



## DR. MOHAMAD AZANI BIN ABD KHADIR JALANI

PENSYARAH UNIVERSITI DS13

### CONTACT

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**E-mail:**  
mazani@usim.edu.my

**Faculty:** Kolej Permata  
Insan

### SUPERVISION

PhD - Completed: 0, Ongoing: 0

Master - Completed: 0,  
Ongoing: 0

### AREAS OF EXPERTISE

Nanotechnology

Other Advanced Materials N.e.c.

Applied Chemistry

### ACADEMIC QUALIFICATION

PhD in Kimia (2018)

Bachelor in Kimia (2012)

### RESEARCH

#### 1. PEMBANGUNAN PEMPROFILAN KECENDERUNGAN MURID PINTAR BERBAKAT MUSLIM KOLEJ PERMATA INSAN

2024 GERAN PENYELIDIKAN PUSAT TANGGUNGJAWAB (PTJ) ON GOING  
CO-RESEARCHER

#### 2. MAPPING THE TENDENCIES OF SCIENCE AND MEMORIZATION OF THE QURAN AMONG GIFTED AND TALENTED MUSLIMS STUDENTS

2021 GERAN PENYELIDIKAN KHAS COMPLETED CO-RESEARCHER

#### 3. STRUCTURAL-OPTICAL PROPERTIES RELATIONSHIP OF GOLD NANOPARTICLES EMBEDDED IN POROUS ALUMINA MEMBRANE FOR CATALYTIC TREATMENT OF WASTEWATER

2020 GERAN KPT COMPLETED MAIN RESEARCHER

#### 4. PENEROKAAN POTENSI KOMPONEN FLORISTIK DAN FAUNASTIK DI KAMPUS USIM, NILAI: KE ARAH KAMPUS HIJAU YANG LESTARI

2020 GERAN PENYELIDIKAN USIM RACER COMPLETED CO-RESEARCHER

#### 5. ADSORPTIVE SEPARATION UTILIZING SURFACE-MODIFIED CLINOPTILOLITE AND ACID-TREATED CLINOPTILOLITE IN TREATING PALM OIL MILL EFFLUENT (POME)

2019 GERAN PENYELIDIKAN USIM COMPLETED CO-RESEARCHER

# PUBLICATION

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## 1. FACILE PREPARATION OF GOLD NANOPARTICLES SILICA COMPOSITE FILM EMBEDDED IN ANODIZED ALUMINIUM OXIDE-GLASS SUBSTRATE

MALAYSIAN JOURNAL OF SCIENCE, HEALTH & TECHNOLOGY

2024 JOURNAL OTHER DATABASE CORRESPONDING AUTHOR

## 2. PREPARATION OF ETHANOLIC EXTRACT OF Elettariopsis curtisii (Zingiberaceae) Leaves and Roots by Using Soxhlet Extraction

5TH INSAN JUNIOR RESEARCHERS INTERNATIONAL CONFERENCE & INNOVATION 2024 (IJURECON 2024)

2024 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

## 3. RECENT MODIFICATIONS OF CARBON NANOTUBES FOR BIOMEDICAL APPLICATIONS

JURNAL TEKNOLOGI (SCIENCES AND ENGINEERING)

2023 JOURNAL SCOPUS AND ERA CO-AUTHOR

## 4. COMPARATIVE STUDY ON PROPERTIES AND BIODEGRADATION OF STARCH-BASED AND GELATIN-BASED BIOPLASTICS

INSAN JUNIOR RESEARCHERS INTERNATIONAL CONFERENCE (IJURECON 2023)

2023 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

## 5. PHOTODEGRADATION OF AROMATIC DYES FROM TEXTILE WASTEWATER

ISSUES IN CONTAMINANTS OF EMERGING CONCERN

2023 CHAPTER IN BOOK CO-AUTHOR

## 6. PHOSPHORESCENT VAPOCHROMIC RESPONSES OF COPPER(I) COMPLEX BEARING PYRAZOLE LIGANDS FOR DETECTION OF ALCOHOL DERIVATIVES

MALAYSIAN JOURNAL OF FUNDAMENTAL AND APPLIED SCIENCES

2022 JOURNAL INDEXED BY WOS CO-AUTHOR

## 7. SYNTHESIS OF SILVER NANOPARTICLES USING ETHANOLIC EXTRACT OF STRIGA ASIATICA AND POLYGALA PANICULATA

INSAN JUNIOR RESEARCHER INTERNATIONAL CONFERENCE (IJURECON 2021)

