



Kuala Lumpur  
International Multidisciplinary  
Conference

**KIMCe 2023**

01-03 February 2023  
Kuala Lumpur, Malaysia

**CONFERENCE  
PROGRAM  
& ABSTRACT**



# **Kuala Lumpur International Multidisciplinary Conference (KIMCe 2023)**

**KUALA LUMPUR, MALAYSIA  
01-03 FEBRUARY 2023**





# Welcome to ARC Conferences 2023

Dear Professor, Dr and distinguished delegates,

Welcome to the ARC Conferences 2023 in Kuala Lumpur, Malaysia. On behalf of **AAN Research Center (ARC)**, I would like to thank all the Conference Chair, Program Chairs and the Technical Committees. Their high competence and professional advice enable us to prepare the high-quality programs. For the participants, we hope all of you have a wonderful time at the conference and also in Singapore.

We believe that by this excellent conference, you can get more opportunities for further communication with researchers and practitioners. For the **Kuala Lumpur International Multidisciplinary Conference (KIMCe 2023)** more than 40 submitted papers have been received and 25 papers have been accepted and published finally.

In order to hold more professional and significant international conferences, your suggestions are warmly welcomed. And we are looking forward to meet you again next time.

**Best Regards,  
Thank you.**

Yours Sincerely,

Dato' Syed Azuan Syed Ahmad, DIMP  
Director of Conference Management  
AAN Research Center

# Message from ARC Honorary Advisor

On behalf the AAN Research Center (ARC), it is my privilege to welcome you to the Kuala Lumpur International Multidisciplinary Conference (KIMCe 2023). ARC is an independent, non-political, non-governmental organization of distinguished scientists dedicated to advancing science around the world. We aim to help scientists and researchers to publish their findings in scientific journals and to promote and help to organize worldwide conferences. We believe that has no boundaries, regardless of the great distances between countries and continents. Thus ARC welcomes contributions from researchers from all concern irrespective to the race, colour, religion and nationality.

Best Regards



**Prof. Dr. Makhmud Kharun**  
Advisor of AAN Research Center

## About AAN Research Center

AAN Research Center, we perceive the process of discovery as a creative and rigorous endeavor. We encourage such exploration by supporting the research and development of ideas, solutions, and applications to benefit our community. AAN Research Center strives to inspire students and academic staff to share and serve in the educational field. The AAN Research Centre at ASEAN Academic Network aims to promote the enjoyment of learning and publishing research. ASEAN community values learning and research at all levels. A dynamic range of conferences, workshops, and programs related to research in all disciplines exists to supplement this research center's ongoing development.



[www.aseanacademicnetwork.org](http://www.aseanacademicnetwork.org)  
<http://www.aseanacademicnetwork.org/arc-conferences.html>



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# ANNOUNCEMENT

All accepted papers will be published in International Referred Journal indexed in MyCITE, Crossref, Google Scholar etc.

Selected papers subject to reviewers' comments will be invited for submission to the Scopus / WOS-ESCI Indexed journals with extra publication fee.

One Best Presenter Award will be selected from each oral session. The Certificate for Best Presenter award will be awarded after presentation session.

**KEYNOTE SPEAKER:****Dr. Chai Ching Tan**

Rajamangala University of Technology Tawan-Ok, Thailand  
Vice President ASEAN Academic Network



# LIST OF THE CONFERENCE COMMITTEE

## **ARC Conferences KIMCe 2023, Honorary Advisor**

Prof. Dr. Makhmud Kharun, Moscow State University of Civil Engineering, Russia

## **ARC Conferences KIMCe 2023, Academic Committee**

### ***Conference Chair***

Prof. Dr. Makhmud Kharun, Moscow State University of Civil Engineering, Russia

### ***Reviewers/Technical Committee***

- Prof. Dr. Cesar Demayo, Mindano State University, PHILIPPINES
- Prof. Dr. Makhmud Kharun, RUDN University, RUSSIA
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- Assoc. Prof. Dr. Nor 'Adha Abdul Hamid, Kolej Universiti Islam Antarabangsa Selangor, MALAYSIA
- Assoc. Prof. Dr. Cordulo P. Ascaño II, Mindanao University of Science and Technology, PHILIPPINES

