



List of Projects

Food Engineering:

1. High pressure processing of foods : an overview
2. High-pressure processing of salads and ready meals
3. Microbiological aspects of high-pressure processing
4. Overview of pulsed electric field processing for food
5. Pulsed electric field processing of liquid foods and beverages
6. Effect of high intensity electric field pulses on solid foods
7. Enzymatic inactivation by pulsed electric fields
8. Food safety aspects of pulsed electric fields
9. Developments in osmotic dehydration
10. Athermal membrane processes for the concentration of liquid foods and natural colours
11. High intensity pulsed light technology
12. Non-thermal processing by radio frequency electric fields
13. Application of ultrasound
14. Irradiation of foods
15. New chemical and biochemical hurdles
16. Recent developments in microwave heating
17. Radio-frequency processing
18. Ohmic heating
19. Combined microwave vacuum-drying
20. New hybrid drying technologies
21. Monitoring thermal processes by NMR technology
22. Vacuum cooling of foods
23. Ultrasonic assistance of food freezing
24. High-pressure freezing
25. Controlling the freezing process with antifreeze proteins
26. Minimal fresh processing of vegetables, fruits and juices
27. Minimal processing of ready meals
28. Modified atmosphere packaging for minimally processed foods
29. New technologies in food packaging-overview
30. Mass transfer of gas and solute through packaging materials
31. Quality of packaged foods
32. Surface chemistry of food, packaging and biopolymer materials
33. Introduction to active food packaging technologies
34. Antimicrobial packaging systems
35. Packaging containing natural antimicrobial or antioxidative agents
36. Oxygen-scavenging packaging
37. Intelligent packaging
38. Introduction to modified atmosphere packaging
39. Internal modified atmospheres of coated fresh fruits and vegetables understanding relative humidity effects
40. Modified atmosphere packaging of ready-to-eat foods



41. Preservative packaging for fresh meats, poultry, and fin fish
42. Centralized packaging systems for meats
43. Edible films and coatings-a review
44. Agro-polymers for edible and biodegradable films Review of agricultural polymeric materials, physical and mechanical characteristics
45. Edible films and coatings from plant origin proteins
46. Edible films and coatings from animal origin proteins
47. Edible films and coatings from starches
48. Edible films and coatings from nonstarch polysaccharides
49. Lipid-based edible films and coatings
50. Emulsion and bi-layer edible films
51. Plasticizers in edible films and coatings
52. Sensory quality of foods associated with edible film and coating systems and shelf-life extension
53. Commercial uses of active food packaging and modified atmosphere packaging systems
54. US Food and Drug Administration approach to regulating intelligent and active packaging components
55. Packaging for non-thermal food processing
56. A Review of the Effects and Mechanisms of Polyphenolics in Cancer
57. Applications of Ozone, Bacteriocins and Irradiation in Food Processing A Review
58. Baby Foods Formulations and Interactions (A Review)
59. Biopolymer-Based Antimicrobial Packaging A Review
60. Chemical interactions between additives in foodstuffs a review
61. Chloronaphthalenes as food-chain contaminants a review
62. Electrodialytic Phenomena and Their Applications in the Dairy Industry A Review
63. Food Fortification Strategy—Preventing Iron Deficiency Anemia A Review
64. Grape Drying A Review
65. Growing bread Technoscience, environment, and modern wheat at the Dominion Grain Research Laboratory, Canada, 1912--1960
66. International legislation on trace elements as contaminants in food a review
67. Methods for allergen analysis in food a review
68. Microbial Control by Packaging A Review
69. National Food Control Systems A Review
70. PROCESSING OF HONEY A REVIEW
71. Review Potential of High Hydrostatic Pressure and Pulsed Electric Fields for Energy Efficient and Environmentally Friendly Food Processing
72. Molecular and cellular studies of seed storage proteins from rice and wheat
73. Shelf-life extension studies on pita bread
74. Technological innovations in fresh-cut melon and tomato
75. The pattern of volatile changes during the modified-atmosphere packaging (MAP) storage of apple
76. Sub- and supercritical fluid extraction of functional ingredients from different natural sources
77. Review of the use of biosensors as analytical tools in the food and drink industries
78. image features for food quality
79. Application of cereals and cereal components in functional foods- a review



Gas:

1. 3D defect profile reconstruction from magnetic flux leakage signatures using wavelet basis function neural networks
2. development of an expert system for optimizing natural gas pipeline operations
3. An investigation of soil heating by natural gas pipelines
4. GAS PIPELINE OPERATION USING GENETIC ALGORITHMS AND RULE LEARNING
5. Deformations and stresses in pipelines buried in freezing ground
6. Deformations of pipelines embedded in frozen soil
7. Detection of leaks in underground gas pipelines
8. Development of instrumentation for acoustic monitoring
9. Improved design and construction practices for thermal loads in plastic gas pipelines
10. Inverse problems in non-destructive evaluation of gas transmission pipelines using magnetic flux leakage
11. Optimal network design for natural gas pipelines
12. simulation and fuel cost minimization of gas pipeline networks
13. Surge testing of natural gas pipeline centrifugal compressors
14. The analysis of pipeline leak tests using DEGADIS model
15. The regulation of oil and gas pipelines in Australia
16. Understanding risk assessments for sour gas pipelines

