

Programme at a Glance

22 January 2019 (Tuesday)

Time	Session	Venue
0900-1630	Registration 1	EUREKA
0900-1000	Morning Tea	EUREKA
1030-1230	Pre-Conference Workshop Session 1	EUREKA
1230-1430	Lunch	EUREKA
1430-1630	Pre-Conference Workshop Session 2	EUREKA
1000-1230	Pre-Conference Workshop Session 3	School of Industrial Technology (Room 164)
1645-1800	Welcoming Reception	EUREKA

23 January 2019 (Wednesday)

Time	Session	Venue
0815-1200	Registration 2	EUREKA
0830-0930	Opening Ceremony	Dewan Budaya
0930-1030	Keynote Address 1	Dewan Budaya
1030-1100	Morning Tea	Dewan Budaya
1100-1300	Parallel Session 1	EUREKA
1300-1430	Lunch	EUREKA
1430-1530	Invited Speaker Parallel Session 1	EUREKA
1530-1700	Parallel Session 2	EUREKA
1700-1800	Afternoon Tea	EUREKA

24 January 2019 (Thursday)

Time	Session	Venue
0930-1030	Keynote Address 2	Dewan Budaya
1030-1100	Morning Tea	Dewan Budaya
1100-1300	Parallel Session 3	EUREKA
1300-1430	Lunch	EUREKA
1430-1530	Invited Speaker Parallel Session 2	EUREKA
1530-1700	Parallel Session 4	EUREKA
1700-1800	Afternoon tea	EUREKA



OPENING CEREMONY PROGRAMME

23 January 2019 (Wednesday)

Venue: Dewan Budaya, Universiti Sains Malaysia

- 0830** Arrival of Guests and Participants
- 0845** Arrival of VVIP
- 0850** Negaraku & Menara Ilmu
USM Transformation Video
Doa Recitation
- 0900** Welcoming Speech
By **Associate Professor Dr. Shaik Abdul Malik Mohamed Ismail**
Dean, School of Educational Studies
Universiti Sains Malaysia
- 0905** Speech
By **Professor Datuk Dr. Asma Ismail, FASc**
Vice Chancellor
Universiti Sains Malaysia
- 0915** Opening Speech
by **Dato' Sulaiman Wak**
Deputy Director General of Education, Ministry of Education
Malaysia (Professional Teacher Development)
- 0925** iSTEM 2019 Multimedia Presentation
- 0930** Keynote Address 1:
Rethinking Integrated STEM Education: Past, Present and Future
by **Professor Lindsey Connor**
Dean
People & Resources
College of Education, Psychology and Social Work
Flinders University, Australia
- 1030** Morning Tea

PARALLEL PRE-CONFERENCE WORKSHOP SESSION 1

22 January 2019 (Tuesday)

Time: 10.30am-12.30pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 1

Research/ Action Research

<i>Hashimah Mohd Yunus</i>

Level Ground Floor: Auditorium 2

Multiple Intelligences in STEM Education
--

<i>Mohamad Termizi Borhan, Azneezal Ar Rashid, & Salmiza Saleh</i>
--

Level Ground Floor: Auditorium 3

Project Based Learning (PjBL) Application in STEM: 21 st Century Learning
--

<i>Md Baharuddin Haji Abdul Rahman & P'ng Fei Mun</i>

Level 1: PIPPA Seminar Room

Design Thinking in STEM Education

<i>Maznah Ali</i>

Level 2: MAPITA Seminar Room

Inquiry-based Learning: Solve HOT Questions in The Topic of Differentiation Through STEM Approach

<i>Tan Phei Ling & Sarveswary Velayutham</i>
--

Level 2: Teleconference Lab

Computational Instructional Design: The D3Ps'

<i>Siti Zuraidah Md Osman</i>

PARALLEL PRE-CONFERENCE WORKSHOP SESSION 2

22 January 2019 (Tuesday)

Time: 2.30-4.30pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 1
Research/ Action Research <i>Hashimah Mohd Yunus</i>
Level Ground Floor: Auditorium 2
Multiple Intelligences in STEM Education <i>Mohamad Termizi Borhan, Azneezal Ar Rashid, & Salmiza Saleh</i>
Level Ground Floor: Auditorium 3
Project Based Learning (PjBL) Application in STEM: 21 st Century Learning <i>Md Baharuddin Haji Abdul Rahman & P'ng Fei Mun</i>
Level 1: PIPPA Seminar Room
Design Thinking in STEM Education <i>Maznah Ali</i>
Level 2: MAPITA Seminar Room
Inquiry-based Learning: Solve HOT Questions in The Topic of Differentiation Through STEM Approach <i>Tan Phei Ling & Sarveswary Velayutham</i>
Level 2: Teleconference Lab
Computational Instructional Design: The D3Ps' <i>Siti Zuraidah Md Osman</i>

PARALLEL PRE-CONFERENCE WORKSHOP SESSION III

Time: 10.00am-12.30pm

Venue: School of Industrial Technology, USM

Room: 164
Applying STEM Education: Designing with Nature <i>Mahamad Hakimi Ibrahim & Dr. Norizan Esa</i>



KEYNOTE ADDRESS 1

Venue: Dewan Budaya, USM
Day 1: 23 January 2019 (Wednesday)
Time: 9.30am-10.30am

Rethinking Integrated STEM Education: Past, Present and Future

Prof. Dr. Lindsey Conner

*Dean
People & Resources
College of Education, Psychology and Social Work
Flinders University, Australia*