## **ARC Conferences KIMCe 2023, Malaysia, Organising Committee**

Nurul Faezah binti Mohd Talib





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# INSTRUCTION FOR ORAL PRESENTATION

## *Devices Provided by the Conference Organizer:*

- Laptop (with MS-Office & Adobe Reader)
- Projector & Screen
- Laser Sticks

## *Materials Provided by the Presenters:*

- PowerPoint or PDF files

## *Duration of each Presentation (Tentatively):*

- Regular oral presentation: about 15 minutes (including Q&A)
- Keynote speech: about 40 minutes (including Q&A)

Notice: Please keep your belongings (laptop and camera etc) with you!

## *During registration:*

Original Receipt  
Representative / Pass Card with lanyard  
Printed Program  
Lunch Coupon  
Participation Certificate (collected from Session Chair after the session)

**Kuala Lumpur International Multidisciplinary Conference (KIMCe 2023)****01-03 February 2023****Kuala Lumpur, Malaysia**

<b>January 01, 2023</b>	Venue: <b>Meeting Room – Tun Perak</b>	1000 - 1200	Registration	
<b>January 02, 2023</b>	Venue: <b>Meeting Room – Tun Perak</b>	0830 – 0845	Opening Remarks	<b>Opening Remarks</b>
		0845 – 1000	Plenary Speech 1	<b>Keynote Speaker</b>
		1000 – 1030	Group Photo and Coffee Break	
	Venue: <b>Meeting Room – Tun Perak</b>	1030 – 1230	Session 1	
	Venue:	1230 – 1400	Lunch	
<b>January 02, 2023</b>	Venue: <b>Meeting Room – Tun Perak</b>	1400 – 1600	Session 2	
	<b>January 03, 2023</b>	Lobby hotel	0800 - 1200	Networking

Session 1

Time: 1030 – 1230

Venue: Meeting Room – Tun Perak

Session Chair:



No	Paper ID	Presenter
1	001-kimce	<b>The moderating role of sustainable factors on tourism development. A dynamic investigation for SIDS</b>  Sheereen Fauzel <i>Finance and Accounting Department, University of Mauritius, Mauritius</i>
2	005-kimce	<b>Porous Nanocomposites of NiFe<sub>2</sub>O<sub>4</sub>/Bentonite as Catalyst for Advanced Oxidation Process in Methyl Violet Degradation</b>  Marisa Fatkul Rohma, Galih Dwiki Ramanda, Is Fatimah*, Suresh Sagadevan <i>Universitas Islam Indonesia, Indonesia</i>
3	007-kimce	<b>Green Synthesis of NiFe<sub>2</sub>O<sub>4</sub> Magnetic Nanoparticles Using Aloe Vera Extract as Catalyst for Tetracycline Oxidation</b>  Berlyan Merita Rahma, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
4	008-kimce	<b>Magnetic Nanocomposites of Nickel Ferrite Prepared from Iron Rust Waste as Green and Reusable Catalyst for Dye Degradation</b>  Hiroko Kawaii Wijayanti, Galih Dwiki Ramanda, Muchammad Tamyiz, Is Fatimah, Suresh Sagadevan, Ruey-an Doong <i>Universitas Islam Indonesia, Indonesia</i>
5	009-kimce	<b>Effect of Calcination Temperature in Green Synthesis of NiFe<sub>2</sub>O<sub>4</sub> Magnetic Nanoparticles</b>  Djovan Herianto, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
6	012-kimce	<b>Exploring Factors that Predict Undergraduates' Behavioural Intention to Digitalised Personalised Learning</b>  Noraisikin Sabani, Sallimah Salleh, Shamsul Kamariah Abdullah and Anita Jimmie <i>Curtin University Malaysia, Malaysia</i>
7	013-kimce	<b>Kinetic Study of Methyl Violet Oxidation by Using Nickel/Biochar Derived from Orange Peel Waste</b>  Nunung Nurlaela, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
8	004-icetm	<b>Maintenance Management Cost Analysis using Strategy Optimization for Electric Power Plant</b>  Tareq Ali Al Ameer, Mohd Nizam Bin Ab Rahman and Norhamidi Bin Muhamad <i>Universiti Kebangsaan Malaysia, Selangor, Malaysia</i>