2022 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

## 8. GREEN SYNTHESIS OF SILVER AND GOLD NANOPARTICLES FROM LOCAL SABAH TEA EXTRACT CAMELLIA SINENSIS

INSAN JUNIOR RESEARCHER INTERNATIONAL CONFERENCE (IJURECON 2021)

2022 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

## 9. CHAPTER 8: ONLINE LEARNING AT KOLEJ GENIUS INSAN: A FIRST-HAND EXPERIENCE

ONLINE LANGUAGE LEARNING CULTURE: BUILDING A SUSTAINABLE EDUCATION

2022 CHAPTER IN BOOK CO-AUTHOR

## 10. CHAPTER 9: HOLISTIC ASSESSMENT DURING THE PANDEMIC: THE EXPERIENCE OF KOLEJ GENIUS INSAN

ONLINE LANGUAGE LEARNING CULTURE: BUILDING A SUSTAINABLE EDUCATION

2022 CHAPTER IN BOOK CO-AUTHOR

## 11. KIMIA

MODUL PENGAJARAN DAN PEMBELAJARAN SERTA PENTAKSIRAN BERSEPADU KURIKULUM PENDIDIKAN PINTAR BERBAKAT, INTEGRASI NAQLI DAN AQLI (IGED), TAHAP 1

2022 CHAPTER IN BOOK MAIN AUTHOR

## 12. SAINS

MODUL PENGAJARAN DAN PEMBELAJARAN SERTA PENTAKSIRAN BERSEPADU KURIKULUM PENDIDIKAN PINTAR BERBAKAT, INTEGRASI NAQLI DAN AQLI (IGED), TAHAP 1

2022 CHAPTER IN BOOK MAIN AUTHOR

## 13. TEMPERATURE-DEPENDENT X-RAY STUDIES OF DISCOTIC HEXAGONAL COLUMNAR MESOPHASES IN TRINUCLEAR GOLD(I) PYRAZOLATE COMPLEX

MALAYSIAN JOURNAL OF FUNDAMENTAL AND APPLIED SCIENCES

2021 JOURNAL INDEXED BY WOS CORRESPONDING AUTHOR

# PUBLICATION

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## 14. SUPRAMOLECULAR INTERACTIONS IN AROMATIC STRUCTURES FOR NON-OPTICAL AND OPTICAL CHEMOSENSORS OF EXPLOSIVE CHEMICALS

SOLID STATE PHENOMENA

2021 JOURNAL SCOPUS MAIN AUTHOR / CONTACT PERSON IN USIM

## 15. DOCUMENTATION ON POTENTIAL HERBAL PLANT FOR SNAKEBITE TREATMENT

INSAN JUNIOR RESEARCHER INTERNATIONAL CONFERENCE

2021 PROCEEDING NON-INDEX CO-AUTHOR

## 16. EXTRACTION AND ANTIMICROBIAL PROPERTIES OF POLYSACCHARIDE FROM PLEUROTUS ERYNGII

INSAN JUNIOR RESEARCHER INTERNATIONAL CONFERENCE

2021 PROCEEDING NON-INDEX CO-AUTHOR

## 17. IDENTIFICATION OF DIATOMS IN UNIVERSITI SAINS ISLAM MALAYSIA RESERVOIR PONDS, NEGERI SEMBILAN, MALAYSIA

INSAN JUNIOR RESEARCHER INTERNATIONAL CONFERENCE

2021 PROCEEDING NON-INDEX CO-AUTHOR

## 18. DETERMINATION OF PHYSICOCHEMICAL PARAMETERS AND HEAVY METALS CONTENTS IN TASIK AL-ABRAR AND SEVERAL LAKES IN USIM

INSAN JUNIOR RESEARCHER INTERNATIONAL CONFERENCE

2021 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

## 19. PHOSPHORESCENT VAPOCHROMIC RESPONSES OF COPPER(I) COMPLEX BEARING PYRAZOLE LIGANDS FOR DETECTION OF ALCOHOL DERIVATIVES

