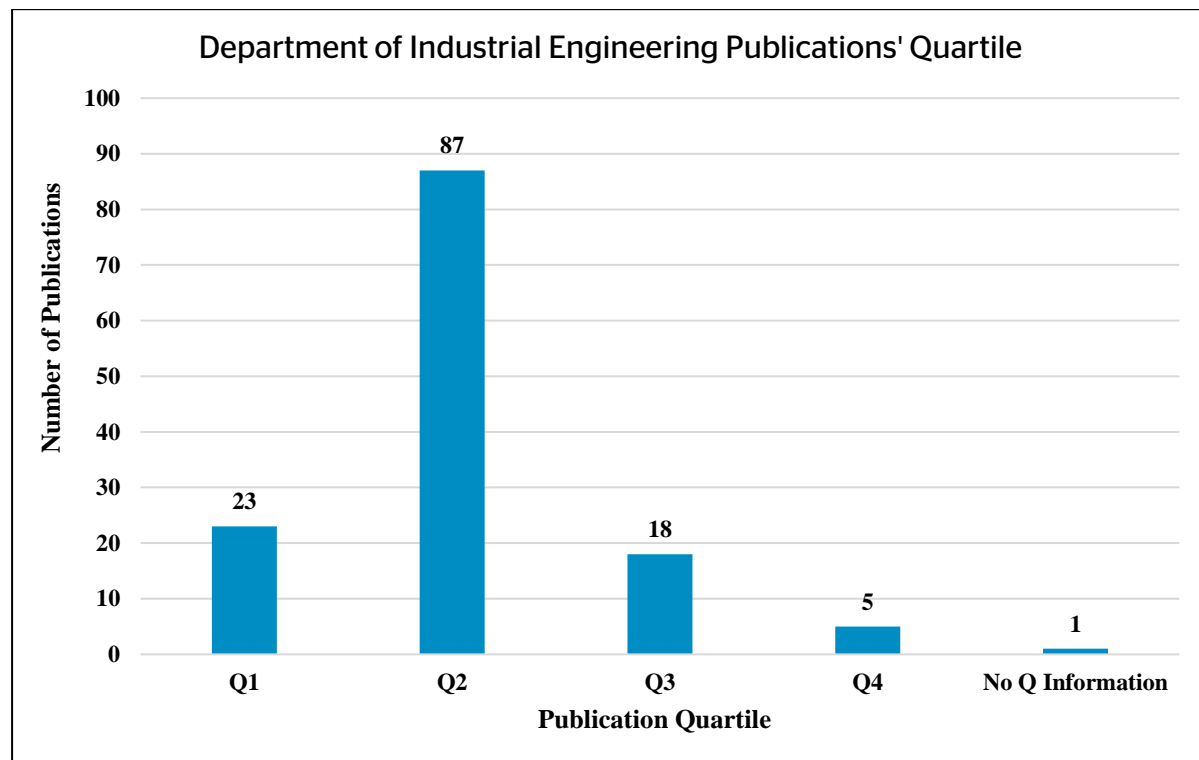


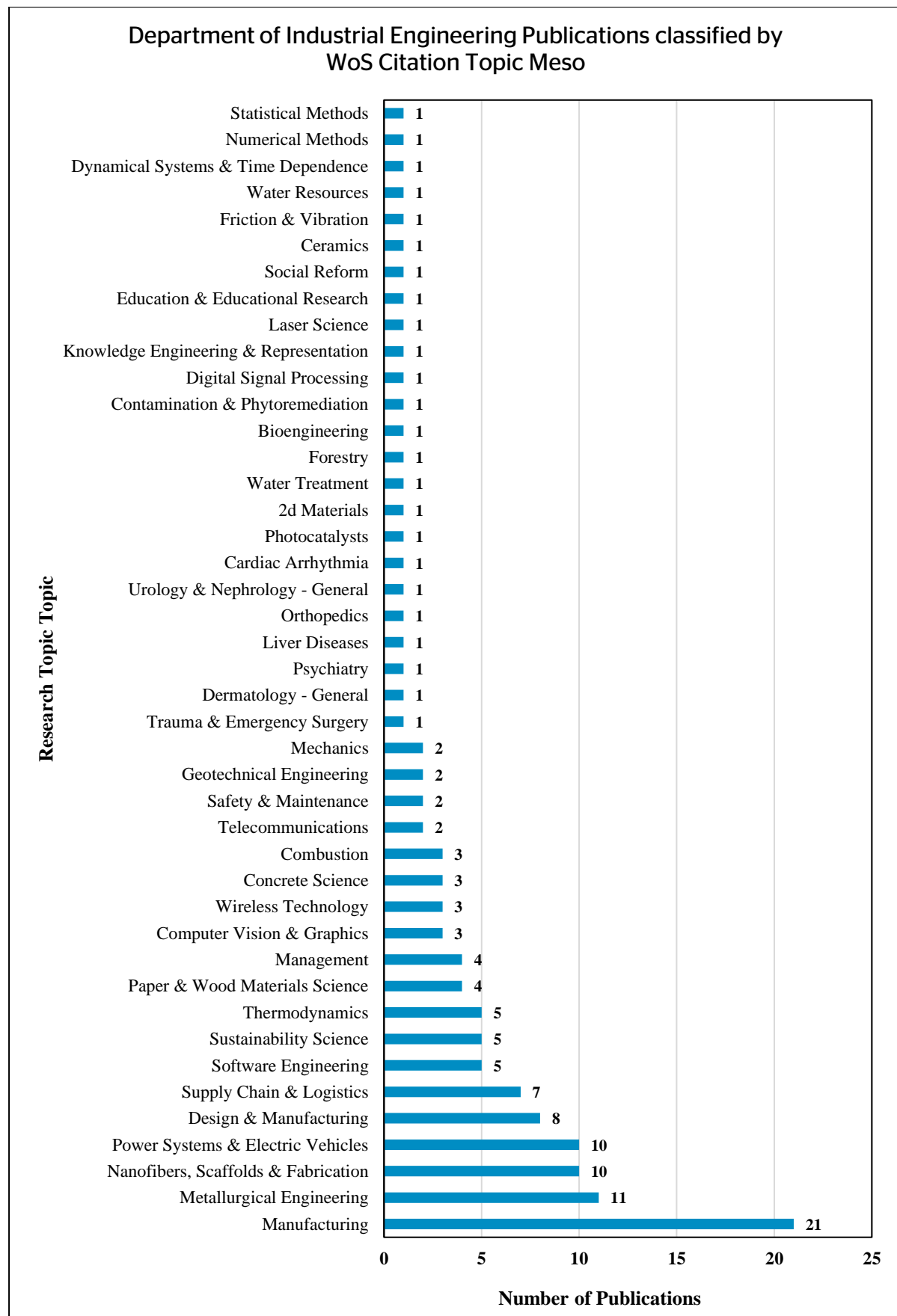
Department of Electrical Engineering Publications classified by WoS Citation Topic Meso



