



2nd NATIONAL CONFERENCE ON CHEMICAL TECHNOLOGY
SCHEDULE OF TECHNICAL SESSIONS

Technical Session 1

Date: 15th November 2023

Time: 3:30pm – 5:00pm

Breakout Room 1 (BR1)

Session Chair: *Engr Mahmood Abdullahi*

Rapporteur: *Mr. Abdulwaliyu Ibrahim*

	TECHNICAL PAPERS
1	P5 - Agricultural waste utilization for the production of paper-bags: a substitute for plastics bags <i>R.L Tyohemba et al (Benue State University Makurdi, Nigeria)</i>
2	P12 - Heavy metals in locally food condiments: a risk assessment <i>I.S Shabanda (Department of Pure and Applied Chemistry, Kebbi State University of Science and Technology)</i>
3	P28 - Biogenic synthesis and characterization of sulphur nanoparticles from sulphur-rich agro residues (onion and cabbage peels) <i>H. S Usman (Ahmadu Bello University, Zaria)</i>
4	P29 - <i>Terminalia catappa</i> as inhibitor against improvised ferrous implant in corrosive media via experimental approach <i>I.E Agbele (Ahmadu Bello University, Zaria)</i>
5	P33 - Synthesis and evaluation of aluminium sulphate crystals (alum) from waste aluminum foils for turbid water treatment <i>O. H Olabode (National Research Institute for Chemical Technology, Zaria)</i>

Breakout Room 2 (BR2)

Session Chair: *Dr Victor Ochigbo*

Rapporteur: *Mrs Onyinyechi Esew*

	TECHNICAL PAPERS
1	P10 - Synthesis and characterization of silica nanoparticles from coconut husk <i>A. B. Ikyenge et al (Benue State University)</i>
2	P15 - Optimization of biodiesel production from bushel kentucky seed oil using sulphated tin oxide catalyst <i>U. A. Ahmed (Bayero University Kano)</i>
3	P18 - Processes of energy conversion, transformation and socio-economic utilization of agro-wastes to briquettes: a comprehensive review <i>S. H. Musa (Centre for Renewable Energy Research, Bayero University, Kano)</i>
4	P20 - Evaluation of bioethanol production potential from guinea corn husk using <i>Saccharomyces cerevisiae</i> and <i>Saccharomyces carlbergensis</i> <i>U. Yahaya (Federal College of Forest Resources Management, Maiduguri, Borno State)</i>
5	P40 - Modification of urea formaldehyde resin adhesive using nano biochar derived from bamboo waste and it's application in particle board production <i>A. I. Isah (Nuhu Bamalli Polytechnic, Zaria)</i>



Breakout Room 3 (BR3)

Session Chair: Dr Saheed Ademola Ibraheem

Rapporteur: Mr Aboki Mahmuod

	TECHNICAL PAPERS
1	P8 - Proximate analysis of some processed cassava products obtained within Lafia metropolis of Nasarawa state. <i>E. V. Idongesit et al (Federal University of Lafia)</i>
2	P9 - Bioactive components and antioxidant activities of toasted pearl millet-avocado seeds flour blends <i>Z. F. Igbua et al (Centre for Food Technology and Research Makurdi)</i>
3	P11 - Determination of toxic metals and microorganism contaminants in cooked chicken meat sold on the roadside within Makurdi metropolis <i>B. Ishwah & U. J. Ahile (Benue State University)</i>
4	P13 - Pharmacognostic evaluation, of <i>Physalis angulata</i> (l). <i>Z. Arowolo et al (Department of Medicinal Plant Research and Traditional Medicine, National Institute for Pharmaceutical and Research development, Idu Industrial Area, Abuja)</i>
5	P106 - Enhancement of the Antibacterial Activities of Ampicillin by Schiff Base Formation and Complexing With Metal(II)-ions of Cu, Fe and Zn. <i>U. Mohammed (Gombe State Polytechnic, Bajoga)</i>

Virtual Room (VR)

