

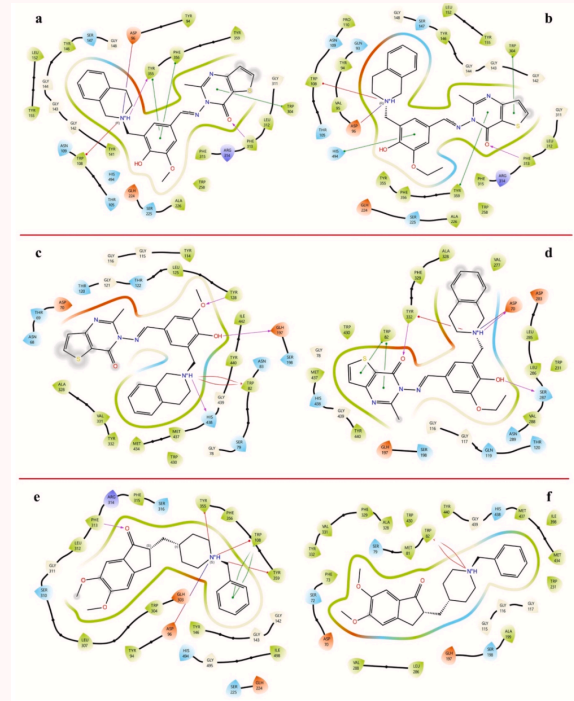
Research Bulletin

April 2026

Publications

NEW DRUG CANDIDATES DEVELOPED TO PROTECT BRAIN HEALTH

Laboratory studies have been conducted on a special group of compounds called “thienopyrimidines” for potential use in treating conditions such as memory loss and nervous system inflammation. In this study, newly developed molecules were analyzed at the cellular level for their ability to reduce harmful effects in the brain and provide protective benefits. The results showed that these new structures may be effective in regulating brain functions and preventing inflammation.



Tokalı, F. S., Acar, O. O., Demir, Y., Şenol, H., Acar, B., Çakır, F., & Sen, A. (2026). Targeting Cholinergic Dysfunction and Neuroinflammation Through Rationally Designed Thieno[3,2-d]pyrimidine Hybrids. *Bioorganic Chemistry*, 175, Article 109778. <https://doi.org/10.1016/j.bioorg.2026.109778>

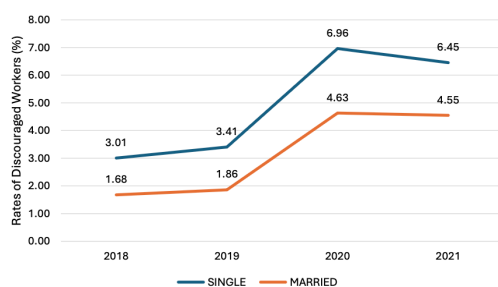


Figure 3. Rates of discouraged workers by marital status over the years 2018–2021. Source: Calculated based on data from TURKSTAT (2022b).

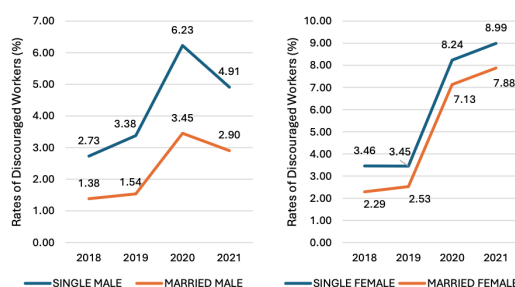


Figure 4. Rates of discouraged workers by gender and marital status over the years 2018–2021. Source: Calculated based on data from TURKSTAT (2022b).

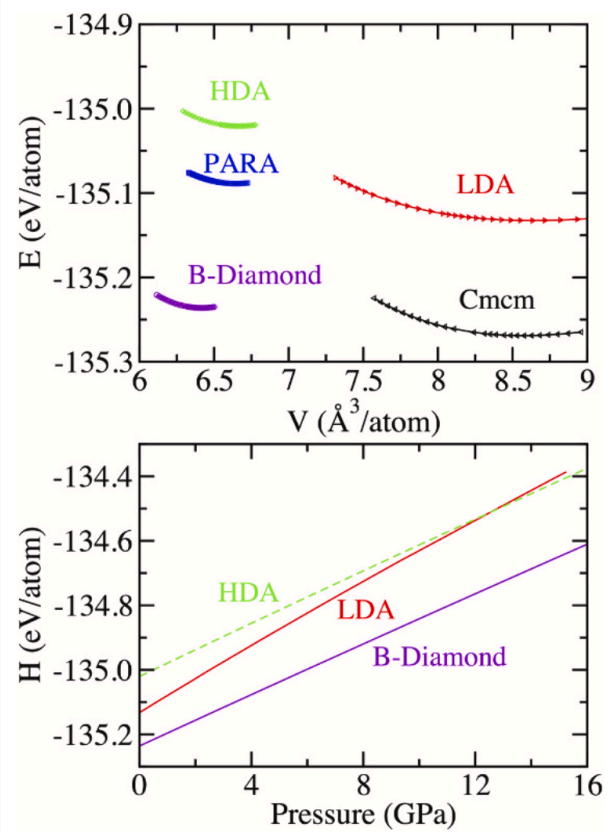
THE RATE OF PEOPLE GIVING UP JOB SEARCHING INCREASED DURING THE PANDEMIC PERIOD

A study was conducted to examine the effects of the COVID-19 pandemic on the labor market in Türkiye. In this research, which analyzed data from 2018 to 2021, the pandemic’s impact on discouraged workers—those who gave up searching for jobs—was investigated. It was found that during the pandemic period, individuals were 1.6% more likely to stop looking for work compared to the pre-pandemic period. Additionally, higher levels of education were generally associated with a lower tendency to give up job searching. The analysis also emphasized that rising unemployment rates increased negative motivational effects on individuals.



A NEW PATH TO SUPERHARD SEMICONDUCTOR MATERIALS THROUGH PRESSURE AND HEAT WAS REVEALED

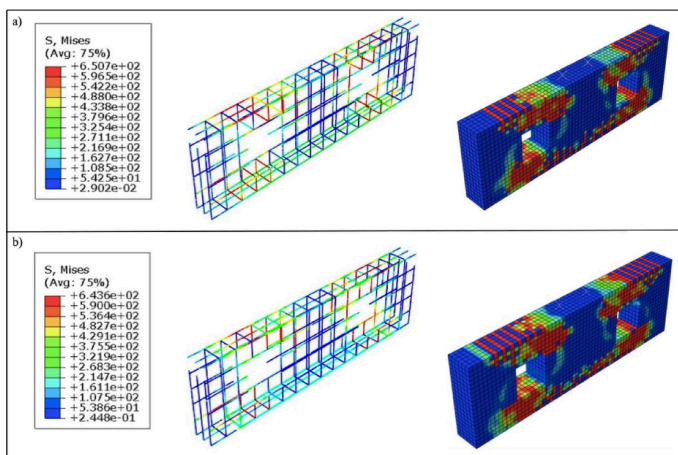
It was demonstrated that amorphous boron-doped carbon material can permanently transform into a denser structure under high pressure and then gradually reach a diamond-like, superhard semiconductor phase through heating. The study indicated that this transformation may offer a more accessible production route compared to conventional methods. The newly obtained phase was reported to preserve its high mechanical strength while maintaining its electronic properties. These findings presented an important approach for designing durable and tunable next-generation materials that could be used under extreme conditions.