DEPARTMENT OF INDUSTRIAL ENGINEERING

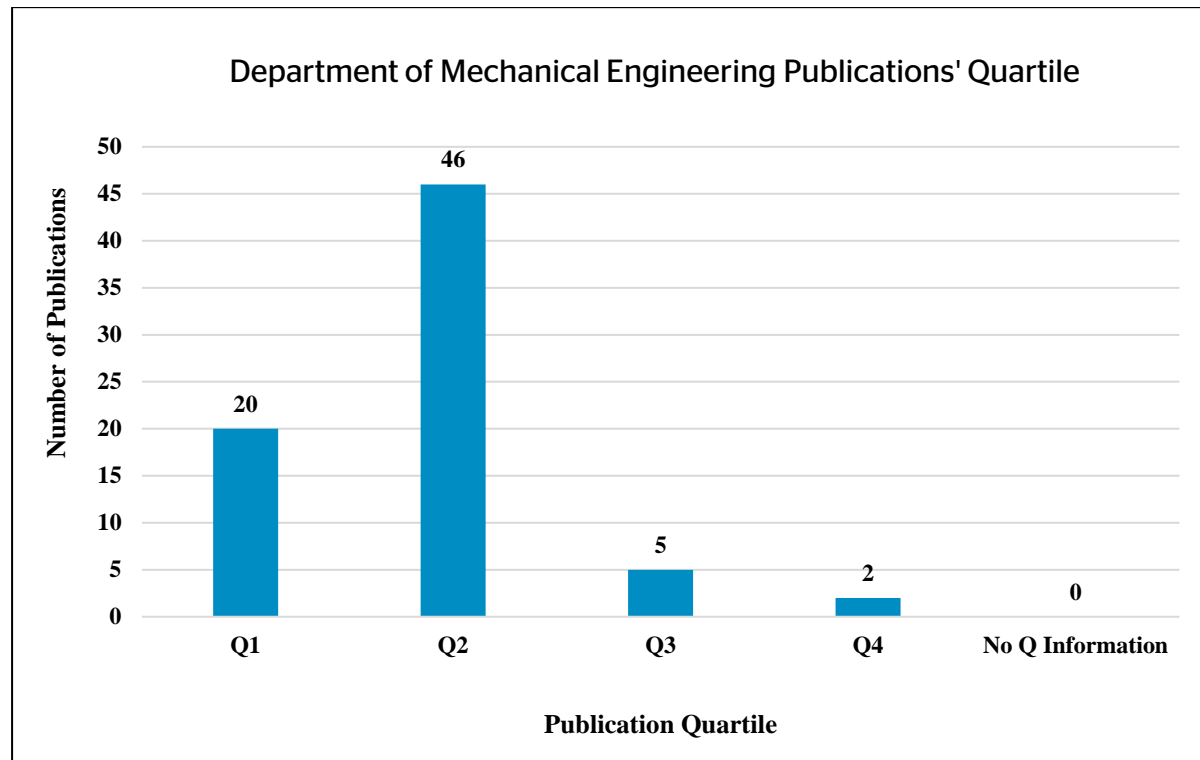
The Department of Industrial Engineering has published a total of 134 journal articles. Approximately 17.2% of those articles were published in Q1-ranked journals, while 65% were published in Q2-ranked journals. The top three research focus areas were: Manufacturing, Metallurgical Engineering, Nanofibers, Scaffolds, and Fabrication.