Session Chair: Dr. Nkole Ikechukwu

Rapporteur: Mr. Jibrin Abdulkadir

	TECHNICAL PAPERS
1	P23 - Effect of process variables on methyl ester production using chitosan as heterogeneous catalyst <i>H. I. Akor et al (Confluence University of Science and Technology, Osara)</i>
2	P26 - Weight loss and electrochemical techniques to assess the corrosion inhibition potential of ethanol extract of <i>Acacia nilotica</i> pod on mild steel in acidic medium <i>J. Ibrahim (Confluence University of Science and Technology, Osara)</i>
3	P27 - Analysis on process variables for the extraction of adhesive from <i>Cissus populnea</i> for particleboard production using rice husk <i>H.I Akor (Confluence University of Science and Technology Osara Kogi State)</i>
4	P32 - Gasification of maize cobs and its characterization for energy generation <i>P. Jerome (Federal University of Technology, Minna)</i>
5	P36 - Mechanochemistry: a green chemistry for green technology <i>J. Mohammed (Nasarawa State University Keffi)</i>
6	P41 - Sorption studies, optimization and effect of reusability on the use of waste polypropylene plastics as sorbents for oil spill clean-up <i>C. B. Okpanachi (Prince Abubakar Audu University, Anyigba)</i>



Technical Session 2

Date: 16th November 2023

Time: 8:30am – 10:45am

Break out Room 1 (BR1)

Session Chair: Dr Zwahruddeen Salisu

Rapporteur: Mr Abdullahi Abubakar

	TECHNICAL PAPERS
1	P35 - Sargassum seaweeds in the blue economy: a mini review of their potential and applications in chemical industries <i>O. H. Olabode (National Research Institute for Chemical Technology, Zaria)</i>
2	P38 - A comparative proximate analysis and mineral composition between branded yoghurts and Fulani yoghurt sold in Zaria town, Kaduna state, Nigeria <i>F. M. Yahaya (Ahmadu Bello University, Zaria)</i>
3	P42 - Synthesis of o- benzyl hydroxylamine hydrochloride via alkylation of aminoxy potassium salt <i>A. S Abdullahi (RMK CARS)</i>
4	P45 - Zeolite (ZSM-5) doped hydroxyapatite bio-composites derived from catfish skeletons for bone repairs; synthesis and biomechanical characterization <i>E.S. Akpan (National Research Institute for Chemical Technology, Zaria)</i>
5	P48 - Effect of abstraction temperature and time on the percentage yield of oil extracted from lemon peels via hydro-distillation technique <i>E.S. Akpan (National Research Institute for Chemical Technology, Zaria)</i>
6	P54 - Particle size and size distribution optimization of palladium nanoparticles biosynthesized using <i>Sida acuta</i> leaf extract as reductant: Taguchi-Grey relational approach <i>M.A. Abdulrahman (Ahmadu Bello University, Zaria)</i>
7	P55 - The role of natural coagulant in waste water treatment <i>U. Yahaya (Federal College of Forest Resources Management, Maiduguri, Borno State)</i>
8	P62 - Determination of activity concentration, hazard indices and absorbed dose rates of some radionuclides found in selected fertilizers used in Yola, Nigeria <i>E. M. Elvanus (Yola Outstation - National Research Institute for Chemical Technology, Zaria)</i>

BREAK OUT ROOM 2 (BR2)

Session Chair: Engr. Dr Toyese Oyegoke

Rapporteur: Mr Tukki Onghasom

	TECHNICAL PAPERS
1	P53 - Evaluation of biogas production from the digestion & co-digestion of poultry droppings, pig manure, and brewery-spent grain using enzymes amylase <i>M.I. Onyiah (Projects Development Institute (PRODA), Emene-Enugu)</i>
2	P56 - Sustainable hydrogen production using cerium-enhanced copper-zinc-MCM41 catalysts <i>A. M. Abiso (Ahmadu Bello University, Zaria)</i>
3	P57 - Menthol-based hydrophobic deep eutectic solvent for the degradation of phenolic pollutants in refinery effluent <i>O.D Adeoye (Ahmadu Bello University, Zaria)</i>
4	P59 - Hierarchical ZSM-5 for enhanced mass transfer <i>S.S. Salisu (Dangote Oil Refining and Petrochemicals)</i>
5	P60 - Treatment of phenolic wastewater with zero-valent iron immobilized on powdered activated carbon coated with chitosan <i>M.Y. Suleiman (Ahmadu Bello University Zaria)</i>
6	P67 - Preparation of hierarchical Fe-ZSM-5 for the selective catalytic cracking of crude oil. <i>H.G. Audu (Ahmadu Bello University, Zaria)</i>
7	P71 - Insight into the deactivation of fresh FCC catalyst in a typical petroleum refinery <i>O. W. Churchill (Dangote refinery and petrochemicals FZE)</i>
8	P96 - Synthesis of Hierarchical ZSM-5 zeolite with improved mesoporosity <i>Ganiyu Abubakar (National Research Institute for Chemical Technology, Zaria)</i>