Session 2

Time: 1400 - 1600

Venue: Meeting Room – Tun Perak

Session Chair:



No	Paper ID	Presenter
1	014-kimce	<b>NiFe<sub>2</sub>O<sub>4</sub>/Montmorillonit as Effective Catalyst in Methyl Violet Oxidation</b> Evi Rahmawati, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
2	015-kimce	<b>Green Approach of NiFe<sub>2</sub>O<sub>4</sub> Synthesis using Aloe vera extract and Evaluation as Photocatalyst for Tetracycline Photooxidation</b> Febri Hana Afiyah Putri, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
3	016-kimce	<b>Effect of Calcination Temperature on Physicochemical and Catalytic Activity of NiFe<sub>2</sub>O<sub>4</sub>/Bentonite in Methyl Violet Oxidation</b> Lilis Indah Sari, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
4	019-kimce	<b>Effect of Composition on Catalytic Activity of NiFe<sub>2</sub>O<sub>4</sub>/Montmorillonite for Methyl Violet Catalytic Oxidation</b> Elfira Ulya Nisa', Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
5	020-kimce	<b>Kinetic Study of Methyl Violet Oxidation by Using Nickel/Biochar Derived from Orange Peel Waste</b> Rafi Adhi Nugraha, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
6	021-kimce	<b>Physicochemical characterization of one-pot prepared Ni-decorated biochar from palm leaves waste</b> Galih Dwiki Ramanda, Is Fatimah <i>Universitas Islam Indonesia, Indonesia</i>
7	022-kimce	<b>Representing Moral Focus in Video Game Design</b> Yusra Dadou <i>School Of Arts, Sunway University, Subang Jaya, 47500, Selangor, Malaysia</i>
8	003-kimce	<b>Water Circulation and Control of Hydroponics using Internet of Things</b> Analyn S. Morite, Robert R. Bacarro, Gregorio Z. Gamboa Jr., Vinn Jayson Vincent D. Angob, Earl Mar P. Goñabo, Elton John M. Manzo <i>Surigao del Norte State University, Philippines</i>

## Conference Venue



**Ibis Styles Kuala Lumpur Fraser Business Park**  
1, Jalan Metro Pudu 2, Fraser Business Park,  
55200 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur

### **Conference Secretariat Contact:**

**AAN RESEARCH CENTER**  
**No. 7, Tingkat Atas,**  
**Jalan Penjara, 01000 Kangar,**  
**Perlis, Malaysia**

Programme website:  
[www.aseanacademicnetwork.org](http://www.aseanacademicnetwork.org)



# Note



## List of Abstract

No	Paper ID	Presenter
1	001-kimce	<p><b>The moderating role of sustainable factors on tourism development. A dynamic investigation for SIDS</b></p> <p><b>Sheereen Fauzel</b></p> <p><i>Finance and Accounting Department, University of Mauritius, Mauritius</i></p> <p><b>Abstract:</b> Using panel data from selected Small Island Developing States (SIDS) for 1995–2019, the present study explored the moderating role of sustainable factors mainly economic, social and environment on tourism development. Through the use of a dynamic econometric model, namely the Panel Vector Error Correction Model (PVECM), the results show that high growth rates, better education level as well as better health care in the host countries contributes towards tourism development. However, environmental degradation is seen as a deterrent factor. Furthermore, the Dumitrescu Hurlin panel causality tests confirm the existence of a bi directional causal link between tourism development and economic growth. Similar results were obtained for the environmental factor and tourism development as well as the social indicator, education and tourism development. Hence, the study supports that both environmental preservation policies alongside policies to attract tourists to the host countries should be adopted in order to boost sustainable tourism development.</p>
2	003-kimce	<p><b>Water Circulation and Control of Hydroponics using Internet of Things</b></p> <p><b>Analyn S. Morite, Robert R. Bacarro, Gregorio Z. Gamboa Jr., Vinn Jayson Vincent D. Angob, Earl Mar P. Goñabo, Elton John M. Manzo</b></p> <p><i>Surigao del Norte State University, Philippines</i></p> <p><b>Abstract:</b> The Internet of Things and sensors have had a significant influence on agriculture in recent years. Hydroponics, a method of growing plants without soil, makes it feasible. In order to give the proper control action for the hydroponic environment, this study develops an intelligent Internet of Things-based hydroponic system. a database the user may use to run the system created especially for this project on. The temperature, humidity, and ignition in hydroponics of the water pump are then shown. These data are kept in the Raspberry Pi database and retrieved by the website via the web server. This research makes advantage of the more affordable nutrition film technology (NFT). Surveys and web searches were utilized by researchers to gather information. In order to evaluate the data, the study makes use of a Proteus Simulator, sensors, a Raspberry Pi 3 Model B Plus, electrical parts, and statistical techniques including frequency count and mean. The findings of this investigation show that lower centimeter measurements point to a greater water level in the reservoir (remaining). Larger centimeter readings</p>