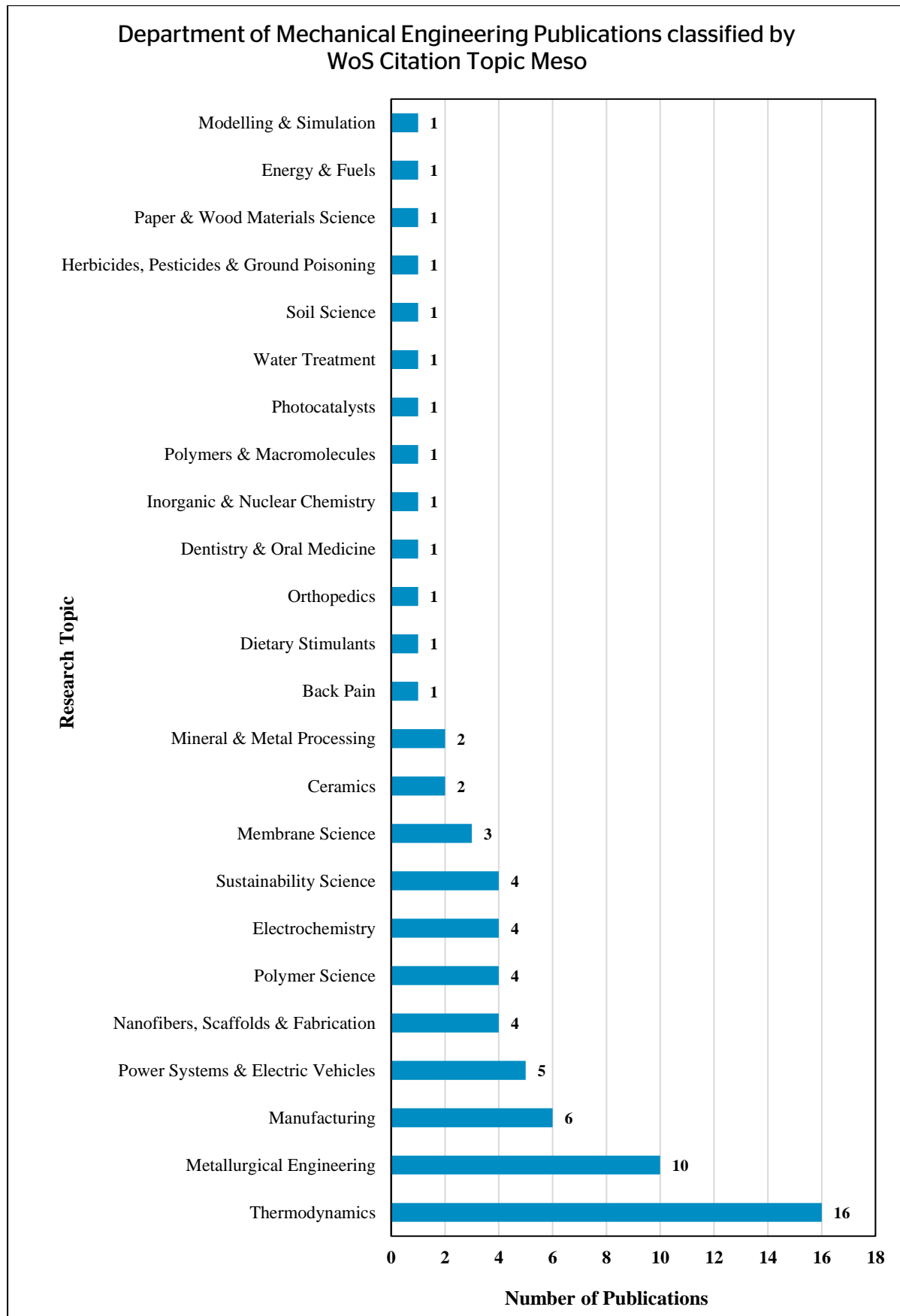




DEPARTMENT OF MECHANICAL ENGINEERING

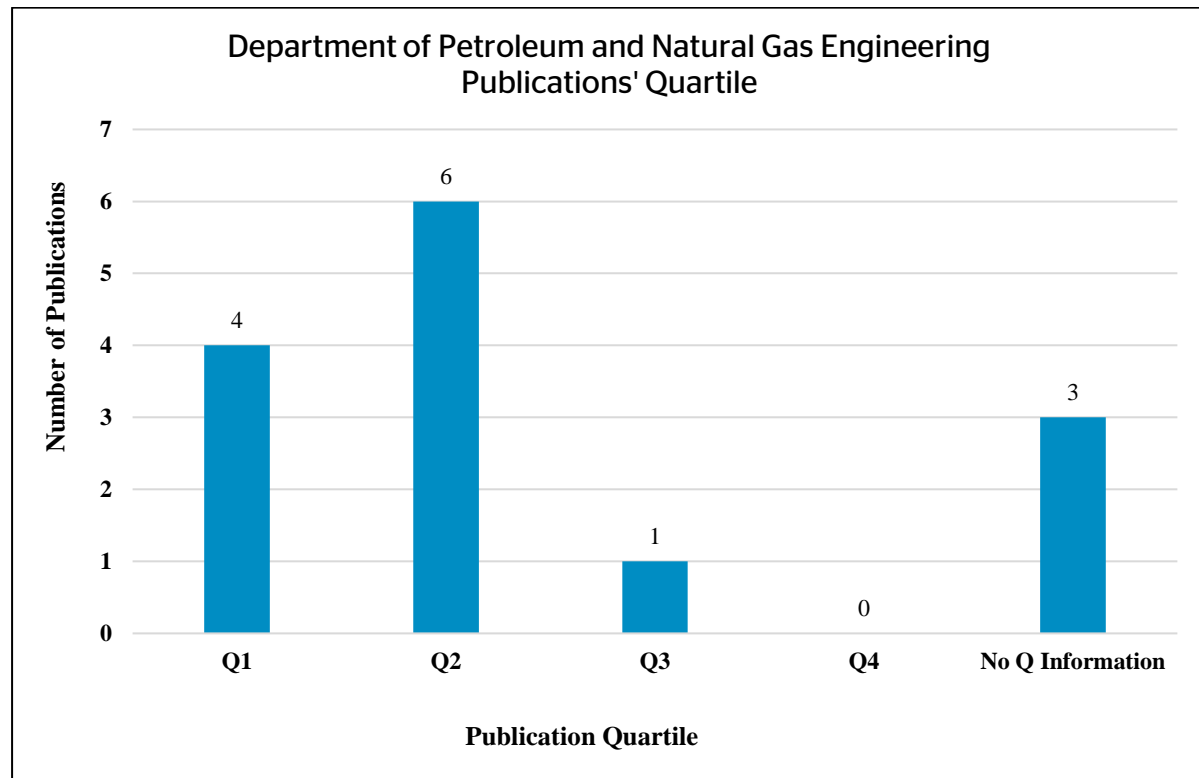
The Department of Mechanical Engineering has published a total of 73 journal articles. Approximately 27.4% of those articles were published in Q1-ranked journals, while 63% were published in Q2-ranked journals. The top three research focus areas were: Thermodynamics, Metallurgical Engineering and Manufacturing.