Durandurdu, M. (2026). Pressure-Induced Polyamorphic Transition and Stepwise Ordering to Superhard B-Doped Diamond-Like BC₃. *Diamond and Related Materials*, 164, Article 113566. <https://doi.org/10.1016/j.diamond.2026.113566>

CARBON FIBER TECHNOLOGY WAS USED TO STRENGTHEN CONCRETE BEAMS

A comprehensive technical study was conducted to examine how openings created for functional purposes affect the structural strength of concrete beams. In this study, the potential of carbon fiber reinforced polymers (CFRP) to strengthen deep concrete beams with openings was analyzed. Modeling results showed that such openings significantly reduced the load-carrying capacity of the beams, while thick carbon fiber laminates were found to partially restore their structural performance.



Yagmur, E. (2026). Parametric Study on the Behavior of CFRP-Strengthened Reinforced Concrete Deep Beams With Cut Circular Web Openings in Shear Spans. *Scientific Reports*, 16(1), Article 9414. <https://doi.org/10.1038/s41598-026-40071-y>



A WIRELESS MONITORING SYSTEM THAT ENHANCES RAILWAY SAFETY WAS DEVELOPED

A new wireless communication system was designed to ensure the safe movement of trains and to monitor the positions of railway switch systems in real time. Through its transmitter and receiver units, switch position information is transmitted wirelessly to the train driver. Field measurements showed that data could be securely transmitted over distances of up to 1,350 meters, allowing the driver to continuously monitor the system's status. This low-power system is intended to improve railway traffic safety and minimize the risk of errors.

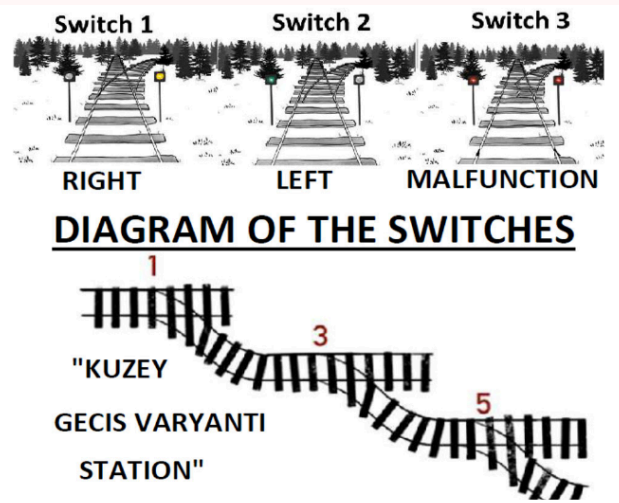
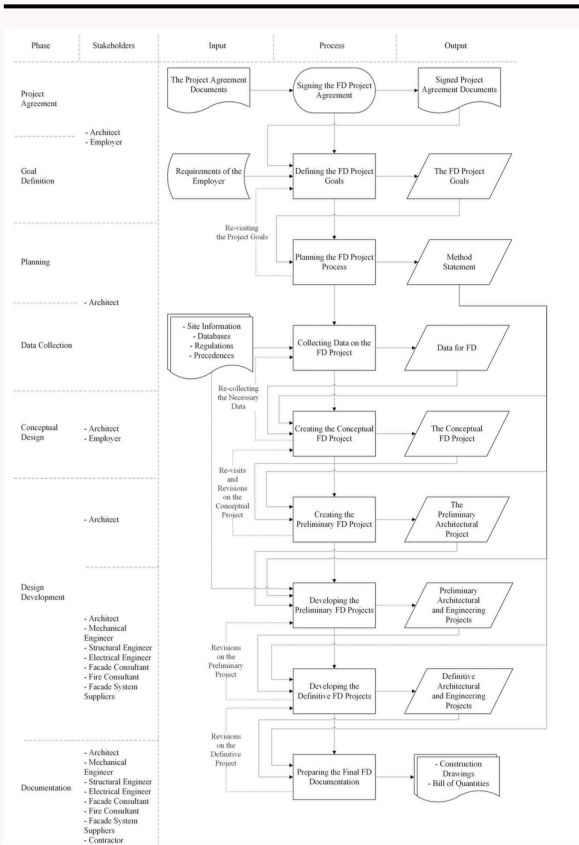


Fig. 5 Three sample cases correspond to the right, left, and malfunctioning switch positions together with the diagram of the switches shown in GUI



Elden, B., Sanlier, S. D., Talu, B., Cetin, F., & Kılıc, V. T. (2026). Wireless Communication System Design for Point Machine Detection and Monitoring in Railways. *Telecommunication Systems*, 89(2), Article 49. <https://doi.org/10.1007/s11235-026-01419-x>



Utkan, M. M., & Metin, B. (2026). A Conceptual Framework for Social Sustainability in Facade Design. *Architectural Engineering and Design Management*. <https://doi.org/10.1080/17452007.2026.2649356>

A NEW ROADMAP FOR SOCIAL SUSTAINABILITY IN FACADE DESIGN

A study was conducted to explore how social sustainability principles can be integrated into the design process of building facades, which form the exterior surfaces of structures. In a sector where technical and economic priorities often dominate, a new conceptual framework was developed to support the application of participatory design methods. Based on interviews with architects and industry experts, gaps in collaboration and shared responsibility were identified, and strategies were proposed to address these challenges. The study aims to strengthen socially focused approaches in design processes and increase broader societal benefit.



THE RELATIONSHIP BETWEEN DIFFICULTY RECOGNIZING EMOTIONS AND ALCOHOL CONSUMPTION WAS EXAMINED

A study conducted among university students showed that difficulty recognizing emotions and a tendency to focus on negative thoughts are associated with risky alcohol use. In research involving 367 students who had consumed alcohol within the past 30 days, risky drinking behavior was found to be higher especially among individuals who struggled to identify their emotions. This relationship was shown to be stronger when alcohol was used as a way to cope with stress or for social reasons. The findings suggest that efforts to reduce risky alcohol consumption among young people may benefit from focusing on emotional awareness and emotion regulation skills.