		(remaining) indicate a lower water level since the ultrasonic distance sensor used to detect the water level is used. Furthermore, the pH level must be between 6.0 and 8.0. When it is higher than 8.0, it has a drawback since it could harm the plants. The study gave the device's performance a "Very Good" rating.
3	005-kimce	<p><b>Porous Nanocomposites of NiFe<sub>2</sub>O<sub>4</sub>/Bentonite as Catalyst for Advanced Oxidation Process in Methyl Violet Degradation</b></p> <p><b>Marisa Fatkul Rohma, Galih Dwiki Ramanda, Is Fatimah*, Suresh Sagadevan</b></p> <p><i><sup>1</sup>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i>  <i><sup>2,4</sup> Universitas Nahdlatul Ulama Sidoarjo, Jl. Lingkar Timur KM 5,5 Rangkah Kidul, Kecamatan Sidoarjo, Kabupaten Sidoarjo, Jawa Timur 61234, Indonesia</i>  <i><sup>3</sup> Nanotechnology &amp; Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia</i></p> <p><b>Abstract:</b> Advanced oxidation process is one of the effective methods in pharmaceutical wastewater treatment. Catalyst materials with specific properties such as porosity, stability and reusability become popular for this purpose. Nickel ferrite (NiFe<sub>2</sub>O<sub>4</sub>) is one of the recognized oxidation catalysts in the advanced oxidation process. Supporting NiFe<sub>2</sub>O<sub>4</sub> onto the natural mineral having high porosity is a strategy to produce low-cost catalyst. In this work, porous nanocomposite of NiFe<sub>2</sub>O<sub>4</sub> supported into bentonite mineral for the advanced oxidation process was synthesized. The material was tested for methyl violet degradation application. The study intended to evaluate the effect of surfactant of dodecyl amine as surfactant for producing porous structure. Physicochemical characterization of NiFe<sub>2</sub>O<sub>4</sub>/bentonite was performed by using instrumental analyses including xray diffraction, scanning electron microscopy, transmission electron microscope, and gas sorption analysis. Prepared material was tested as oxidation catalyst in methyl violet degradation. The results show that NiFe<sub>2</sub>O<sub>4</sub>/bentonite was successfully synthesized as shown by the XRD pattern which fit to the NiFe<sub>2</sub>O<sub>4</sub> structure. Scanning electron microscopy and transmission electron microscopy analyses revealed that the material was in homogeneous distributed NiFe<sub>2</sub>O<sub>4</sub> nanoparticles. The material shows excellent catalytic activity in methyl violet oxidation as it is about 80% removal achieved at 15 min for high concentrated methyl violet. The prepared NiFe<sub>2</sub>O<sub>4</sub>/bentonite is a potential nanomaterial to be developed as low-cost material for environmental application.</p>
4	007-kimce	<p><b>Green Synthesis of NiFe<sub>2</sub>O<sub>4</sub> Magnetic Nanoparticles Using Aloe Vera Extract as Catalyst for Tetracycline Oxidation</b></p> <p><b>Berlyan Merita Rahma, Is Fatimah</b></p> <p><i>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i></p> <p><b>Abstract:</b> Reusable and sustainable process for pharmaceutical wastewater treatment forced advance technology including catalytic oxidation. In the advanced oxidation process, iron oxide-based magnetic catalysts become popular for this purpose, and within this scheme, nickel ferrite (NiFe<sub>2</sub>O<sub>4</sub>) is a potential and characteristic material. In other side, iron rust is one of the hazardous wastes released from many industrial activities. Due to green chemistry perspective, in this research, NiFe<sub>2</sub>O<sub>4</sub> was prepared by using green chemistry approach via utilization of plant extract of Aloe vera extract. The comparison on hydrothermal method and coprecipitation method to the physicochemical characteristics and photocatalytic activity of NiFe<sub>2</sub>O<sub>4</sub> was performed. The results show that NiFe<sub>2</sub>O<sub>4</sub> was successfully synthesized as</p>