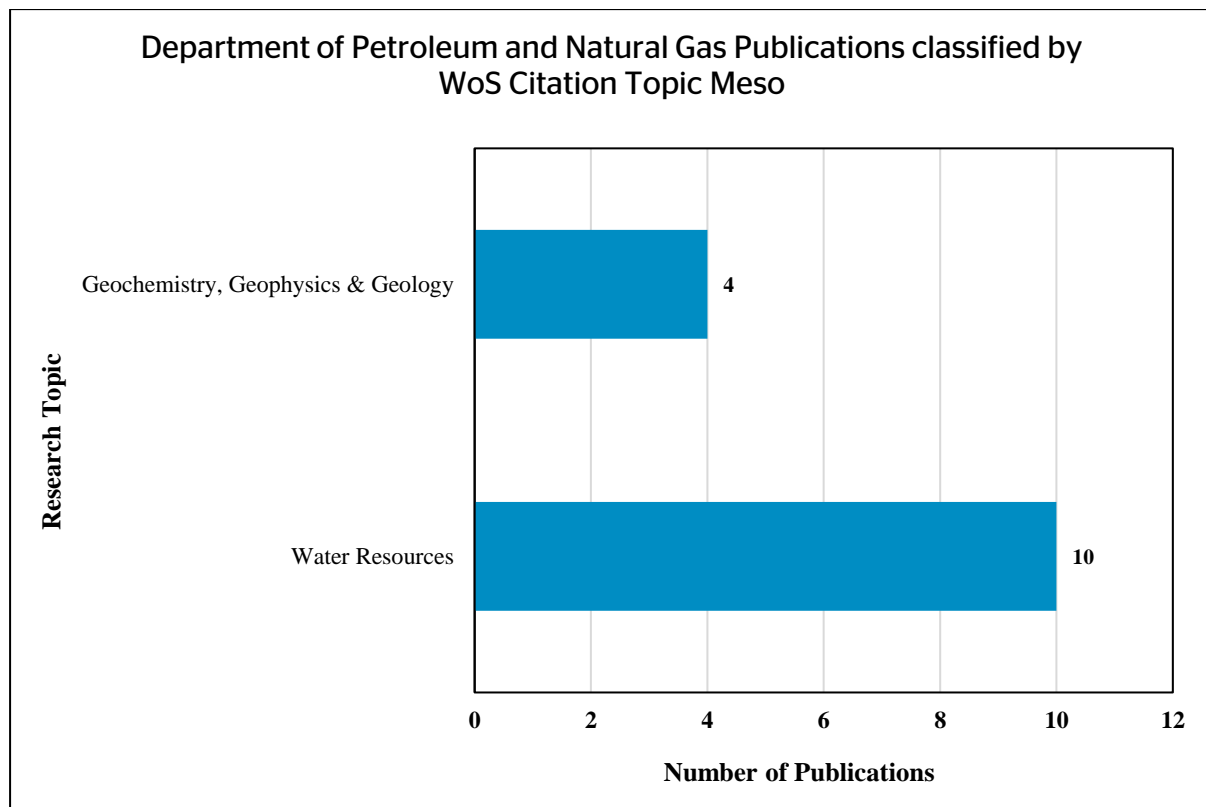




DEPARTMENT OF PETROLEUM AND NATURAL GAS ENGINEERING

The Department of Petroleum and Natural Gas Engineering has published a total of 14 journal articles. Approximately 28.6% of those articles were published in Q1-ranked journals, while 42.8% were published in Q2-ranked journals. The research topics are classified under Water Resources, Geochemistry, Geophysics, and Geology.