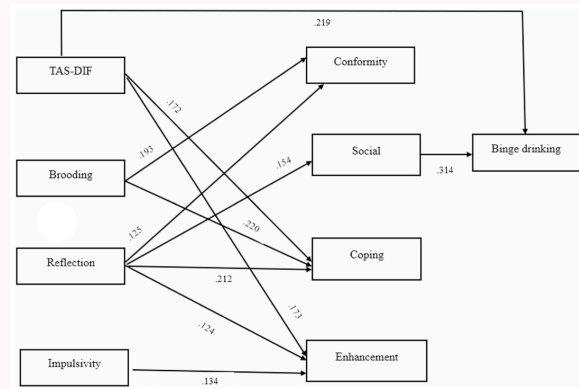


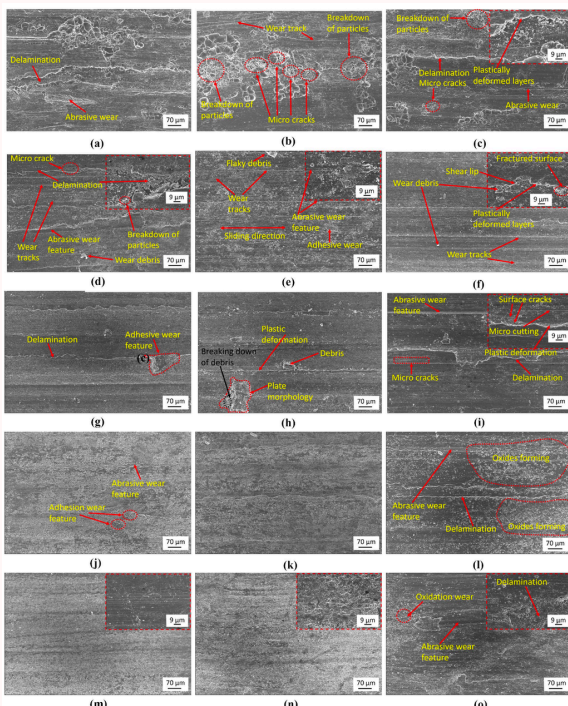
Fig. 1 Mediation model 1: risky drinking indexed by binge drinking in the past 30 days. Note. TAS-DIF: Toronto alexithymia scale, difficulties in identifying feelings. Binge drinking is a binary variable (no/yes). Only the significant paths are shown



Alpay, P., Kocsel, N., Kovács, L. N., Coskun, M., Sokmez, A. B., & Kökönyei, G. (2026). Alexithymia, Rumination and Binge Drinking: The Mediating Role of Drinking Motives. *Current Psychology*, 45(8), Article 816. <https://doi.org/10.1007/s12144-026-09266-4>

MORE DURABLE MAGNESIUM ALLOYS WERE DEVELOPED FOR MEDICAL IMPLANTS

A new magnesium-based material was developed to improve the corrosion resistance, biocompatibility, and mechanical properties of medical implants intended for use inside the human body. In this study, cerium oxide nanoparticles were added to a magnesium alloy, and nanocomposites were produced using a specialized manufacturing method. Tests showed that this new material formed a protective surface layer, making it more resistant to wear while also supporting healing processes. These new alloys are intended to provide safer and more effective solutions for biomedical applications.



Deka, S., Mozafari, F., & Mallick, A. (2026). Enhanced Mg–Zn–Ca Alloys Reinforced With Rare Earth Oxides for Biomedical Applications: Experimental Insights and ANFIS-Based Modeling. *Journal of Materials Science*. <https://doi.org/10.1007/s10853-026-12728-6>



THE MATERIAL FOOTPRINT OF ELECTRICITY GENERATION WAS COMPARED USING DEEP LEARNING

Electricity generation forecasts for Türkiye, Germany, and Spain through 2040 were carried out using a deep learning-based LSTM model. The material dependencies of electricity production were examined under different energy scenarios. It was found that sustainable transition scenarios could reduce material demand—especially for iron and fuel—by approximately 20% to 30% compared to business-as-usual scenarios. The study emphasized that considering material footprint in energy planning is critically important for improving resource efficiency.

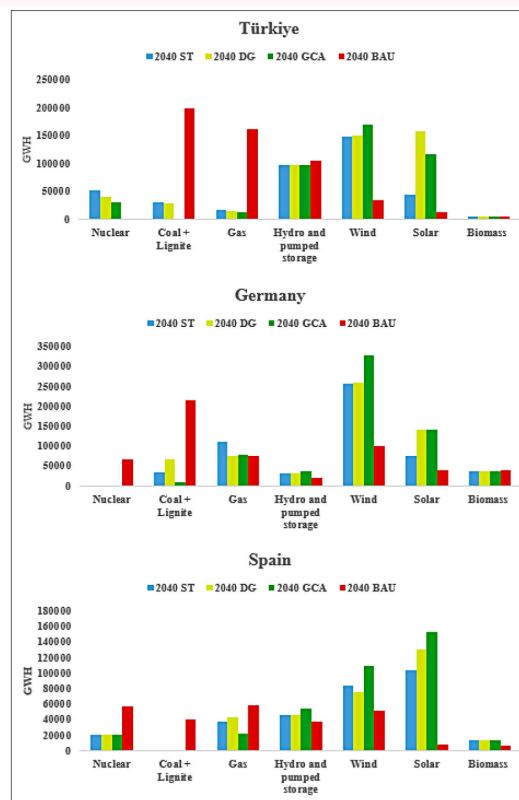


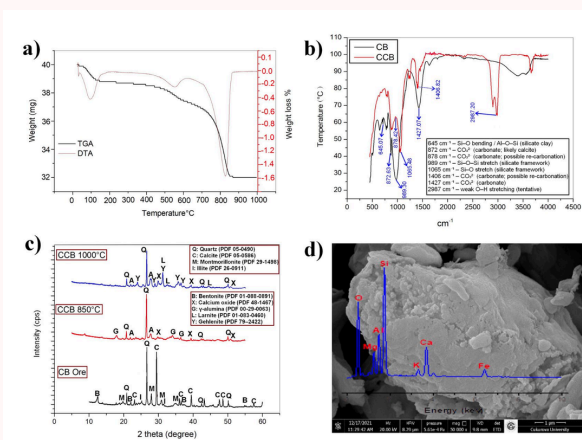
Figure 9. Electricity generation projections by energy source for Türkiye, Germany, and Spain under four scenarios for the year 2040: ST, DG, GCA, and BAU.



Algorabi, Ö., Namlı, E., Ünlü, R., Aktoğ, M. A., Kocakaya, M. N., & Celik, Y. (2026). Comparative analysis of material footprints in electricity generation of deep learning-based prediction model and energy development scenarios. *Energy & Environment*. <https://doi.org/10.1177/0958305X261429190>

HIGH-STRENGTH LIGHTWEIGHT CONCRETE WAS PRODUCED FROM WASTE MATERIALS

Eco-friendly lightweight geopolymer concrete was produced by combining industrial waste materials including fly ash, calcined bentonite, ferrochrome slag, and expanded polystyrene granules. In the developed mixtures, the highest compressive strength reached 51.33 MPa with a combination containing 5% bentonite and slag. It was also determined that the addition of polystyrene reduced density to as low as 1,292 kg/m³ while maintaining sufficient structural strength.