		shown by the XRD pattern which fit to the NiFe <sub>2</sub> O <sub>4</sub> structure. The Aloe vera extract plays role as template for creating porosity of materials. The material shows excellent catalytic activity in methyl violet oxidation as it is about 99% removal achieved at 15 min.
5	008-kimce	<p><b>Magnetic Nanocomposites of Nickel Ferrite Prepared from Iron Rust Waste as Green and Reusable Catalyst for Dye Degradation</b></p> <p><b>Hiroko Kawaii Wijayanti</b>, Galih Dwiki Ramanda, Muchammad Tamyiz, Is Fatimah, Suresh Sagadevan, Ruey-an Doong</p> <p><sup>1</sup>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</p> <p><sup>2,4</sup> Universitas Nahdlatul Ulama Sidoarjo, Jl. Lingkar Timur KM 5,5 Rangkah Kidul, Kecamatan Sidoarjo, Kabupaten Sidoarjo, Jawa Timur 61234, Indonesia</p> <p><sup>3</sup> Nanotechnology &amp; Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia</p> <p><sup>4</sup> Institute of Analytical and Environmental Sciences, National Tsing Hua University, 101, Sec 2, Kuang Fu Road, Hsinchu 30013, Taiwan</p> <p><b>Abstract:</b> Advanced oxidation process is one of the effective methods in wastewater treatment. Magnetic catalysts become popular for this purpose due to easy in separation for handling and many operational factors. One of classified magnetic nanomaterial is metal ferrite, more specific is nickel ferrite (NiFe<sub>2</sub>O<sub>4</sub>). In other side, iron rust is one of the hazardous wastes released from many industrial activities. Due to the potency of iron rust waste, aim of this work is to prepare nickel ferrite nanocomposite catalyst for the advance oxidation process. Methyl violet was selected as the targeted molecule for further application. NiFe<sub>2</sub>O<sub>4</sub> was prepared by iron rust waste as raw material together with nickel (II) chloride as precursor. The synthesis utilized coprecipitation followed by hydrothermal method. Physicochemical characterization of NiFe<sub>2</sub>O<sub>4</sub> was performed by using instrumental analyses including x-ray diffraction, scanning electron microscopy, transmission electron microscope, xray photoelectron spectroscopy, and gas sorption analysis. Prepared material was tested as oxidation catalyst in methyl violet degradation. The results show that NiFe<sub>2</sub>O<sub>4</sub> was successfully synthesized as shown by the XRD pattern which fit to the NiFe<sub>2</sub>O<sub>4</sub> structure. Scanning electron microscopy and transmission electron microscopy analyses revealed that the material was in nanocubical forms. The material shows excellent catalytic activity in methyl violet oxidation as it is about 99% removal achieved at 15 min. The prepared NiFe<sub>2</sub>O<sub>4</sub> is a potential nanomaterial for environmental application.</p>
6	009-kimce	<p><b>Effect of Calcination Temperature in Green Synthesis of NiFe<sub>2</sub>O<sub>4</sub> Magnetic Nanoparticles</b></p> <p><b>Djovan Herianto</b>, Is Fatimah</p> <p>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</p> <p><b>Abstract:</b> In this work, green synthesis of nickel ferrite NiFe<sub>2</sub>O<sub>4</sub> was performed by applying plant extract of <i>Aloe vera</i> as templating agent. The effect of calcination temperature to the physicochemical properties and photocatalytic activity of NiFe<sub>2</sub>O<sub>4</sub> was studied. The instrumental characterization consisting x-ray diffraction, scanning electron microscopy and gas sorption analyses were employed to compare. Meanwhile, the photocatalytic degradation of tetracycline was chosen to evaluate the photocatalytic activity of material. The results show that NiFe<sub>2</sub>O<sub>4</sub> was successfully synthesized as</p>