TEAM INFORMATION



Dr. Majid Altamimi
Dean, College of Engineering



Dr. Abdullah Y. AlFaify
Vice Dean for Graduate Studies & Scientific
Research



Dr. Osamah Abdullah Alsalman
Coordinator, CoE Scientific
Research Unit



Dr. Mohammed S. Al Alshaykh
Ex-Coordinator, CoE Scientific
Research Unit



Eng. Shamshad Alam
Member, CoE Scientific
Research Unit

APPENDIX A: DEPARTMENT WISE LIST OF PUBLISHED PAPERS

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CHEMICAL ENGINEERING

PUBLICATIONS

- [ChE1] Fahad S. Al-Mubaddel, F. M. Allehiany, Taher A. Nofal, Mohammad Mahtab Alam, Aatif Ali, and Joshua Kiddy K. Asamoah. Rheological model for generalized energy and mass transfer through hybrid nanofluid flow comprised of magnetized cobalt ferrite nanoparticles. JOURNAL OF NANOMATERIALS, 2022, APR 23 2022.
- [ChE2] Fekri Abdulrageb Ahmed Ali, Javed Alam, Arun Kumar Shukla, Zeyad A. Almutairi, and Mansour Alhoshan. Assessing the properties of thin-film nanocomposite membrane embedded with go nanosheets using the dspm-de model. JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T, 19:74-90, JUL-AUG 2022.
- [ChE3] Ibrahim A. Alsayer, Ali A. Merdaw, and Ibrahim S. Al-Mutaz. etransfer of ions in forward osmosis process using reverse osmosis rejects as draw solution and industrial wastewater as feed water. DESALINATION AND WATER TREATMENT, 261:1-10, JUN 2022.
- [ChE4] Mayankkumar L. Chaudhary, Ahmed S. Al-Fatesh, Rawesh Kumar, Mahmud S. Lanre, Francesco Frusteri, Salwa B. AlReshaidan, Ahmed A. Ibrahim, Ahmed E. Abasaeed, and Anis H. Fakeeha. Promotional effect of addition of ceria over yttria-zirconia supported ni based catalyst system for hydrogen production through dry reforming of methane. INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, 47(48):20838- 20850, JUN 5 2022.
- [ChE5] Emad Ali. Novel structures of direct contact membrane distillation for brackish water desalination using distributed feed flow. DESALINATION, 540, OCT 15 2022.
- [ChE6] Basheer A. Alshammari, Asma M. Alenad, Fahad S. Al-Mubaddel, Abdullah G. Alharbi, Abdulaziz Salem Al-shehri, Hanan A. Albalwi, Fehaid M. Alsuabie, Hassan Fouad, and Abdel-Hamid I. Mourad. Impact of hybrid fillers on the properties of high density polyethylene based composites. POLYMERS, 14(16), AUG 2022.
- [ChE7] Vijayanandh Raja, Raj Kumar Gnanasekaran, Abdul Razak Kaladgi, Parvathy Rajendran, Sher Afghan Khan, and Mohammad Asif. Multi-disciplinary computational investigations on asymmetrical failure factors of disc brakes for various cfrp materials: A validated approach. SYMMETRY-BASEL, 14(8), AUG 2022.
- [ChE8] Ali Alrahlah, Rawaiz Khan, Fahim Vohra, Ibrahim M. Alqahtani, Adel A. Alruhaymi, Sajjad Haider, Abdel-Basit Al-Odayni, Waseem Sharaf Saeed, H. C. Ananda Murthy, and Leonel S. Bautista. Influence of the physical inclusion of zro2/tio2 nanoparticles on physical, mechanical, and morphological characteristics of pmma-based interim restorative material. BIOMED RESEARCH INTERNATIONAL, 2022, AUG 19 2022.
- [ChE9] Mohammad Jawaid, Lau Kia Kian, Salman Alamery, Naheed Saba, Hassan Fouad, Othman Y. Alothman, and M. Sain. Development and characterization of fire retardant nanofiller from date palm biomass. BIOMASS CONVERSION AND BIOREFINERY, 2022 AUG 26 2022.