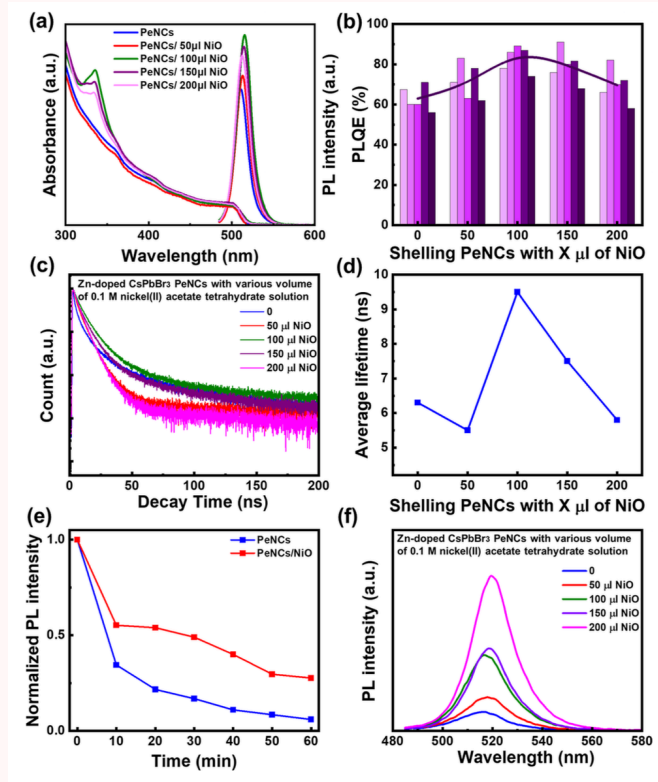


Vapur, H., Top, S., & Nussrat Shukur Shukur, Y. (2026). Production of waste-based lightweight geopolymer concretes using calcined bentonite, fly ash, slag, and expanded polystyrene granules. *Particulate Science and Technology*. <https://doi.org/10.1080/02726351.2026.2638290>



RADIATIVE EFFICIENCY REACHED NINETY PERCENT AFTER NANOPARTICLE COATING

Cesium lead bromide perovskite nanocrystals were enhanced through zinc doping and metal oxide coating methods. It was determined that radiative efficiency increased from 50% to 84% with zinc oxide coating, while nickel oxide coating raised it to 90%. NiO-coated nanocrystals were observed to retain 65% of their initial efficiency after seven months of storage, whereas uncoated structures preserved only 22%. These improved structures were evaluated as promising candidates for use in display technologies, detectors, and laser applications.



Khorasani, A., Soheyli, E., & Mutlugun, E. (2026). Fully inorganic colloidal CsPbBr₃ perovskite nanocrystals with Zn-doping and metal oxide encapsulation for luminescent display panels. *ACS Applied Nano Materials*, 9(12), 5290–5299. <https://doi.org/10.1021/acsanm.5c03699>

ENGINE EFFICIENCY AND ENERGY RECOVERY WERE IMPROVED USING BIOGAS WITH HIGH CARBON DIOXIDE CONTENT

An experimental study was conducted on the use of a high-carbon-dioxide biogas–diesel mixture in compression ignition engines. An RCCI advanced combustion strategy was applied, in which biogas was injected through the valve port. Different injection pressures and air swirl ratios were tested to evaluate combustion efficiency and energy recovery. The highest thermal efficiency (26.54%) was achieved at an 80% swirl ratio and 4 bar pressure. Under optimal conditions, exergy destruction was reduced to 26.00%. The findings demonstrate that renewable gaseous fuels can be used effectively in engines.

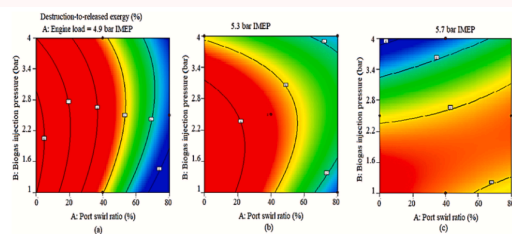


Fig. 17. 2D curves of DRE at (a) 4.9, (b) 5.3, and (c) 5.7 bar IMEP.

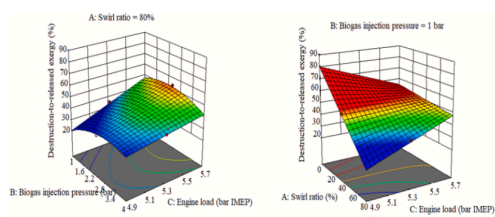


Fig. 18. 3D curves of DRE at (a) 80% swirl and (b) 1 bar RIP.

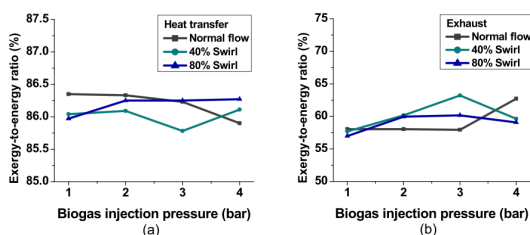


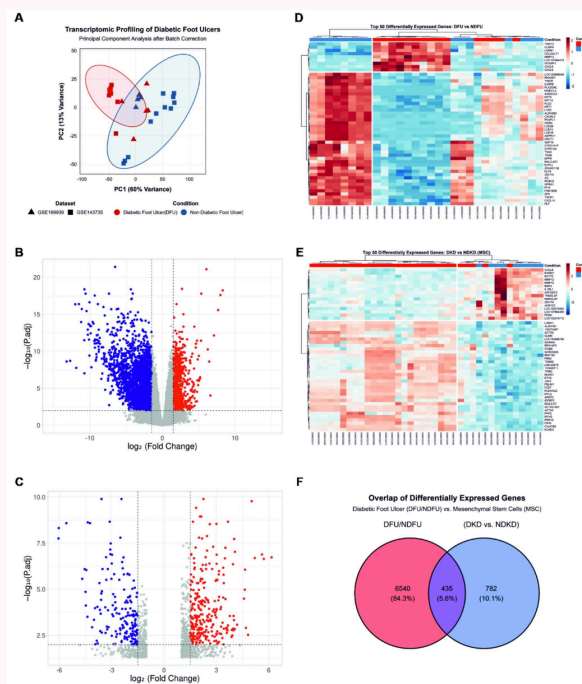
Fig. 19. EER for (a) HT and (b) Exh at various BIPs and PSRs.