**BREAK OUT ROOM 3 (BR3)****Session Chair:** Dr Kenneth Nwanya**Rapporteur:** Mr Olamilekan Lawal

	TECHNICAL PAPERS
1	P14 - Chemicals elucidation and biological activities of <i>Tetrapleura tetraptera</i> fruit extract <i>G. Ayeni et al (Prince Abubakar Audu University, Anyigba, Nigeria)</i>
2	P25 - Development of desktop teleoperated manipulator: imperatives of experimenting with it in a laboratory in hazardous environment- a review <i>V. I. Akang (National Research Institute for Chemical Technology, Zaria)</i>
3	P30 - Phytochemical and elemental assessment of some selected herbal mixtures used in treating gastric ulcer in Kaduna metropolis. <i>B.S. Rifore (Nigeria Defense Academy, Kaduna)</i>
4	P31 - The impact of artificial intelligence on research innovation: Nigerian perspective <i>P. Eze (NARICT Zaria)</i>
5	P39 - Nutraceuticals and natural products in the light of metabolomics technologies-a cutting-edges approach to drug discovery and repositioning <i>S. Abubakar (Zamfara state college of education)</i>
6	P49 - Application of chemical technology in food production, processing, and preservation in Nigeria: challenges and concerns <i>M.K Aliyu (National Agricultural Extension Research and Liaison services A,B.U Zaria)</i>
7	P50 - Thermal analysis of a developed nano CuO based-neem oil cutting fluid for machining Ti-6Al-4V <i>T. S Abdulrahman (Federal Polytechnic, Nasarawa)</i>
8	P52 - Resistotyping of <i>Escherichia coli</i> and <i>Listeria spp.</i> isolated from milk and milk products sold around Zaria <i>M.M Fathuddin (Ahmadu Bello University)</i>

VIRTUAL ROOM**Session Chair:** Dr Paschal Feka**Rapporteur:** Mr DanMallam Ahmed

	TECHNICAL PAPERS
1	P7 - Evaluation of sorghum and millet kunu-zaki ice cream enriched with fresh mango and banana fruits. <i>N. E Bai et al (Centre for Food Technology and Research)</i>
2	P43 - Emissions based environmental impact analysis from a power-cooling organic Rankine cycle with ejector system <i>E. B Ekwe (Covenant University, Ogun State)</i>
3	P44 - Phytochemical, antioxidant and antimicrobial potentials of methanolic and hexane extracts of <i>Terminalia catappa</i> , <i>Polyanthes longifolia</i> and <i>Eucalyptus citodora</i> plant leaves. <i>J. Isah (Nasarawa State University, Keffi)</i>
4	P47 - Evaluation of mineral, vitamin and amino acid content of synthesized <i>Morinda citrifolia</i> l. fruit and seed using silver nitrate <i>I. E Nnaoma (Federal Polytechnic, Nekede)</i>
5	P64 - Gas dynamics through metal foam: innovative experimental setup and insights <i>M.B Hassan (Federal University of Technology, Minna)</i>
6	P65 - Metal foams and air flow: experimental findings and insights <i>T.O Adam (Federal University of Technology Minna)</i>
7	P66 - Investigation on the effect of iron oxide (FeO ₃) pigment on the production of coloured cement for concrete works <i>J. S. Okoh (Federal University of Technology, Minna)</i>
8	P68 - Analysis of acid options in the purification of spent motor engine oil using acidified clay <i>A.A. Jibril (Federal University of Technology, Minna)</i>
9	P70 - Batch adsorption of heavy metal ions from pharmaceutical wastewater using coconut shell and groundnut hull activated carbon <i>N.A Adenle (Federal University of Technology, Minna, Niger State)</i>