- [ChE10] Aissa Dehane, Slimane Merouani, Atef Chibani, Oualid Hamdaoui, Kyuichi Yasui, and Muthupandian Ashokkumar. Estimation of the number density of active cavitation bubbles in a sono-irradiated aqueous solution using a thermodynamic approach. *ULTRASONICS*, 126, DEC 2022.
- [ChE11] Aissa Dehane, Slimane Merouani, Atef Chibani, Oualid Hamdaoui, and Muthupandian Ashokkumar. Influence of processing conditions on hydrogen sonoproduction from methanol sono-conversion: A numerical investigation with a validated model. *CHEMICAL ENGINEERING AND PROCESSING-PROCESS INTENSIFICATION*, 179, SEP 2022.
- [ChE12] Abdulrahman A. Al-Rabiah, Abdullah E. Alqahtani, Rayan K. Al Darwish, and Abdulaziz S. Bin Naqyah. Novel process for butyl acetate production via membrane reactor: A comparative study with the conventional and reactive distillation processes. *PROCESSES*, 10(9), SEP 2022.
- [ChE13] Ravindra Kumar Gupta, Hamid Shaikh, Ahamad Imran, Idriss Bedja, and Abdullah Saleh Aldwayyan. Structural, thermal, and electrical properties of poly(ethylene oxide)-tetramethyl succinonitrile blend for redox mediators. *POLYMERS*, 14(18), SEP 2022.
- [ChE14] Fahad Awjah Almeahmadi, Abdullah Najib, Emad Ali, Hany Al-Ansary, and Jamel Orfi. Sustainable approach of generating water and energy: Techno-economic analysis of a hybrid solar photoactive thermal system coupled with direct contact membrane distillation for water purification and electricity generation. *APPLIED SCIENCES- BASEL*, 12(18), SEP 2022.
- [ChE15] Salwa Bader Alreshaidan, Ahmed A. Ibrahim, Anis H. Fakeeha, Abdulaziz M. Almutlaq, Fekri Abdulraqueeb Ahmed Ali, and Ahmed S. Al-Fatesh. Effect of modified alumina support on the performance of ni-based catalysts for co2 reforming of methane. *CATALYSTS*, 12(9), SEP 2022.
- [ChE16] Hammad Ahmad Jan, Igor Surina, Akhtar Zaman, Ahmed S. Al-Fatesh, Fazli Rahim, and Raja L. Al-Otaibi. Synthesis of biodiesel from ricinus communis l. seed oil, a promising non-edible feedstock using calcium oxide nanoparticles as a catalyst. *ENERGIES*, 15(17), SEP 2022.
- [ChE17] Basheer A. Alshammari, Othman Y. Alothman, Abdullah Alhamidi, Mohammad Jawaid, and Hamid M. Shaikh. Effect of accelerated weathering on the thermal, tensile, and morphological characteristics of polypropylene/date nanofiller composites. *MATERIALS*, 15(17), SEP 2022.
- [ChE18] Nadia Akram, Muhammad Usman, Sajjad Haider, Muhammad Saeed Akhtar, and Kashmala Gul. Impact of diisocyanates on morphological and in vitro biological efficacy of eco-friendly castor-oil-based water-borne polyurethane dispersions. *POLYMERS*, 14(17), SEP 2022.
- [ChE19] Emad Ali, Jamel Orfi, Hany AlAnsary, Ahmad S. Alsaadi, and Noredine Ghaffour. Novel multistage flash reversal concept: Modelling and analysis. *APPLIED*

THERMAL ENGINEERING, 217, NOV 25 2022.

- [ChE20] Ahmed I. Osman, Ahmed M. Elgarahy, Neha Mehta, Ala'a H. Al-Muhtaseb, Ahmed S. Al-Fatesh, and David W. Rooney. Facile synthesis and life cycle assessment of highly active magnetic sorbent composite derived from mixed plastic and biomass waste for water remediation. ACS SUSTAINABLE CHEMISTRY & ENGINEERING, 2022 SEP 7 2022.
- [ChE21] J. C. Umavathi, D. G. Prakasha, Yousef M. Alanazi, Maha M. A. Lashin, Fahad S. AlMubaddel, Raman Kumar, and R. J. Punith Gowda. Magnetohydrodynamic squeezing casson nanofluid flow between parallel convectively heated disks. INTERNATIONAL JOURNAL OF MODERN PHYSICS B, 37(04), FEB 10 2023.
- [ChE22] Aissa Dehane, Slimane Merouani, Oualid Hamdaoui, and Muthupandian Ashokkumar. The use of reactive oxygen species as a probe for determining the size distribution of active bubbles in sonicated aqueous solution: Impact of dissolved rare gases. CHEMISTRY AFRICA-A JOURNAL OF THE TUNISIAN CHEMICAL SOCIETY, 5(6, SI):2115-2129, DEC 2022.
- [ChE23] Irfan Wazeer, Haneef F. Hizaddin, Mohd A. Hashim, and Mohamed K. Hadj-Kali. An overview about the extraction of heavy metals and other critical pollutants from contaminated water via hydrophobic deep eutectic solvents. JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING, 10(6), DEC 2022.
- [ChE24] Ahmed S. Al-Fatesh, Jumika Golaviya, Vijay Kumar Shrivastava, Ahmed Aidid Ibrahim, Ahmed I. Osman, Anis Hamza Fakeeha, Ahmed Elhag Abasaeed, Abdulaziz A. Bagabas, Mahmud S. Lanre, Rawesh Kumar, Abrar Hussain, and Kuen-Song Lin. A highly active and cost-effective tungsten modified ni-based catalyst for the production of hydrogen via methane dry reforming. CATALYSIS COMMUNICATIONS, 171, NOV 2022.
- [ChE25] Saman Hanif, Mabkhoot Alsaiani, Mushtaq Ahmad, Shazia Sultana, Muhammad Zafar, Rozina, Farid A. Harraz, Abdulrahman Faraj Alharbi, Abdulaziz A. M. Abahussain, and Zubair Ahmad. Membrane reactor based synthesis of biodiesel from toona ciliata seed oil using barium oxide nano catalyst. CHEMOSPHERE, 308(3), DEC 2022.
- [ChE26] Lau Kia Kian, Mohammad Jawaid, Mohamed H. Mahmoud, Naheed Saba, Hassan Fouad, Othman Y. Alothman, and Ashok Vaseashta. Characterization and fabrication of poly(butylene adipate-co-terephthalate)/nanocrystalline cellulose composite membranes for heavy metal ion separation. JOURNAL OF APPLIED POLYMER SCIENCE, 139(45), DEC 5 2022.
- [ChE27] Lau Kia Kian, Mohammad Jawaid, Mohamed H. Mahmoud, Naheed Saba, Hassan Fouad, Othman Y. Alothman, and Zoheb Karim. Pbat/pbs blends membranes filled with nanocrystalline cellulose for heavy metal ion separation. JOURNAL OF POLYMERS AND THE ENVIRONMENT, 30(12):5263-5273, DEC 2022.