		shown by the XRD pattern which fit to the NiFe <sub>2</sub> O <sub>4</sub> structure. The Aloe vera extract plays role as template for creating porosity of materials, and temperature of calcination. The material shows excellent catalytic activity in tetracycline degradation more than 95% removal achieved at 30 min. The order of reaction is influenced by the use of light source: UV and visible light.
7	012-kimce	<p><b>Exploring Factors that Predict Undergraduates' Behavioural Intention to Digitalised Personalised Learning</b></p> <p><sup>1</sup>Noraisikin Sabani, <sup>2</sup>Sallimah Salleh, <sup>1</sup>Shamsul Kamariah Abdullah and <sup>1</sup>Anita Jimmie</p> <p><i><sup>1</sup>Curtin University Malaysia, Malaysia, <sup>2</sup>Universiti Brunei Darussalam</i></p> <p><b>Abstract:</b> The study explores factors that may predict undergraduates' behavioural intention to personalise their learning through utilising digital technology, which is accessible to them both in their homes and at university. The research design is non-experimental and employs a research questionnaire survey as a research instrument. Twenty-two items have been included, based on the Unified Theory of Acceptance and Use of Technology 2 theoretical framework. The responses from 203 undergraduates from East Malaysia studying in two public universities in Sarawak have been analysed descriptively, illustrating the respondents' varying backgrounds. Additionally, factor analysis was conducted, indicating an extraction of six out of seven variables originally anticipated, excluding Facilitating Conditions from the equation. Multiple linear regression analysis revealed that four of the five independent variables signified in factor analysis significantly correlate to the behavioural intention of utilising digital technology to personalise learning. These factors are student agency, performance expectancy, social influence and effort expectancy.</p>
8	013-kimce	<p><b>Kinetic Study of Methyl Violet Oxidation by Using Nickel/Biochar Derived from Orange Peel Waste</b></p> <p><b>Nunung Nurlaela, Is Fatimah</b></p> <p><i>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i></p> <p><b>Abstract:</b> In this research, preparation of nickel supported biochar (BC/Ni) catalyst for methyl violet oxidation was conducted. The synthesis of BC/Ni nanocomposites was performed by direct pyrolysis of the mixture of nickel precursor and orange peel at the varied temperature of 400°C for 2 h. The research focused on the kinetic study of methyl violet oxidation by using the nanocomposite. Physicochemical character of the composites was determined by using x-ray diffraction, gas sorption analysis and scanning electron microscopy. Effect of catalyst dosage on the oxidation reaction was studied by varying the mass of 0.1; 0.2; and 0.3 g for 100 mL tested solution. The examination on kinetics of the reaction revealed that catalyst dosage affects much to the reaction rate. The fastest reaction was exhibited by the catalyst dosage of 0.1 g.</p>

