

## Lecturers

<b>AMAT NGILMI AHMAD SUJARI</b> B.Sc., (UKM), Ph.D. (Reading) angilmi@usm.my	Environmental; waste-water treatment; analytical chemistry.
<b>CHUA YONG SHEN</b> B.Sc., (UTM), Ph.D (Singapore) yschua@usm.my	Synthesis, structure and solid state chemistry of novel materials for hydrogen storage, eg. chemical hydrides, complex hydrides, hybrid organic/inorganic materials, liquid organic hydrogen carriers.
<b>FAIZ BUKHARI MOHD SUAH</b> B.Sc., M.Sc, Ph.D (UKM) fsuah@usm.my	Green analytical chemistry (ionic liquids); Chemical sensors (optical, fluorescence; electrochemical); Separations (membranes based); Electrogenative process.
<b>LEE HOOI LING</b> B.Sc., M.Sc., (USM), Ph.D (Dublin, Ireland) hlee@usm.my	Synthesis and characterisations of nanomaterials (including for drug delivery systems), surface science.
<b>LIM GIN KEAT</b> B.Sc., M.Sc., (UPM), Ph.D (Cardiff) limgk@usm.my	Structure determination of organic materials using powder X-ray diffraction data; new materials prepared from mechanochemistry; natural products chemistry of Malaysian plants.
<b>MARDIANA SAAID</b> B.Sc., M.Sc., Ph.D (USM)	Trace analysis, sample preparation technologies.
<b>MAZIDATULAKMAM MISKAM</b> B.Sc., M.Sc. (UTM) , Ph.D (UM) mazidatul@usm.my	Synthesis and characterization of sorbents for micro extraction techniques; environmental analysis using GC, HPLC and CE.
<b>MOHAMMAD ANWAR MOHAMED IQBAL</b> B.Sc., Ph.D (USM) anwariqbal@usm.my	Synthesis, functionalization and characterization of porous materials; Heterogeneous catalysis.
<b>MOHD HAZWAN HUSSIN</b> B.Sc., M.Sc., (USM) Ph.D (Lorraine), (USM) mhh@usm.my	Wood science and fiber; Corrosion electrochemistry; Bioresources.
<b>MOHAMAD NURUL AZMI MOHAMAD TAIB</b> B.Sc., M.Sc. (UM) , Ph.D (UM), Ph.D (Ecole Polytechnique) mnazmi@usm.my	Natural products chemistry; organic synthesis, medicinal chemistry.
<b>MOHD RIZAL RAZALI</b> B.Sc., M.Sc. (UM), Ph.D (Monash) mohd.rizal@usm.my	Synthetic coordination complexes; crystal engineering; structure determination from single crystal X-ray diffraction.
<b>MUHAMMAD BISYRUL HAFI OTHMAN</b> B.Sc., M.Sc, Ph.D (USM) bisyrul@usm.my	Polymer synthesis; polyimide chemistry; properties & application; polymeric materials & characterization; thermal analysis; hydrogel for drug delivery.
<b>NG SI LING</b> B.Sc., Ph.D (USM) sling@usm.my	Bioremediation; adsorption; bioregeneration of spent adsorbents.
<b>NORAZZIZI NORDIN</b> B.Sc., M.Sc., Ph.D (UKM) azzizi@usm.my	Electroanalytical chemistry, wastewater treatment using electrochemical technique, nanomaterials
<b>NOOR HAIDA MOHD KAUS</b> B.Sc., M.Sc. (UiTM), Ph.D (Bristol) noorhaida@usm.my	Self-assembled or biopolymers templated of bio-nanocomposites materials; nanoscale production of bio-active colloids
<b>NOOR HANA HANIF ABU BAKAR</b> B.Sc., M.Sc. (USM), Ph.D (UHP, USM) hana_hanif@usm.my	Nanomaterials; catalysis.
<b>NUR FARHANA JAAFAR</b> B.Sc, M.Sc, Ph.D (UTM) nurfarhana@usm.my	Synthesis, functional and characterization of mesoporous materials and heterogenous catalysis for photocatalytic degradation of organic pollutant.