INTERNATIONAL CONFERENCE OF RESEARCH AND PRACTICES IN SCIENCE, TECHNOLOGY AND SOCIAL SCIENCES (ICREST 2020)

2020 PROCEEDING NON-INDEX CO-AUTHOR

## 20. HIGHLY ORDERED MESOPOROUS SILICA FILM NANOCOMPOSITES CONTAINING GOLD NANOPARTICLES FOR THE CATALYTIC REDUCTION OF 4-NITROPHENOL

BEILSTEIN JOURNAL OF NANOTECHNOLOGY

2019 JOURNAL ERA MAIN AUTHOR

## 21. ENHANCING CO<sub>2</sub>/CH<sub>4</sub> SEPARATION USING PPO-DERIVED HOLLOW FIBER CARBON MEMBRANE

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN ENGINEERING INNOVATION

2019 JOURNAL OTHER DATABASE CO-AUTHOR

## 22. PHOTOCHEMICAL SYNTHESIS OF NANOSHEET TIN DI/SULFIDE WITH SUNLIGHT RESPONSE ON WATER POLLUTANT DEGRADATION

NANOMATERIALS

2019 JOURNAL ISI CO-AUTHOR

## 23. SIZE-EXCLUSION LIQUID CHROMATOGRAPHY FOR EFFECTIVE PURIFICATION OF AMPHIPHILIC TRINUCLEAR GOLD (I) PYRAZOLATE COMPLEX

MALAYSIAN JOURNAL OF FUNDAMENTAL AND APPLIED SCIENCES (MJFAS)

2018 JOURNAL WOS MAIN AUTHOR

## 24. THERMAL HYDROGEN REDUCTION FOR PRESERVATION OF MESOPOROUS SILICA FILM NANOCOMPOSITES WITH A HEXAGONAL STRUCTURE CONTAINING AMPHIPHILIC TRIPHENYLENE

AIP CONFERENCE PROCEEDINGS

2017 JOURNAL SCOPUS CO-AUTHOR

## 25. FABRICATION OF MESOPOROUS SILICA/ALUMINA HYBRID MEMBRANE FILM NANOCOMPOSITES USING TEMPLATE SOL-GEL SYNTHESIS OF AMPHIPHILIC TRIPHENYLENE

IOP CONFERENCE SERIES: MATERIALS SCIENCE AND ENGINEERING

2017 JOURNAL ERA CO-AUTHOR

## 26. SYNTHESIS OF MESOPOROUS SILICA NANOCOMPOSITES FOR PREPARATION OF GOLD NANOPARTICLES

ADVANCED MATERIALS RESEARCH

2014 JOURNAL ERA MAIN AUTHOR

# PUBLICATION

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## 27. THERMAL HYDROGEN REDUCTION FOR SYNTHESIS OF GOLD NANOPARTICLES IN THE NANOCHANNELS OF MESOPOROUS SILICA COMPOSITE

JURNAL TEKNOLOGI (SCIENCES AND ENGINEERING)

2014

JOURNAL

SCOPUS

MAIN AUTHOR

## 28. SUPPORTED-GOLD NANOPARTICLES FOR OXIDATION REACTIONS

RECENT DEVELOPMENT OF NANOSTRUCTURED HETEROGENEOUS CATALYST FOR OXIDATION REACTION

2014

CHAPTER IN BOOK

CO-AUTHOR

# AWARDS/RECOGNITION

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## 1. ANUGERAH STAF CONTOH (DISEMBER 2025)

2025 UNIVERSITY

## 2. A GAMIFIED APPROACH TO CHEMISTRY LEARNING

X-CIPTA 2025

2025 KEBANGSAAN SILVER

## 3. MOLECOOL FRIENDS: AN INTERACTIVE APPROACH TO CHEMISTRY LEARNING IN SECONDARY SCHOOLS

INSAN Junior Researchers International Conference (ijJURECON 2025)

2025 ANTARABANGSA SILVER

## 4. THE ROLE OF GAMIFICATION IN ENHANCING CONCEPTUAL UNDERSTANDING AND ENGAGEMENT FOR SECONDARY SCHOOL CHEMISTRY

INNOVATION BANK CHALLENGE 2025

2025 ANTARABANGSA SILVER

## 5. DUO&KEY MOLECULAR MATCH-UP: AN INNOVATIVE CARD GAME FOR TEACHING CHEMICAL BONDS TO SECONDARY SCHOOL STUDENTS

INTERNATIONAL VIRTUAL COMPETITION OF CREATIVE & INNOVATIVE IDEA (IVCCI)