TECHNICAL SESSION 3

Date: 16th November 2023

Time: 3:00pm – 5:00pm

BREAK OUT ROOM 1 (BR1)

Session Chair: Engr Bridget Nwobi

Rapporteur: Mr Martins Ukpong

	TECHNICAL PAPERS
1	P83 - Slaughterhouse effluents; environmental impacts, pre-treatments, and applications <i>R. O. Jimoh (Ahmadu Bello University, Zaria)</i>
2	P86 - Enhancing Palm Oil Refining using Activated Carbon derived from a Low-Rank Coal (LRC) <i>Y.Y. Jibrin (National Research Institute for Chemical Technology)</i>
3	P93 - A review on sustainable low-density polyethylene (LDPE) waste management: Possibilities for Nigeria <i>S.V. Ategbe (Ahmadu Bello University, Zaria)</i>
4	P97 - Synthesis and efficiency evaluation of three fatty oil based demulsifiers for demulsification of Nigerian crude oil. <i>D. C Nwakuba (National Research Institute for Chemical Technology, Zaria)</i>
5	P98 - Application of deep eutectic solvents in remediation of contaminated water – a mini review. <i>U.J Okoduwa (National Research Institute for Chemical Technology Zaria)</i>
6	P105 - Extraction of bitumen from tar sands obtained from Loda, Ondo state, Nigeria for application in construction and petrochemicals <i>A. F. Ade-Ajayi (National Research Institute for Chemical Technology, Zaria)</i>
7	P108 - Effect of optimum process conditions for detoxification of Phorbol ester (PE) and anti-nutrients reduction of <i>Jatropha curcas</i> seed cake (jsc) by <i>Lenzites betulina</i> <i>S. Bala (National Research Institute for Chemical Technology, Zaria)</i>

BREAKOUT ROOM 2 (BR2)

Session Chair: Dr Mercy Otori

Rapporteur: Mr Bola Ade-Ajayi

	TECHNICAL PAPERS
1	P46 - Adsorptive aptitudes of two (2) Nigerian clays for aqueous Cu, Pb and Zn metals. <i>E. S. Akpan (National Research Institute for Chemical Technology, Zaria)</i>
2	P51 - Antifungal compounds produced by lactic acid bacteria: <i>Lantiplantibacillus plantarum</i> oq224994.1 from soil samples of nature garden Ahmadu Bello University, Zaria <i>J. O. Solomon (Modibbo Adama University, Yola)</i>
3	P78 - Silation techniques as a viable technique for the development of super adsorbent for oil spill clean-up: A review <i>D. Daniel (National Research Institute for Chemical Technology, Zaria)</i>
4	P80 - Assessment of the efficacy of some selected plants as derived bio-pesticides in the control of cowpea pests on the field <i>E. Onyeyirichi (National Research Institute for Chemical Technology, Zaria)</i>
5	P85 - Assessing the ecological and environmental impacts of oil spills from refineries on soil and water – a mini review <i>S. A. Jimoh (Ahmadu Bello University Zaria, Kaduna State)</i>
6	P88 - Assessment of fire retardancy properties of biologically and chemically extracted jute fibres using surface embedment <i>I. Sulaiman (National Research Institute for Chemical Technology, Zaria)</i>
7	P94 - Antimicrobial activities of <i>Calotropis procera</i> : a review <i>Aisha M Dikko (National Research Institute for Chemical Technology, Zaria)</i>
8	P101 - Antimicrobial properties of garlic (<i>Allium Sativum</i>): A mini review <i>M.A. Shuaib (Ahmadu Bello University, Zaria, Kaduna State)</i>



BREAK OUT ROOM 3 (BR3)