- [ChE28] Abdulaziz A. M. Abahussain, S. Z. J. Zaidi, M. H. Nazir, M. Raza, and S. Hassan. A dft study of graphene as a drug carrier for gemcitabine anticancer drug. JOURNAL OF NEW MATERIALS FOR ELECTROCHEMICAL SYSTEMS, 25(4):234-239, OCT 2022.
- [ChE29] Emad Ali and Abdelbasset Bessadok-Jemai. Analysis of zero liquid disposal plant using electrodialysis integrated with electrolyzer for hydrogen fuel production. DESALINATION AND WATER TREATMENT, 272:88-107, OCT 2022.
- [ChE30] Abdulrahman A. Al-Rabiah, Abdulaziz M. Almutlaq, Omar S. Bashth, Taher M. Alyasser, Fayez A. Alshehri, Mohammed S. Alofai, and Abdulelah S. Alshehri. An intensified green process for the coproduction of dmc and dmo by the oxidative carbonylation of methanol. PROCESSES, 10(10), OCT 2022.
- [ChE31] Abdulrahman A. Al-Rabiah, Raed R. Alkathiri, and Abdulaziz A. Bagabas. Process development for methyl isobutyl ketone production using the low-pressure one-step gas-phase selective hydrogenation of acetone. PROCESSES, 10(10), OCT 2022.
- [ChE32] Abdulrahman A. Al-Rabiah, Ismail Boz, Vagif M. Akhmedov, Mohamed Mokhtar M. Mostafa, and Abdulaziz A. Bagabas. Highly selective gas-phase catalytic hydrogenation of acetone to isopropyl alcohol. CATALYSTS, 12(10), OCT 2022.
- [ChE33] Oualid Hamdaoui, Slimane Merouani, Hadjer C. Benmahmoud, Meriem Ait Idir, Hamza Ferkous, and Abdulaziz Alghyamah. Ultrasound/chlorine: A novel synergistic sono-hybrid process for allura red ac degradation. CATALYSTS, 12(10), OCT 2022.
- [ChE34] Hammad Ahmad Jan, Igor Surina, Ahmed S. Al-Fatesh, Abdulaziz M. Almutlaq, Sher Wali, and Anton Lisy. Biodiesel synthesis from milk thistle (*silybum marianum* (l.) gaertn.) seed oil using zno nanoparticles as a catalyst. ENERGIES, 15(20), OCT 2022.
- [ChE35] Yasser M. Alessi and Abdulrahman A. Al-Rabiah. A feasibility study of utilizing nuclear energy for an existing med-tvc desalination plant. APPLIED SCIENCES-BASEL, 12(19), OCT 2022.
- [ChE36] Ahmed Halilu, Mohamed Kamel Hadj-Kali, Mohd Ali Hashim, Rozita Yusoff, and Mohamed Kheireddine Aroua. Bifunctional ionic deep eutectic electrolytes for co2 electroreduction. ACS OMEGA, 7(42):37764-37773, OCT 25 2022.
- [ChE37] Promy Virk, Manal A. Awad, Mai Elobeid, Khalid M. O. Ortashi, Nada M. Merghani, and Manal F. El-Khadragy. Anti-proliferative and biocidal effect of watermelon (*citrullus lanatus*) seed extract and its nanoformulation. MATERIALS LETTERS, 325, OCT 15 2022.
- [ChE38] Mansour Alhoshan, Arun Kumar Shukla, Turki Hussain Mana, Fekri Abdulraqueeb Ahmed Ali, and Javed Alam. An evolving mof thin-film nanocomposite tubular ceramic membrane for desalination pretreatment. JOURNAL OF

INORGANIC AND ORGANOMETALLIC POLYMERS AND MATERIALS, 33(2):337-352, FEB 2023.