9	014-kimce	<p><b>NiFe<sub>2</sub>O<sub>4</sub>/Montmorillonit as Effective Catalyst in Methyl Violet Oxidation</b></p> <p><b>Evi Rahmawati, Is Fatimah</b></p> <p><i>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i></p> <p><b>Abstract:</b> Spinel ferrite nanoparticles of NiFe<sub>2</sub>O<sub>4</sub> has received considerable attention as magnetic material for various applications including as catalyst in the advanced oxidation process. The improvement of NiFe<sub>2</sub>O<sub>4</sub> activity as catalyst can be performed by dispersion onto porous material. In this research, the dispersion of NiFe<sub>2</sub>O<sub>4</sub> was conducted by using clay mineral of montmorillonite. Co-precipitation followed by hydrothermal treatment were applied during the synthesis. Physicochemical character of material was analyzed by using x-ray diffraction and scanning electron microscopy. The material was tested in the oxidation of methyl violet. The results show that NiFe<sub>2</sub>O<sub>4</sub> was homogeneously dispersed in the composite and the single phase of NiFe<sub>2</sub>O<sub>4</sub> was obtained. The material shows excellent catalytic activity in methyl violet oxidation, with higher activity compared to NiFe<sub>2</sub>O<sub>4</sub>.</p>
10	015-kimce	<p><b>Green Approach of NiFe<sub>2</sub>O<sub>4</sub> Synthesis using Aloe vera extract and Evaluation as Photocatalyst for Tetracycline Photooxidation</b></p> <p><b>Febri Hana Afiyah Putri, Is Fatimah</b></p> <p><i>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i></p> <p><b>Abstract:</b> In this research, Aloe vera extract was utilized as green templating agent in the synthesis of nickel ferrite nanoparticles of NiFe<sub>2</sub>O<sub>4</sub>. Research was aimed to evaluate the effectiveness on the use of the extract to improve photocatalytic performance of material as photocatalyst. The photocatalytic oxidation of tetracycline under ultra-violet and visible light was compared. Physicochemical character of material was analyzed by using x-ray diffraction and scanning electron microscopy. The results show that Aloe vera extract effectively create the porosity of the NiFe<sub>2</sub>O<sub>4</sub>. It is reflected by the increasing photocatalytic oxidation of tetracycline by using templating synthesis compared to the material without extract addition. The degradation efficiency and reaction rate by using UV illumination is higher than by visible illumination.</p>
11	016-kimce	<p><b>Effect of Calcination Temperature on Physicochemical and Catalytic Activity of NiFe<sub>2</sub>O<sub>4</sub>/Bentonite in Methyl Violet Oxidation</b></p> <p><b>Lilis Indah Sari, Is Fatimah</b></p> <p><i>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i></p> <p><b>Abstract:</b> In this research, synthesis of NiFe<sub>2</sub>O<sub>4</sub>/Bentonite for being applied in dye removal over advanced oxidation process was conducted. Synthesis was performed by co-precipitation followed by hydrothermal seeding of the nanoparticles into bentonite structure. Effect of calcination temperature was studied by comparing temperature of 400°C and 500°C. Physicochemical character of material was analyzed by using x-ray diffraction and scanning electron microscopy. The results show that higher calcination temperature influenced to improve the degradation of methyl violet. The increasing value is referred to the improvement of physicochemical character of material from the porous structure of the dispersed NiFe<sub>2</sub>O<sub>4</sub>, even though the BET surface area of both varied temperature was not significantly influenced the values.</p>

12	019-kimce	<p><b>Effect of Composition on Catalytic Activity of NiFe<sub>2</sub>O<sub>4</sub>/Montmorillonite for Methyl Violet Catalytic Oxidation</b></p> <p><b>Elfira Ulya Nisa', Is Fatimah</b></p> <p><i>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i></p> <p><b>Abstract:</b> In this research, nanocomposite of NiFe<sub>2</sub>O<sub>4</sub> immobilized montmorillonite (NiFe<sub>2</sub>O<sub>4</sub>/Montmorillonite) was designed as high effective catalyst in dye oxidation. The synthesis was conducted by applying coprecipitation followed by hydrothermal method, and focused on the effect of composition on physicochemical and catalytic activity towards methyl violet oxidation. Physicochemical characters of the materials were analyzed by X-Ray Diffraction and Scanning Electron Microscopy. The material was tested in oxidation of methyl violet. The results show that higher amount of bentonite in the composite influenced to give higher activity in catalytic process, reflecting the role of adsorption mechanism to the catalytic process.</p>
13	020-kimce	<p><b>Kinetic Study of Methyl Violet Oxidation by Using Nickel/Biochar Derived from Orange Peel Waste</b></p> <p><b>Rafi Adhi Nugraha, Is Fatimah</b></p> <p><i>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia</i></p> <p><b>Abstract:</b> In this research, the preparation of nickel-supported biochar (BC/Ni) catalyst for methyl violet oxidation was carried out. Synthesis of BC/Ni nanocomposites was carried out by direct pyrolysis of a mixture of nickel precursors and orange peel at varied temperatures of 400°C and 300°C for 2 h. The research was focused on the physicochemical characterization and kinetic study of methyl violet oxidation using the prepared BC/Ni. The physicochemical characters of the composites were determined using x-ray diffraction, gas absorption analysis and scanning electron microscopy. The examination of catalysts on the oxidation reaction was studied by the catalyst dose of 0.2 g for 100 mL of the test solution. Examination of the reaction kinetics shows that the effect of temperature greatly affects the rate of reaction. The fastest reaction was demonstrated by 300°C without H<sub>2</sub>O<sub>2</sub>.</p>
14	021-kimce	<p><b>Physicochemical characterization of one-pot prepared Ni-decorated biochar from palm leaves waste</b></p> <p><b>Galih Dwiki Ramanda, Is Fatimah</b></p> <p><i><sup>1</sup>Magister Program of Chemistry, Chemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia, 55584.</i></p> <p><i><sup>2</sup>Laboratory of Materials for Energy and Environment, Chemistry Department, Universitas Islam Indonesia, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia, 55584.</i></p> <p><b>Abstract:</b> Preparation and characterization of nickel-decorated biochar from palm leaves waste has been conducted in this research. The preparation was performed by one-pot pyrolysis method by using nickel (II) chloride as precursor. Chemical analysis consists of XRD, SEM-EDX, gas sorption analysis, FTIR and surface acidity examination was performed. The results showed the successful preparation of the material with the characteristic of single nickel nanoparticles decorated on surface, based on XRD and SEM image. The increasing specific surface area of material was conclusively remarked the surface area enhancement by nickel dispersion. The increased surface acidity was also identified, suggesting that the material can be applied for acid catalysis applications.</p>