<b>NURUL YANI RAHIM</b> B.Sc. (UPM), M.Sc., Ph.D (UM) nurulyanirahim@usm.my	Chiral separation, green analytical chemistry (ionic liquid), supramolecular chemistry (cyclodextrin)
<b>SHANGEETHA GANESAN</b> B.Sc., M.Sc. , Ph.D (USM) shangeetha@usm.my	Biodiesel; palm oil chemistry; heterogenous catalysis for transesterification and esterification.
<b>WAN NAZWANIE WAN ABDULLAH</b> B.Sc, Ph.D (UTM) wanazwanie@usm.my	Catalytic oxidative desulfurization of diesel utilizing peroxides and supported transition oxide catalyst; inorganic chemistry; catalysis.
<b>YAM WAN SINN</b> B.Sc., Ph.D (USM) wansinn@usm.my	Liquid crystals-synthesis and characterisation.
<b>YEOH KAR KHENG</b> B.Sc., M.Sc., (UTM), Ph.D (Oxford), kkyeoh@usm.my	Chemical biology (e.g. hypoxia inducible factor); synthesis of small molecule inhibitors; natural products chemistry.

## Facilities

The School is equipped with teaching and research laboratories. Existing analytical and characterisation instruments include NMR 400 MHz (for solid state analysis) and NMR 500 MHz, GCMS, LCMS (TOF), DSC/TGA, TOC and GPC, CHN Analyser, HPLC, GC, FTIR with Microscope, UV-Vis, IR, AAS and Fluorescence spectrophotometers, ICP-OES, Electrochemical systems and Surface Area Analyser, POM and other supporting equipments. The School is also equipped with Electronics and Glass-Blowing Workshops.

The expertise and facilities available in the School of Chemical Sciences are always tapped by the industries and government agencies in solving their problems. In line with the desire to improve the consultancy services offered by the School, the School of Chemical Sciences has taken a proactive step by setting up an Analytical Services and Testing Laboratory (MUPA) in year 2000, to offer more effective services for the industrial sectors.



## Contact for Information

### Deputy Dean

(Research, Postgraduate & Networking)  
School of Chemical Sciences  
Universiti Sains Malaysia  
11800 USM, Penang, Malaysia.

Tel.: 6 04-653 4049 / 3576  
Fax: 6 04-657 4854  
Email: gyyeap@usm.my  
Website: www.usm.my/chem



### Dean

Institute of Postgraduate Studies  
Universiti Sains Malaysia  
11800 USM, Penang, Malaysia.

Tel.: 6 04-653 3888 (ext.: 2941 / 2943 / 2944 / 2045)  
Fax.: 6 04-653 2931  
Email: dean\_ips@usm.my  
Website: www.ips.usm.my



# PUSAT PENGAJIAN SAINS KIMIA

School of  
Chemical Sciences



**Research**  
Master of Science  
Doctor of Philosophy

**Mixed Mode**  
Master of Science  
- Chemical Instrumentation

[www.usm.my/chem](http://www.usm.my/chem)

## Introduction

The School of Chemical Sciences (SCS), established in 1969 is one of the pioneer schools of USM. With more than 30 academic staffs and over 50 supporting staffs, the School has been entrusted to provide professional training in chemistry to meet the demands of the industries and society.

## Mixed Mode

### A. MASTER OF SCIENCE-CHEMICAL INSTRUMENTATION

#### Courses Offered

CAA 502/4	Atomic Spectroscopy
CAA 503/4	Molecular Spectroscopy
CAA 504/4	Electrochemical Methods
CAA 505/4	Separation Methods
CAA 507/4	Surface and Thermal Analysis
CAA 509/20	Dissertation
CAA 510/2	Quality System and Intellectual Property
CAA 511/2	Research Methodology

#### Course Structure

**Coursework:** 20 units    **Dissertation:** 20 units

#### Admission Requirement

- Bachelor of Science degree from a recognized university.
- An equivalent CGPA of 2.75 and above.
- Candidates with a CGPA between 2.50 and 2.75 and one year working experience may also apply.
- A minimum score of 550 in TOEFL (Test of English as a Foreign Language) or minimum score of 6.0 in IELTS (International English Language Testing System).
- Results must be attached with the application form.