2025 ANTARABANGSA GOLD

## 6. DUO&KEY: MOLECULAR MATCH-UP CARD GAME TO ENHANCE KNOWLEDGE AND APPLICATION OF CHEMICAL BONDING

VIRTUAL INNOVATION COMPETITION 2025

2025 ANTARABANGSA GOLD

## 7. INNOVATIVE GAMIFICATION STRATEGIES FOR ENHANCING PERIODIC TABLE LEARNING AMONG SECONDARY SCHOOL STUDENTS

VIRTUAL INNOVATION COMPETITION 2025

2025 ANTARABANGSA GOLD

## 8. IONO: IONIC MASTER A COMPETITIVE CARD GAME DESIGNED TO HELP STUDENTS MASTER AND MEMORIZE IONS WHILE HAVING FUN AND FEELING EXCITED

INSAN Junior Researchers International Conference (ijJURECON 2025)

2025 ANTARABANGSA GOLD

## 9. INNOVATIVE GAMIFICATION STRATEGIES FOR ENHANCING CHEMISTRY SUBJECT LEARNING AMONG SECONDARY SCHOOL STUDENTS

INSAN Junior Researchers International Conference (ijJURECON 2025)

2025 ANTARABANGSA SILVER

## 10. IONO CARD GAMES: ENHANCING CHEMISTRY EDUCATION FOR GIFTED STUDENTS IN KOLEJ PERMATA INSAN IN LEARNING OF CATIONS AND ANIONS

PERTANDINGAN INOVASI CILIK BESTARI (PICB) 2025

2025 ANTARABANGSA GOLD

## 11. ANUGERAH INOVASI TERBAIK (NOVEMBER 2024)

2024 UNIVERSITY

## 12. ANUGERAH PENULIS CEMERLANG APRIL 2024

2024 OTHERS

## 13. ANUGERAH PENYELIDIK TERBAIK 2024

2024 OTHERS

## 14. ANUGERAH INOVASI TERBAIK (SEPTEMBER 2024)

2024 UNIVERSITY

# AWARDS/RECOGNITION

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## 15. ANUGERAH INOVASI TERBAIK (OKTOBER 2024)

2024 UNIVERSITY

## 16. DEVELOPMENT OF EDUCATIONAL CHEMISTRY CARD GAMES FOR HIGH-SCHOOL STUDENTS: ENHANCING LEARNING THROUGH PLAY

4TH INNOVATION BANK CHALLENGE 2024 (IBC 2024)

2024 UNIVERSITI GOLD

## 17. ANUGERAH GURU PALING BERDEDIKASI

2023 OTHERS

## 18. ACADEMIC ADVISOR

KEMENTERIAN PENDIDIKAN MALAYSIA DAN SASBADI HOLDINGS BERHAD

2023 NATIONAL

## 19. ACADEMIC ADVISOR

KEMENTERIAN PENDIDIKAN MALAYSIA DAN SASBADI HOLDINGS BERHAD

2023 NATIONAL

## 20. BRIDGING KNOWLEDGE :I-FORENSICS FOR HALFWIT

Insan Junior Researchers International Conference (IJURECON 2023)

2023 ANTARABANGSA SILVER

## 21. ANALYSIS OF LATIN HANDWRITING CHARACTERISTICS AMONG FEMALE STUDENTS

Insan Junior Researchers International Conference (IJURECON 2023)

2023 ANTARABANGSA SILVER

## 22. STAF CONTOH KOLEJ GENIUS INSAN (JANUARI 2022)

2022 OTHERS

## 23. ANUGERAH HARI GURU 2022

2022 OTHERS

## 24. ANUGERAH PENYELIDIK HARAPAN 2022

2022 OTHERS

## 25. BEST PROJECT AWARD\_BIONANOSEM 2022

2022 NATIONAL

## 26. KECENDERUNGAN MINAT MURID PINTAR DAN BERBAKAT MUSLIM DALAM BIDANG SAINS

INTERNATIONAL CONFERENCE 2022 (IJURECON 2022)

2022 ANTARABANGSA GOLD