Session Chair: Mr O.B Adesina

Rapporteur: Engr Shehu Usman

	TECHNICAL PAPERS
1	P58 - The effect of catalysts for industrial appliances <i>Y.A.M Wasai (B.U.K Kano and A.B.U. Zaria)</i>
2	P69 - Evaluation of nutritional qualities and phytochemical properties of tomatoes (<i>Lycopersicon esculentum</i>) samples from Nasarawa state, Nigeria. <i>I.O Deborah (Federal Polytechnic, Nasarawa)</i>
3	P77 - Assessments of physico-chemical properties and heavy metals contamination of a petroleum spillage site at Kokori, Delta state- Nigeria. Physico-chemical and functional properties of tamarind (<i>Tamarindus indica</i>) seed kernel starch. <i>A.M. Maikano (National Research Institute For Chemical Technology, Basawa Zaria)</i>
4	P79 - Determination of LD ₅₀ , fecundity and locomotor effect of aqueous beetroot (<i>Beta vulgaris</i>) plant extract in the production of colorant for food and pharmaceutical industry using <i>Drosophila melanogaster</i> <i>Ifeoma Oddy-Obi (National Research Institute for Chemical Technology, Zaria)</i>
5	P81 - Study of the effects of process conditions on bleaching of palm oil using activated clay. <i>O.J. Ihedioha (Projects Development Institute, PRODA)</i>
6	P82 - Physico-chemical and functional properties of tamarind (<i>Tamarindus indica</i>) seed kernel starch <i>A. M. Maikano (National Research Institute for Chemical Technology, Basawa, Zaria)</i>
7	P95- Effect of acetylation and fatty acid treatment on oleophilicity of kenaf fibers <i>Nanadeinboemi A. Ozogu (National Research Institute for Chemical Technology, Zaria)</i>

VIRTUAL ROOM

Session Chair: Dr Suleiman Shuwa

Rapporteur: Engr Chidinma Nwakuba

	TECHNICAL PAPERS
1	P72 - Biogas synthesis from human excreta using zirconia doped silica catalyst <i>S.J. Essien (Federal University of Technology, Minna)</i>
2	P74 - Determination of biomass and lipid productivity of <i>Chlorella Vulgaris</i> for biodiesel production <i>O.P. Okibe (National Research Institute For Chemical Technology)</i>
3	P76 - Production of hydrochar as adsorbents for removal of heavy metals from pharmaceutical wastewater <i>A. M. Adamu (Federal University of Technology, Minna)</i>
4	P75 - Prevalence of urinary schistosomiasis among pupils of selected primary schools in Jos South local government area, Plateau state <i>R. Jabba (National Research Institute for Chemical Technology, Zaria, - Langtang Outstation)</i>
5	P84 - Production of Fire Retardant from Kaolin and Industrial Effluent for Nigerian Building Construction Industry <i>Pirmak Longtau (Nigerian Building and Road Research Institute, Abuja)</i>
6	P87 - Chemical safety measures survey on hazardous chemicals utilized in small-scale businesses in the three most agrarian states of Southwest Nigeria <i>N. O. Ashade (National Research Institute for Chemical Technology, Zaria)</i>
7	P91 - The presence of alkaloids and anti-malarial activity of <i>P. guajava</i> leaves extract <i>H. Isah (Nigerian Defence Academy, Kaduna)</i>
8	P92 - Configuration of solid oxide fuel cell using biofuel obtained from sugarcane bagasse <i>M.O. Audu (Chemical Engineering Department, Federal University of Technology Minna)</i>