#### Duration

**Full-time:** Min/Max 12/24 months    **Part-time:** Min/Max 12/48 months

Upon graduation, the M.Sc Mixed Mode (Chemical Instrumentation) graduates can consider to pursue the following programmes:

Ph.D (Research Mode)

Master programme at Universite de Lorraine (UL), France. Under this programme the candidate

- Can be considered for entry into second year of a 2-year programme.
- Will enter semester 3 in France and carry out a project in semester 4. The project will be carried out either in USM or UL.
- Must possess a minimum CGPA of 3.0.
- Has given presentation at conferences or has submitted a paper for publication.
- Will bear all costs, accommodation, food and living expenses during their studies in France.

Co-Tutelle programme (between USM and UL). Under this programme

- The research will be conducted in Malaysia and France.
- Two Ph.Ds are awarded, upon completion of one defense.
- The examination committee comprises of French and Malaysian experts.

Doctoral Double Degree Programme

- This is a unique programme between Nagaoka University of Technology (Japan) and USM (Malaysia).
- Candidate is awarded with two Ph.Ds.
- The candidate is required to submit and defend 2 theses.
- In terms of candidature, the student will spend 1 year in USM before spending 1.0-1.5. years in NUT, Japan and then in USM again.

## Research

### B. MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY

Research areas offered by the School are:

- **Analytical Chemistry:** Pollution Studies, Chemical Biosensors, Electroanalytical Chemistry, Separation Chemistry, Photocatalysis, Conducting Polymers, Nanomaterials, Environmental Electrochemistry, Water Treatment.
- **Inorganic Chemistry:** Inorganic Polymers, Organometallic Chemistry, Inorganic Synthesis, Coordination Chemistry, Catalysis, Liquid Crystals.
- **Industrial Chemistry:** Materials Chemistry & Advanced Materials, Composite Materials & Ceramics, Palm Oil Chemistry, Corrosion Chemistry & Coatings, Petroleum Engineering, Modified Biopolymers.
- **Organic Chemistry:** Organic Synthesis, Natural Products Chemistry, Macrocyclic Chemistry, Liquid Crystals.
- **Physical Chemistry:** Surface Chemistry & Catalysis, Environmental Chemistry, Electroplating / Electroless plating, Computational Chemistry, Corrosion Chemistry.

#### Admission Requirements

##### M.Sc.

- All applicants for M.Sc. must possess a Bachelor of Science degree from a recognized university.
- Must have an equivalent CGPA of 2.75 and above.
- A CGPA between 2.50/4.00 - 2.75/4.00 and at least one year's working experience; OR Two (2) academic publications (journal) in related area; OR Grade B+ for Final Year Project.

##### Ph.D.

- Candidates for Ph.D must possess a Master's degree in a related area.

#### Language Requirements for Foreign Applicants

- A minimum score of 550 in TOEFL (Test of English as a Foreign Language) or minimum score of 6.0 in IELTS (International English Language Testing System).
- Results must be attached with the application form.

## Academic and Administrative Staff

### Administrative

#### Dean

PROFESSOR DR. AFIDAH ABDUL RAHIM

#### Deputy Dean (Academic, Students & Alumni)

PROFESSOR DATO' DR. HASNAH OSMAN

#### Deputy Dean (Research, Postgraduate & Networking)

PROFESSOR DR. YEAP GUAN YEOW

#### Principal Assistant Registrar

MRS. HARYANI HASENAN

#### Assistant Registrar

MISS FAUZIAH RASTAM

#### Assistant Administration (Postgraduate Research/Mixed Mode)

MR. MOHD HIZER OMAR & MRS. HEZNINA ABDUL JALIL

## Academic Staff and Research Specialization

### Professor

#### AFIDAH ABDUL RAHIM

*B.App.Sc. (Qld), M.Sc. (USM), Ph.D. (UL-France, USM)*

[afidah@usm.my](mailto:afidah@usm.my)

Corrosion inhibition of metals- evaluation of corrosion efficiency via electrochemical measurement and surface analysis, electroplating/ electroless plating of metals and composites, food Science-analysis, method development, anti-oxidant activities.