Dalha, I. B., Wong, N. L. W. S., Said, M. A., El-Adawy, M., Koca, K., Abdulsalam, M., Yunusa, S. U., & Man, H. C. (2026). Exergy-based evaluation of high-CO₂ biogas/diesel RCCI combustion heat flow for enhanced mixture distribution, power output, and fuel-energy performance. *Applied Thermal Engineering*, 298, 131014. <https://doi.org/10.1016/j.applthermaleng.2026.131014>



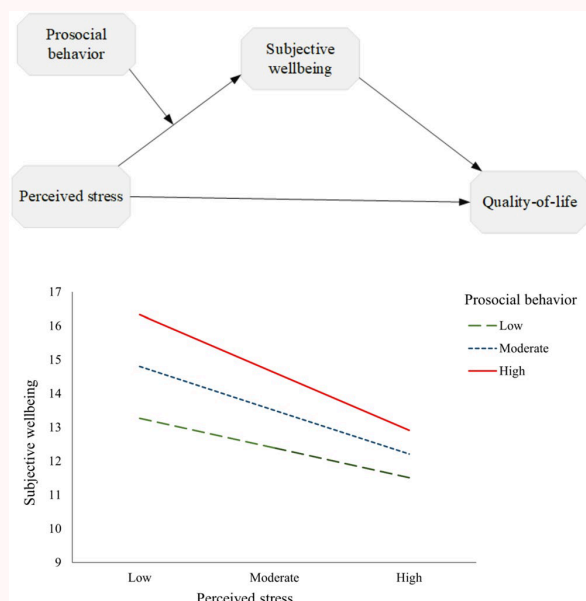
THE THERAPEUTIC ROLE OF 3D STEM CELL TREATMENT IN DIABETIC FOOT ULCERS WAS REVEALED

The therapeutic potential of mesenchymal stem cells (MSCs) in diabetic foot ulcers was investigated through transcriptomic data integration and cell culture experiments. Bioinformatics analyses identified the genes CXCL1, MMP9, THBS1, and POSTN as key genes associated with inflammation and tissue regeneration. Under high-glucose conditions, fibroblast cells showed a significant decline in proliferation and migration capacity. Standard MSC treatment partially improved cellular functions, while MSCs placed within a three-dimensional culture platform produced much more pronounced improvements in gene expression and functional parameters.



Öztürk, E., & Bicer, M. (2026). Unveiling the therapeutic role of 3D-cultured mesenchymal stem cells in diabetic foot ulcers through transcriptomic integration and fibroblast modulation. *Molecular Biology Reports*, 53, 567. <https://doi.org/10.1007/s11033-026-11741-x>

HELPING OTHERS REDUCES THE NEGATIVE EFFECTS OF STRESS



The bidirectional role of prosocial behavior—such as helping, sharing, and supporting others—in the relationship between stress and mental health was investigated among young adults. In a study conducted with 419 university students in Türkiye, prosocial behavior was found to both serve as a bridge between stress and quality of life and reduce the negative impact of stress on subjective well-being. In addition, the Adult Prosocialness Behavior Scale was adapted into Turkish and confirmed to be a valid and reliable measurement tool.

Coşkun, M., Arslan, G., Genç, E., & Caprara, G. V. (2026). Prosocial behavior as bridge and buffer: Exploring its dual role between stress and mental health in emerging adults. *Current Psychology*, 45, 701. <https://doi.org/10.1007/s12144-026-09272-6>



SUSTAINABLE CEMENT WAS PRODUCED USING CEMENT FACTORY RAW MATERIALS

It was determined that kaolinite is not the only option for producing sustainable LC³ cement made from limestone and calcined clay combinations. Five different clay types used as silica sources in cement factories were compared, and mortars were prepared using three cement types: gray, white, and slag-blended composites. Some kaolin-free mixtures were found to achieve compressive strength up to 60% higher than kaolin-containing mixtures within the first 1–7 days. The study also revealed that carboaluminate formation depends on the type of clinker, while its quantity is influenced by the type of calcined clay used.

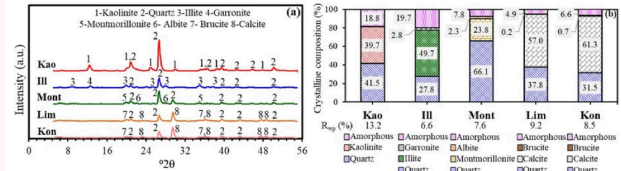


Figure 2. (a) XRD patterns and (b) quantitative phase composition for the clays.

Table 2. Mixture proportions used in the study (wt. %).

Mixture ID	PC1 clinker	WC clinker	PC2 clinker	Calcined clay	LS	GYP	BFS	Quartz
PC1_Control	95.0	—	—	—	—	5.0	—	—
PC1-LC ³ -52-CC ^a	52.3	—	—	30.0	15.0	2.8	—	—
PC1-52-CC ^a -Q	52.3	—	—	30.0	—	2.8	—	15.0
PC1-52-Q-LS	52.3	—	—	—	15.0	2.8	—	30.0
PC1-52-Q-Q	52.3	—	—	—	—	2.8	—	45.0
WC_Control	—	96.0	—	—	—	4.0	—	—
WC-LC ³ -53-CC ^a	—	52.8	—	30.0	15.0	2.2	—	—
WC-53-CC ^a -Q	—	52.8	—	30.0	—	2.2	—	15.0
WC-53-Q-LS	—	52.8	—	—	15.0	2.2	—	30.0
WC-53-Q-Q	—	52.8	—	—	—	2.2	—	45.0
PCC_Control	—	—	79.9	—	—	5.1	15.0	—
PCC-LC ³ -44-CC ^a	—	—	44.0	30.0	15.0	2.8	8.3	—
PCC-44-CC ^a -Q	—	—	44.0	30.0	—	2.8	8.3	15.0
PCC-44-Q-LS	—	—	44.0	—	15.0	2.8	8.3	30.0
PCC-44-Q-Q	—	—	44.0	—	—	2.8	8.3	45.0

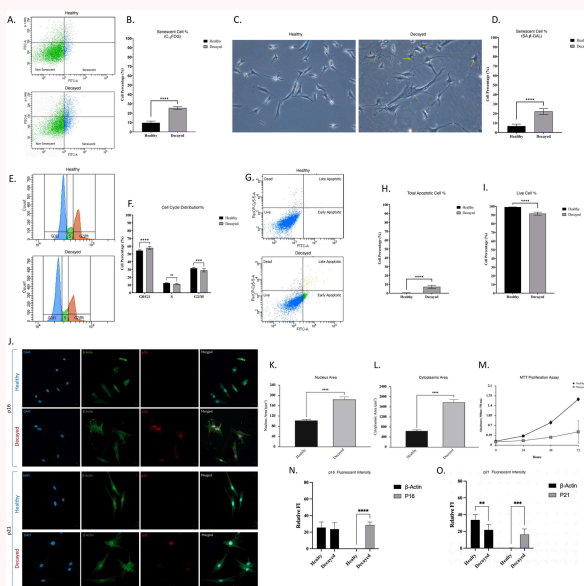
^aOne of the calcined clays (Kao, Ill, Mont, Lim, or Kon) per mixture.