15	022-kimce	<p><b>Representing Moral Focus in Video Game Design</b></p> <p><b>Yusra Dadou</b></p> <p><i>School Of Arts, Sunway University, Subang Jaya, 47500, Selangor, Malaysia</i></p> <p><b>Abstract:</b> Recently, there has been a spike in research focus on morality engagement in video games. There has been a lot of investigation and numerous theoretical models offered, but experimental testing has been sparse. One of the biggest challenges is determining how to assess moral engagement. Another one is how to correlate all the factors affecting the player's moral experience within the game. This study created a video game that evaluates various moral decision-making components in-game. The study employed a solid psychometric instrument as the framework of the video game design to acquire the most reliable findings possible and correlated the results obtained from the video game with the results from the psychometric survey to test the accuracy of the framework and the video game's ability to represent a psychometric tool.</p>
16	004-icetm	<p><b>Maintenance Management Cost Analysis using Strategy Optimization for Electric Power Plant</b></p> <p><b>Tareq Ali Al Ameer<sup>1</sup>, Mohd Nizam Bin Ab Rahman<sup>2</sup> and Norhamidi Bin Muhamad<sup>3</sup></b></p> <p><i><sup>1</sup>Department of Engineering &amp; Built Environment, UKM, Selangor, Malaysia</i>  <i><sup>2,3</sup>Department of Mechanical Engineering &amp; manufacturing, UKM, Selangor, Malaysia</i>  <i>alamiri5551@yahoo.com, mnizam@ukm.edu.my, <a href="mailto:norhamidi@ukm.edu.my">norhamidi@ukm.edu.my</a></i></p> <p><b>Abstract:</b> Countries around the world are expected to innovate a sustainable energy policy in line with the principles of environmental sensitivity, dependency, efficiency, economy and uninterrupted service. The services are expected to maintain their energy supply to strengthen their global competitiveness as in the case of UAE electricity sector. This makes the process of maintaining electric power plants demand higher costs due to time allocated, labour and resources, and generation issues and loss. The analytical approach of maintenance and planning strategy is feasible in power plants due to its flexibility during research. This paper focus on maintenance strategy optimization as an initial planning approach of maintaining power plant using large and complex electrical equipment. Cost of maintenance account for up to 40% of operational costs and can rise further if not properly planned, affecting manufacturing systems' productivity and useful life productivity and useful life of manufacturing systems. Results are obtained using AHP analysis for effective decision making at all maintenance management stages especially for dynamic and complex electrical equipment. Also, the direct impact of power plant equipment to operate under a smooth, uninterrupted and cost-effective electricity generation is analysed. The analysis involves selecting a single parameter of benefit, cost and requirement and integrated using integer programming technique for optimal maintenance strategy</p>