TECHNICAL SESSION 4

Date: 17th November 2023

Time: 8:30am – 10:45am

BREAK OUT ROOM 1 (BR1) + VIRTUAL ROOM (COMBINED) – Venue VR ROOM

Session Chair: Engr Etukessien S. Akpan

Rapporteur: Engr Aishat Osigbesan

	TECHNICAL PAPERS
1	P115 - Effect of sulphuric acid concentration on copper leaching from metal scraps for copper sulphate synthesis <i>O.H. Olabimtan (National Research Institute for Chemical Technology, Zaria)</i>
2	P117- Optimization of lactic acid yield produced from waste cassava peels using response surface methods and machine learning <i>C. U. Odili (Ahmadu Bello University, Zaria)</i>
3	P118 Development of beehive-ginger/sisal polyester hybrid composite for building and furniture industries <i>I. Haruna (National Research Institute for Chemical Technology, Zaria)</i>
4	P102 (VR) - The physical properties and effect of acrylic polymer dispersions on water vapour permeability of finished leathers <i>A.S Abdulrahman (Ahmadu Bello University Zaria)</i>
5	P103 (VR) - Review on pheromones in agriculture: discovery, synthesis, and advancements for sustainability, economics, and crop enhancement <i>A. Adams (Institute of Natural and Applied Science, Necmettin Erbakan University, Konya, Türkiye)</i>
6	P110 (VR) - Design of 200 kg/day Zeolite odour abatement pilot plant from Kaolin (clay) <i>D. O. Ayeni (National Universities Commission)</i>
7	P121 (VR) - Assessment of Elemental Compositions of Extracted Date Palm (<i>Phoenix dactylifera</i> L) Syrup Varieties Obtained from Wukari Market, Taraba State <i>R. B. Donatus (Federal University, Wukari)</i>

BREAK OUT ROOM 2 (BR2)

Session Chair: Mrs Rose Sangodare

Rapporteur: Mrs Olubukola Aina

	TECHNICAL PAPERS
1	P89 - Assessment of functional cotton fabric produced using chemically synthesized silver-nano coating <i>U. Iroegbu (National Research Institute for Chemical Technology, Zaria)</i>
2	P109 - The induce damage to liver and kidney of wistar rat by spent vegetable oil and the ameliorating potentials of coconut oil <i>Istifanus A. Simon (National Research Institute for Chemical Technology, Zaria)</i>
3	P107 - Production and characterization of organic potash from agricultural wastes in food and fertilizer applications: a case study of corncobs and guinea corn husks <i>S. A. Akuso (National Research Institute for Chemical Technology, Zaria)</i>
4	P113 - Isolation and Characterization of <i>Aspergillus niger</i> and <i>Saccharomyces cerevisiae</i> for Bioethanol production from brewery spent grain <i>A. Abubakar (National Research Institute for Chemical Technology Zaria)</i>
5	P114 - Production of bioethanol from sawdust using co-culture of <i>Aspergillus niger</i> and <i>Saccharomyces cerevisiae</i> <i>A. Abubakar (National Research Institute for Chemical Technology, Zaria)</i>
6	P119 - Effect of Different Processing Methods on the Proximate and Functional Properties of <i>Detarium senegalense</i> (Tallow) Seed Flour <i>H. Adamu (Food Technology and Home Economics Department, NAERLS)</i>
7	P120 - Isolation and authentication of rhizobia from rhizosphere and root nodules of soybean plants <i>H.M Aliyu (National Research Institute for Chemical Technology, Zaria)</i>
8	P122 - A Comparative Proximate and Mineral Analysis Between Branded Yoghurts and Nono (Local Fulani) Yoghurt Sold in Zaria, Kaduna State, Nigeria <i>F. M Yahaya (Ahmadu Bello University Zaria)</i>



BREAKOUT ROOM 3 (BR3)

Session Chair: *Engr Ganiyu Abubakar*

Rapporteur: *Mr Suleiman Bala*

	TECHNICAL PAPERS
1	P90 - A review on the development of an innovative fire extinguishing ball <i>U. Iroegbu (National Research Institute for Chemical Technology, Zaria)</i>
2	P99 - Computational estimation of hexane selected thermodynamic properties: using process and atomic-scale simulations in contrast with experiments <i>C. Odih (Chemical Engineering Department, Ahmadu Bello University Zaria - Nigeria // Laboratoire de Chimie, ENS de Lyon, l'Universite de Lyon, Lyon - France)</i>
3	P100 - Corrosion mitigation strategies: integrating cluster model stability & material screening for enhanced metal protection in atomic-scale simulations <i>Z.M Mikailu (Chemical Engineering Department, Ahmadu Bello University Zaria - Nigeria / Laboratoire de Chimie, ENS de Lyon, l'Universite de Lyon, Lyon - France)</i>
4	P111- Theoretical investigation of the effects of solvents on electronic and non-linear optical properties of sumanene molecule based on DFT <i>B. M. Aliyu (National Research Institute for Chemical Technology, Zaria)</i>
5	P116 - Optimization of the epoxidation process parameters of baobab seed oil <i>S. Usman (National Research Institute for Chemical Technology, Zaria)</i>