Atasever, M., & Erdoğan, S. T. (2026). Harnessing raw materials in cement plants for the production of limestone calcined clay cement. *Journal of Sustainable Cement-Based Materials*. <https://doi.org/10.1080/21650373.2026.2649517>

STEM CELLS IN DECAYED TEETH WERE FOUND TO ENTER THE AGING PROCESS

It was found that dental pulp stem cells (DPSCs) can enter a process of cellular aging (senescence) even when tooth decay has not yet reached the pulp. Biological and proteomic profiles of stem cells isolated from healthy and decayed teeth were compared, revealing that the proportion of senescent cells was approximately 20% higher in the decayed group. Proteomic analyses also identified increased levels of proteins associated with inflammatory pathways and extracellular matrix remodeling. In light of these findings, it was emphasized that restorative treatments should target not only decayed tissue but also the affected stem cells.

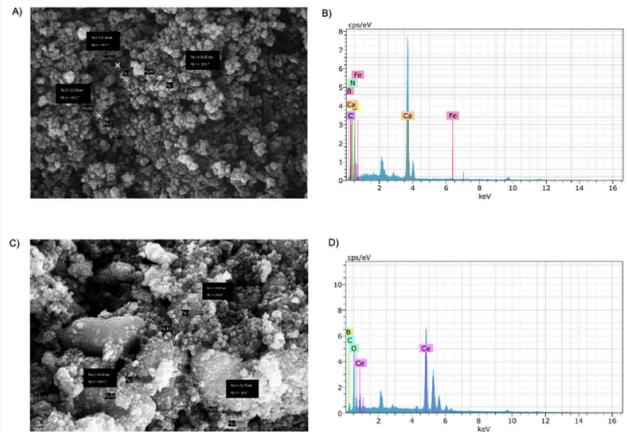


Durukan, S. M., Acar, M. B., Tez, B. Ç., Şimşek, A., Al-Sammarrie, S. H. A., Günaydın, Z., Güzel, M., Süer, B. B., Güner, Ş. A., Güner, H., Alessio, N., Başaran, K. E., Gönen, Z. B., & Özcan, S. (2026). Tooth decay promotes senescence in dental pulp stem cells, modifying their biological and proteomic profiles. *Journal of Cellular Physiology*, 241(4), e70172. <https://doi.org/10.1002/jcp.70172>



THE INFLAMMATION-REGULATING EFFECT OF BORAX-ENHANCED NANOPARTICLES VARIED BY DOSE

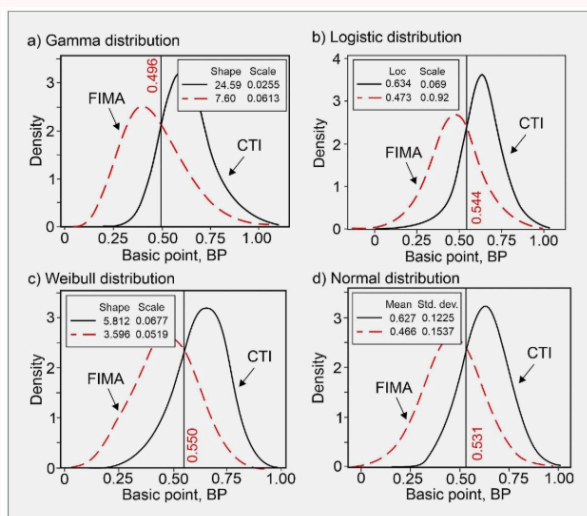
The biological effects of borax-enhanced iron oxide (Fe₂O₃) and cerium oxide (CeO₂) nanoparticles, synthesized through a green synthesis method, were investigated in LPS-stimulated THP-1 cells. It was determined that the effects of both nanocomposites on the cell cycle, migration, and inflammatory markers varied in a dose-dependent manner. At low doses, both nanoparticles were observed to support wound healing, while at high doses they suppressed cell migration. CeO₂-B nanoparticles were also found to significantly reduce TNF-α and IL-1β gene expression.



Acar, B., Aktaş Pepe, N., Ceylan Ekiz, Y., Sulak, M., Şen, A., & Çelik Turgut, G. (2026). Borax-doped Fe₂O₃ and CeO₂ nanoparticles regulate dose-dependently inflammation, the cell cycle, and migration in LPS-activated THP-1 cells. *Chemistry & Biodiversity*, 23(3), e01819. <https://doi.org/10.1002/cbdv.202501819>

THE SUITABILITY OF GRANITE ROCKS AS BUILDING STONE WAS EVALUATED USING TWO METHODS

The suitability of granite rocks for use in the building stone industry was examined using two objective evaluation methods. A conditional formatting and ranking approach was developed based on parameters including dry density, effective porosity, P-wave velocity, uniaxial compressive strength, and Böhme abrasion value. Analyses conducted on 134 granite rock samples showed that both methods produced consistent results with each other and aligned with American standards. The findings demonstrated that these methods could provide efficient decision support in field studies in terms of time and energy.

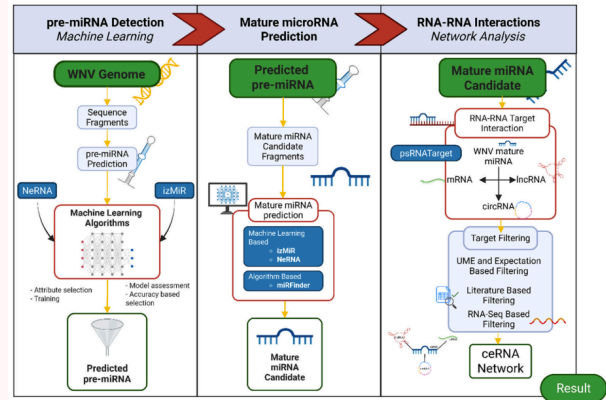


Köken, E. (2026). Feasibility analysis of granitic rocks for use in the dimension stone industry. *Rudarsko-Geološko-Naftni Zbornik*, 41(2), 47–57. <https://doi.org/10.17794/rgn.2026.2.4>