- [ChE39] Abdulaziz A. M. Abahussain, Abdulrahman F. Alharbi, M. H. Nazir, and S. Z. J. Zaidi. Anodic generation of hydrogen peroxide by using manganese(iii) oxide based catalyst. INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, 17(11), NOV 2022.
- [ChE40] K. Senthilkumar, M. Chandrasekar, Othman Y. Alothman, Hassan Fouad, M. Jawaid, and M. A. Azeem. Flexural, impact and dynamic mechanical analysis of hybrid composites: Olive tree leaves powder/pineapple leaf fibre/epoxy matrix. JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T, 21:4241-4252, NOV-DEC 2022.
- [ChE41] Meriem Bendjama, Oualid Hamdaoui, Hamza Ferkous, and Abdulaziz Alghyamah. Degradation of safranin o in water by uv/tio2/io4- process: Effect of operating conditions and mineralization. CATALYSTS, 12(11), NOV 2022.
- [ChE42] Mohamed K. Hadj-Kali, Lahssen El Blidi, Sarwono Mulyono, Irfan Wazeer, Emad Ali, and Jagan Rallapalli. Deep eutectic solvents for the separation of toluene/1-hexene via liquid-liquid extraction. SEPARATIONS, 9(11), NOV 2022.
- [ChE43] Mustafa Zakiedin, Mansour Alhoshan, Maher M. Alrashed, and Lahssen El Blidi. Preparation and characterization of polyanhydride terminated with oleic acid extracted from olive mills waste. POLYMERS, 14(22), NOV 2022.
- [ChE44] Abdulrahman A. Al-Rabiah, Rayan K. Al Darwish, Abdullah E. Alqahtani, Diego Morais Chaves, and Marcio J. da Silva. Production of biofuel additives using catalytic bioglycerol etherification: Kinetic modelling and reactive distillation design. CATALYSTS, 12(11), NOV 2022.
- [ChE45] Abdulrahman A. Al-Rabiah, Jiyad N. Al-Dawsari, Abdelhamid M. Ajbar, Rayan K. Al Darwish, and Omar Y. Abdelaziz. Development of a biomass gasification process for the coproduction of methanol and power from red sea microalgae. ENERGIES, 15(21), NOV 2022.
- [ChE46] Haneef F. Hizaddin, Irfan Wazeer, Nur Afrina Muhammad Huzaimi, Lahssen El Blidi, Mohd Ali Hashim, Jean-Marc Leveque, and Mohamed K. Hadj-Kali. Extraction of phenolic compound from model pyrolysis oil using deep eutectic solvents: Computational screening and experimental validation. SEPARATIONS, 9(11), NOV 2022.
- [ChE47] Anis Hamza Fakeeha, Rutu Patel, Nissrine El Hassan, Salma A. Al-Zahrani, Abdulrhman S. Al-Awadi, Leone Frusteri, Hossein Bayahia, Abdulrahman I. Alharth, Ahmed Sadeq Al-Fatesh, and Rawesh Kumar. Holmium promoted yttria-zirconia supported ni catalyst for h2 production via dry reforming of methane. INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, 47(90):38242-38257, NOV 9 2022.
- [ChE48] Ni Luh Wulan Septiani, Ganes Shukri, Adhitya Gandaryus Saputro, Nugraha,

- Mohammad Rezaul Karim, Fahad Al-Mubaddel, Andri Hardiansyah, Yusuke Yamauchi, Yusuf Valentino Kaneti, and Brian Yulianto. Palm sugar-induced formation of hexagonal tungsten oxide with nanorod-assembled three-dimensional hierarchical frameworks for nitrogen dioxide sensing. *ACS SUSTAINABLE CHEMISTRY & ENGINEERING*, 10(46):15035–15045, NOV 21 2022.
- [ChE49] Ahmed Sadeq Al-Fatesh, Ahmed A. Ibrahim, Anis H. Fakeeha, Fahad Albaqi, Khalid Anojaidi, Ibrahim Albinali, Ahmed E. Abasaheed, Francesco Frusteri, Sofiu L. Mahmud, Jihad K. Abu-Dahrieh, and Abdulaziz A. Bagabas. Effect of holmium oxide loading on nickel catalyst supported on yttria-stabilized zirconia in methane dry reforming. *ACS OMEGA*, 7(48):43700–43709, DEC 6 2022.
- [ChE50] Muhammad Umar Aslam Khan, Wafa Shamsan Al-Arjan, Nureddin Ashammakhi, Sajjad Haider, Rashid Amin, and Anwarul Hasan. Multifunctional bioactive scaffolds from arx-g-(zn@rgo)-hap for bone tissue engineering: In vitro antibacterial, antitumor, and biocompatibility evaluations. *ACS APPLIED BIO MATERIALS*, 5(11):5445–5456, NOV 21 2022.
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