New Topics in Chemical engineering:

1. Molecular design in chemical and biological systems
2. HYDROGEN PRODUCTION FROM BIOMASS
3. A comprehensive review of nanofiltration membranes
4. A review of air separation technologies and their integration with energy conversion processes
5. A review of atmospheric fine particulate matter and its associated trace metal pollutants in Asian countries during the period 1995–2005
6. A review of zeolite-like porous materials
7. Adsorption of carbon dioxide at high temperature—a review
8. Advances in cement solidification technology for waste radioactive ion exchange resins- A review
9. Applications of pectinases in the commercial sector
10. Ethanol–diesel fuel blends — a review
11. Hydrolysis of lignocellulosic materials for ethanol production
12. Preparation of double emulsions by membrane emulsification—a review
13. Review of novel methods for carbon dioxide separation from flue and fuel gases
14. Review of supercritical fluids in inorganic materials science
15. Review on methods to deposit catalysts on structured surfaces
16. Solid-liquid — gas separation with wet scrubbers and wet electrostatic precipitators- A review



17. State of the art of applied fast pyrolysis of lignocellulosic materials — a review
18. Supercritical carbon dioxide extraction of metals from aqueous solutions- a review
19. The synthesis of zeolites under micro-gravity conditions
20. Use of supercritical fluids for different processes including new developments—a review
21. Wave-powered desalination- resource assessment and review of technology

Environment:

1. Supercritical water oxidation of industrial wastewater
2. Current Strategies for Dairy Waste Management A Review
3. A review of classic Fenton's peroxidation as an advanced oxidation technique
4. A review of membrane bioreactor potential for nitrate removal from drinking water
5. A review of potentially low-cost sorbents for heavy metals
6. A review- The anaerobic treatment of sewage in UASB and EGSB reactors
7. Advances in poultry litter disposal technology – a review
8. Aerobic MBRs for domestic wastewater treatment- a review with cost considerations
9. Anaerobic digestion of organic solid poultry slaughterhouse waste – a review
10. Biological approach- for treatment of distillery wastewater-A review
11. Composting piggery waste
12. Degradation of chlorophenols by means of advanced oxidation processes-a general review
13. Electro-bioremediation of hydrophobic organic soil-contaminants- A review of fundamental interactions
14. Fungal decolorization of dye wastewaters
15. Low-cost adsorbents for heavy metals uptake from contaminated water- a review
16. Magnetic nano- and microparticles for metal removal and environmental applications
17. Membrane technologies for remediating contaminated soils
18. Non-conventional low-cost adsorbents for dye removal- A review
19. Polycyclic aromatic hydrocarbons sorbed on soils- A short review of chemical oxidation based treatments
20. Remediation of dyes in textile effluent- a critical review on current treatment technologies with a proposed alternative
21. Review of modifications of activated carbon for enhancing contaminant uptakes from aqueous solutions
22. Review of the treatment of seafood processing wastewaters and recovery of proteins therein by membrane separation processes
23. Seawater desalination driven by renewable energies- a review
24. The removal of colour from textile wastewater using whole bacterial cells- a review
25. The treatment of pulp and paper mill effluent
26. TiO₂-assisted photocatalytic degradation of azo dyes in aqueous solution- kinetic and mechanistic investigations
27. Wet air oxidation- a review of process technologies and aspects in reactor design



Membrane Technology:

1. Membrane Cleaning in the Dairy Industry A Review
2. Membrane Processing of Fruit Juices and Beverages A Review
3. A review on the latest development of carbon membranes for gas separation
4. Biofouling in membrane systems
5. Concentration polarization in ultrafiltration and reverse osmosis
6. Membrane filtration enhanced by ultrasound- a review
7. Membrane fouling - a review on the role of EPS
8. Pervaporation-based hybrid process a review of process design, applications and economics
9. Polymeric Membrane Pervaporation-A Review
10. Progress in membrane science and technology for seawater desalination
11. Separation of organic–organic mixtures by pervaporation—a review

Biotechnology:

1. Biodiesel production- a review
2. Bioeffects of microwave—a brief review
3. Developments in industrially important thermostable enzymes
4. Enhancement of biogas production from solid substrates using different techniques—a review
5. Lignin – from natural adsorbent to activated carbon
6. Application of solid-state fermentation to food industry

Nanotechnology:

1. Heat transfer characteristics of nanofluids- a review
2. Technology review- the potential of ceramic nanofibres in hot gas filtration
3. ...