GENE-REGULATORY MICRORNAS OF WEST NILE VIRUS INFECTION PREDICTED COMPUTATIONALLY

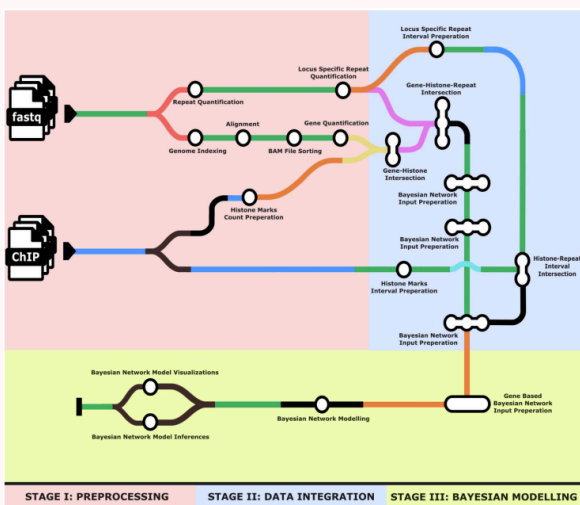
Potential microRNAs (miRNAs) encoded by the West Nile Virus Infection that may affect human gene expression were predicted through a comprehensive bioinformatics workflow. The viral genome was screened using machine learning-based algorithms to identify candidate miRNA structures, and their interactions with human mRNA, lncRNA, and circular RNA targets were computationally modeled. Competitive endogenous RNA network analysis revealed that pathways related to immune response, Wnt signaling, and RNA degradation may be targeted by the virus. Three high-confidence miRNA-gene interactions were proposed as candidates for experimental validation.



Orhan, M. E., Erginkoç, A. N., & Saçar Demirci, M. D. (2026). Integrative bioinformatics prediction of West Nile Virus-derived microRNAs reveals potential host regulatory interactions. *Computational Biology and Chemistry*, 123, 109002. <https://doi.org/10.1016/j.compbiolchem.2026.109002>

MOBILE DNA ELEMENTS IN GENE REGULATORY NETWORKS MODELED THROUGH SOFTWARE

The directional and probabilistic effects of mobile DNA elements (transposons), which are widespread in mammalian genomes, on gene expression were investigated using multi-layer omics data. For this purpose, a computational workflow called TEffectBayes was developed. By integrating RNA sequencing and chromatin modification data through Bayesian network models, transposon-driven interactions in gene regulation were systematically inferred. Applied to breast cancer subtypes, the analysis identified subtype-specific transposon-histone-gene regulatory relationships. The tool was also made publicly available through GitHub.

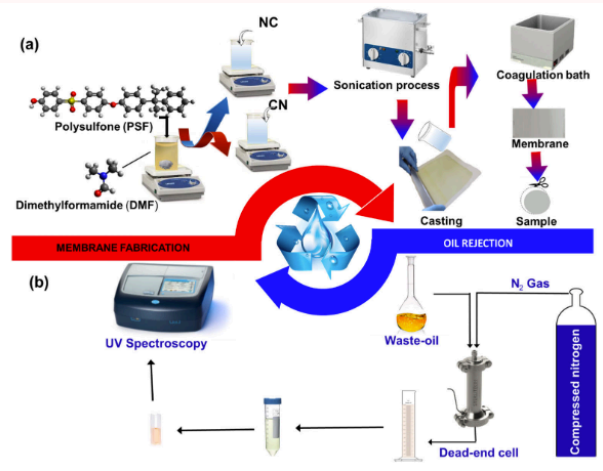


Kutlu, N. K., Güner, H., & Karakulah, G. (2026). TEffectBayes: a Nextflow pipeline for exploring the potential effect of transposable elements in gene regulatory network with multi-omic Bayesian network model. *Molecular Genetics and Genomics*, 301, 61. <https://doi.org/10.1007/s00438-026-02365-8>



OIL REMOVED FROM WASTEWATER USING NANOCLAY-REINFORCED MEMBRANES

Nanoclay-reinforced polysulfone membranes were fabricated and optimized for the treatment of wastewater containing waste vegetable oil. The performance of membranes prepared with two different nanoclay types—commercial nanoclay and nanomer clay—was systematically evaluated using the Response Surface Methodology (RSM). The addition of nanoclay was found to significantly improve water permeability and fouling resistance. Under optimized conditions, an oil removal efficiency of 98.27% was achieved. The results demonstrate that natural and low-cost clay nanomaterials can offer a sustainable solution for industrial wastewater treatment.



Gul, A., Senol-Arslan, D., Baris, M., Boyraz, P., & Alibaz, N. N. (2026). Optimizing nanoclay-enhanced membranes for oil rejection using response surface methodology. *Environmental Progress and Sustainable Energy*, e70475. <https://doi.org/10.1002/ep.70475>

THERMAL STRESSES IN CUTTING TOOLS MINIMIZED THROUGH COMPUTER SIMULATION

Multilayer coating configurations affecting the temperature measurement accuracy of thin-film thermocouples embedded in cutting tools were investigated. Using a combination of the Finite Element Method (FEM) and Taguchi design, the effects of different coating materials and thicknesses on thermal stress and temperature difference were analyzed. Simultaneous optimization was achieved through desirability analysis, yielding an optimal coating configuration with a thermal stress of 1628 MPa and a temperature difference of 12.1°C. This approach was found to have the potential to extend tool life and reduce measurement errors in high-temperature machining applications.

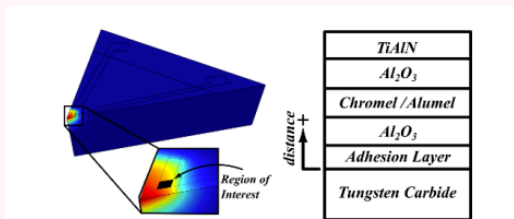


Fig. 5. The area of interest (TFTC junction) considered when plotting the stress and temperatures through the thickness of the layers.

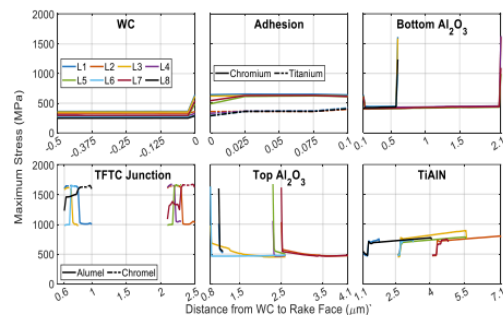


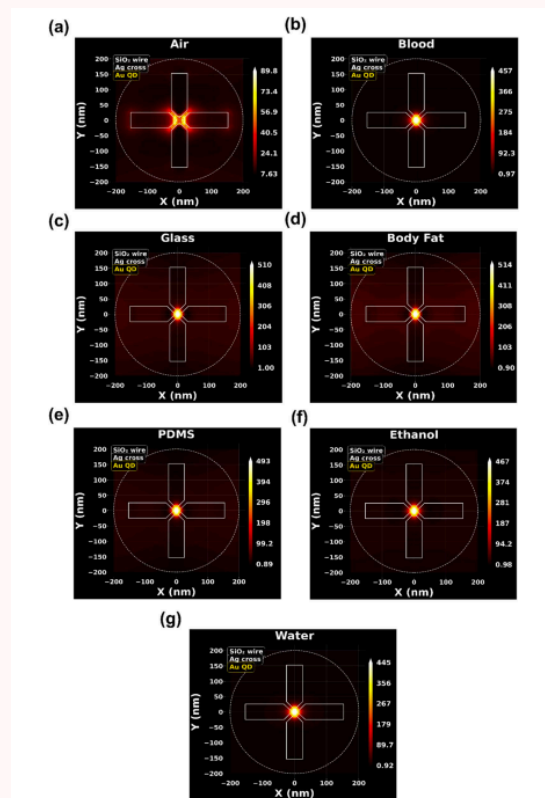
Fig. 6. Maximum stresses per layer.