#### YEAP GUAN YEOW

*B.Sc., Ph.D (USM) Adv. Dip (Japan)*

[gyeap@usm.my](mailto:gyeap@usm.my)

Liquid crystals and chemosensing materials.

#### HASNAH OSMAN

*B.Sc., M.Sc. (USM), Ph.D. (OTAGO)*

[ohasnah@usm.my](mailto:ohasnah@usm.my)

Natural products (isolation of bioactive compounds and volatile materials and the synthesis of their derivatives); synthesis of heterocyclic compounds and their bioassay studies.

#### ROHANA ADNAN

*B.Sc., (New York), Ph.D. (Southampton)*

[r\\_adnan@usm.my](mailto:r_adnan@usm.my)

Computational chemistry; molecular modeling; physical chemistry; nanomaterials for environmental applications.

#### FAROOK ADAM

*B.Sc., M.Sc. (USM), D.Phil (Sussex), AMIC*

[farook@usm.my](mailto:farook@usm.my)

Sol-gel chemistry; synthesis, characterisation and catalytic studies of heterogeneous catalysts; surface characterisation and surface chemistry; analysis using NMR, GC/MS, HPLC etc; analytical procedures and testing.

#### MOHAMAD ABU BAKAR

*B.Sc (Loughborough), M.Sc, D.Phil (Sussex)*

[bmohamad@usm.my](mailto:bmohamad@usm.my)

Catalysis; inorganic and organic materials; synthesis, characterisation and development of metal nanoparticles.

### Assoc. Professor

#### MELATI KHAIRUDDAN

*B.Sc., M.Sc. (USM), Ph.D. (Kent State)*

[melati@usm.my](mailto:melati@usm.my)

Synthesis & characterisation - natural products, liquid crystals and host-guest chemistry.

#### MAS ROSEMAL HAKIM MAS HARIS

*B.Sc., M.Sc. (Louisiana), Ph.D. (Virginia Tech.), AMIC*

[mas1@usm.my](mailto:mas1@usm.my)

Polymer synthesis and modification; bionanocomposites of chitosan and natural rubber derivatives; phosphazene chemistry; molecular structure elucidation by means of various analytical techniques such as NMR, IR, UV and MS.

#### ROSENI S.M. ANWARUL HAQUE

*B.Sc., M.Sc. (California), Ph.D. (Western Australia)*

[rosenani@usm.my](mailto:rosenani@usm.my)

Coordination chemistry; complexes of N-heterocyclic carbenes and their derivatives; synthesis and biological applications.

#### MOHAMAD NASIR MOHAMAD IBRAHIM

*B.Sc., M.Sc., Ph.D (Missouri-USA)*

[mnm@usm.my](mailto:mnm@usm.my)

Chemistry in oil and gas industries; industrial applications of lignin and modified biopolymers.

#### NG ENG POH

*B.Sc., M.Sc. (UTM), Ph.D (Mulhouse)*

[epng@usm.my](mailto:epng@usm.my)

Nanoporous materials; colloidal particles; catalysis and adsorption.

#### OO CHUAN WEI

*B.Sc., Ph.D (USM)*

[oochw@usm.my](mailto:oochw@usm.my)

Water treatment using agricultural wastes; organic synthesis.

### Lecturers

#### AHMAD FAIZ ABDUL LATIP

*B.Sc., M.Sc. (Sydney), Ph.D (UPM)*

[afaiz@usm.my](mailto:afaiz@usm.my)

Layered materials; clay-polymer nanocomposites; controlled release formulations.