Sivesoglu, A., & Kesriklioglu, S. (2026). Minimization of thermal stresses in instrumented cutting tools with embedded thin film thermocouples. *Journal of Mechanical Science and Technology*, 40(4), 2811–2827. <https://doi.org/10.1007/s12206-026-0337-3>



HYBRID PLASMONIC SENSOR PROVIDES HIGH SENSITIVITY FOR BLOOD AND TISSUE ANALYSIS

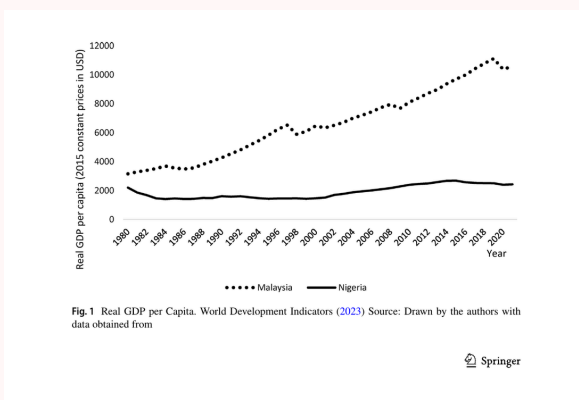
A hybrid plasmonic refractive index sensor composed of a silver cross-grid nanoantenna and a gold quantum dot was designed and tested through computational simulations. Using the Finite-Difference Time-Domain (FDTD) method, quality factors exceeding 267 were achieved for biological environments. Sensitivity values ranging from 190 to 344 nm/RIU were identified for various analytes, including blood, water, and ethanol, demonstrating superior performance compared with similar structures reported in the literature.



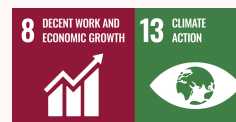
Şanlı, A. K., Kılıç, V. T., & Tabaru, T. E. (2026). Sensitive hybrid plasmonic refractive index sensor based on Ag cross-grating nanoantenna and Au quantum dot upon SiO₂ Nanowire. *Physica Scripta*, 101(14), Article 145508. <https://doi.org/10.1088/1402-4896/ac5369>

CLIMATE CHANGE DISRUPTS ECONOMIC GROWTH, WHILE GLOBALIZATION PLAYS A MODERATING ROLE

This study examines the long-term adverse effects of climate change—measured by carbon emissions and ecological footprint—on economic growth in Malaysia and Nigeria using data from 1980 to 2021. Based on results from the Autoregressive Distributed Lag (ARDL) approach, carbon emissions were found to suppress economic growth more strongly in Malaysia. The findings also show that globalization partially mitigates these negative effects of climate change, with this moderating role becoming stronger at higher levels of globalization.

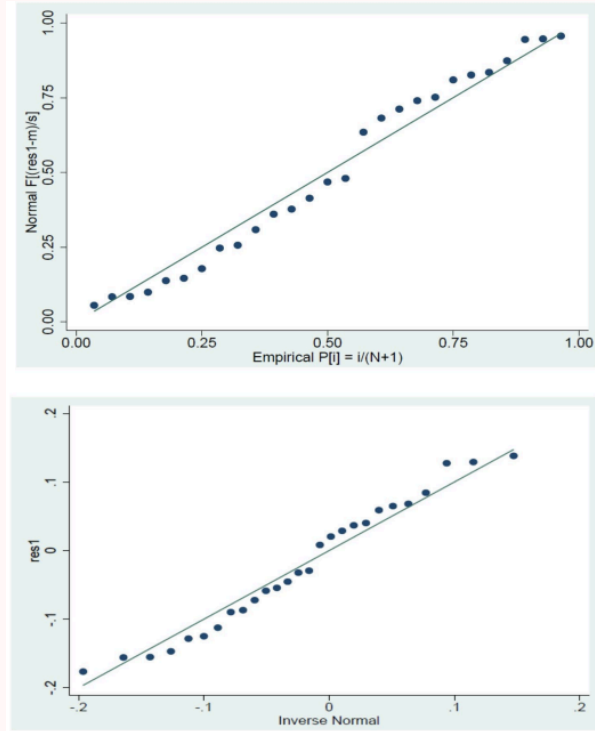


Ehigiamusoe, K. U., Lean, H. H., Dogan, E., Binsaeed, R. H., & Ramakrishnan, S. (2026). Impact of climate change on economic growth in developing countries: unravelling the moderating role of globalization. *Environmental Economics and Policy Studies*, 28(1), 185–217. <https://doi.org/10.1007/s10018-024-00427-y>



CONTROL OF CORRUPTION POSITIVELY AFFECTS ENVIRONMENTAL QUALITY IN SOMALIA

This study investigates the effects of control of corruption, political stability, and household consumption on environmental degradation in Somalia using data from 1996 to 2022. The analysis employs the Kernel Regularized Least Squares (machine learning) method and a time-varying Granger causality test. The findings indicate that control of corruption improves environmental quality, while household consumption increases environmental degradation. Political stability, however, was found to have no significant effect on environmental degradation.



Warsame, A. A., Dirie, K. A., & Mohamed, A. M. (2026). Environmental sustainability in fragile states: the role of corruption control, political stability, and household consumption in Somalia. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-026-07503-1>

CULTURAL REPRESENTATION OF THE RUST BELT HINDERS POLITICAL TRANSFORMATION

This study examines how cultural representations of the American Rust Belt are constructed through the case of Buffalo. Through analyses of films, novels, and memoirs, it was found that the structural crises produced by deindustrialization are transformed into an atmosphere through irony and absurdity. This mode of representation, described as a “captured image,” was found to constrain possibilities for democratic transformation and to render urban governance more open to external technocratic intervention.

Dincer, E. M. (2026). Buffalo's captured imaginary: Atmosphere, absurdity and the depoliticized imagination of the Rust Belt. *International Journal of Cultural Studies*. <https://doi.org/10.1177/13678779261440945>