KEYNOTE ADDRESS 2

Day 2: 24 January 2019 (Thursday)
Time: 9.30am-10.30am

The Canvas Linking of STEM Education from School to University

Professor Datuk Dr. Asma Ismail FASc

*Vice Chancellor
Universiti Sains Malaysia
Penang, Malaysia*

INVITED SPEAKER SPECIAL SESSION 1

Day 1: 23 January 2019 (Wednesday)

Session 1: 2.30pm-3.30pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 1

STEM Education in Malaysia: Why, What and How

Prof. Dr. Lilia Halim

*Professor in Science Education
Faculty of Education
Universiti Kebangsaan Malaysia*

Level Ground Floor: Auditorium 2

Best Practises in STEM Teaching and Learning - Initiative by Ministry of Education Malaysia

Dr. Ihsan Ismail

*Head of National STEM Centre
Educational Planning and Research Division
Ministry of Education Malaysia*

Level Ground Floor: Auditorium 3

STEM Education in the Philippines: A Vital Approach to Sustainable Development

Associate Professor Dr. Jasper L. Pastrano

*Associate Professor -Iloilo Science and Technology University
President, ASMAC Philippines
Iloilo City, Philippines*

Level 1: PIPPA Seminar Room

Manufacturing in Science Education in Japan

Associate Professor Dr. Ryugo Oshima

*Faculty of Education
Chiba University, Japan*

INVITED SPEAKER SPECIAL SESSION 2

Day 2: 24 January 2019 (Thursday)

Session 2: 2.30pm-3.30pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 1

What Teachers Should Know in the 21st Century: How the Normal Developing Brain Learns- A Functional Neuroscience Perspective

Professor Dato' Dr. Hj Jafri Malin Datuk Hj Abdullah

Director

Brain Behaviour Cluster, School of Medical Sciences, Universiti Sains Kubang Kerian, Kota Bharu, Kelantan, Malaysia

Level Ground Floor: Auditorium 2

Higher Order Thinking or Computational Thinking: Which One is More Important in STEM Learning?

Professor Dr. Kamisah Osman

Professor in Science Education

Faculty of Education

Universiti Kebangsaan Malaysia

Level Ground Floor: Auditorium 3

Bridging the STEM Skills' Gap That Involves Education and Industrial Commitments

¹Taufek Muhamad, ²Mohd Nor Syahrir Abdullah & ³Dr. Murugan Rajoo

¹Deputy Director Administration, ²Specialist (Science Edu.) & ³Specialist (Mathematics Edu.) SEAMEO RECSAM, Penang, Malaysia

INVITED SPEAKER SPECIAL SESSION 2

Day 2: 24 January 2019 (Thursday)

Session 2: 2.30pm-3.30pm

Venue: EUREKA, USM

Level 1: PIPPA Seminar Room

Opportunities to Publish Outside Malaysia

Prof. Dr. Lindsey Conner

Dean

People & Resources

College of Education, Psychology and Social Work

Flinders University, Australia

Level 2: MAPITA Seminar Room

Master of Cognitive Neurosciences: A New Postgraduate Course for Teachers

Associate Professor Dr. Aswati Hamzah

Lecturer in Educational Psychology

Universiti Sains Malaysia

Penang, Malaysia

PARALLEL SESSION 1

Day 1: 23 January 2019 (Wednesday)

Parallel Session 1: 11.00am-1.00pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 1
STEM Education in Industry 4.0 Malaysia <i>Nurzatulshima Kamarudin & Lee Tze Jiun</i>
A Framework for Holistic Assessment of Computational Thinking Skills <i>Debby E. Sondak & Kamisah Osman</i>
STEM Education as A Catalyst for National Development: Problems and Prospects in Nigeria. <i>Yaro Umar</i>
Influence of Higher Order Thinking Skills and Metacognitive towards Hands-on Teaching in Science among Primary School Science Teachers <i>Punnithann Subramaniam & Tajularipin Sulaiman</i>
Exploring the Potential of Interactive Learning Object as Non-Face-to-Face Learning among Secondary School Practice Student Teachers in the Philippines <i>Sarah Namoco & Rozniza Zaharudin</i>
The Learning Model of Organic Chemistry Integrated Ethno-STEM to Develop Characters Conservation and Entrepreneurs Students Low-Cost Spectrometer: Calibration, Spectra Extraction, Absorption <i>Sudarmin, Woro Sumarni & Rr Sri Endang Pujiastuti</i>

PARALLEL SESSION 1

Day 1: 23 January 2019 (Wednesday)

Parallel Session 1: 11.00am-1.00pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 2
<p>A Pattern Recognition Technique of Electroencephalogram Signals Based on Neural Network in Developing Intrinsic Motivation towards STEM</p> <p><i>Norzaliza M.Nor, Sh-Hussain Sh-Salleh, Tajudin Ninggal, & Hadri Hussain</i></p>
<p>Enhancement of STEM Education through Innovation of Nanotechnology</p> <p><i>Muhammad Arif Khan</i></p>
<p>Football Work-Based Learning [F-Wbl]</p> <p><i>Md. Baharuddin Haji Abdul Rahman, Muhammad Zuhair Zainal, & Hairul Nizam Ismail</i></p>
<p>The Influence of Parental Involvement and Teacher Support Toward Mathematics Engagement among Chinese Secondary School Students</p> <p><i>Ahmad Fauzi Mohd Ayub, Chin Key Paan, & Tajularipin Sulaiman</i></p>
<p>The Learning and Facilitation (PdPc) of Form 4 Chemistry Using the Science, Technology, Engineering and Mathematical Approach (STEM)</p> <p><i>Ritha Palayah & Mohamad Nasir Othman</i></p>
<p>The Othering of Animals: A Critical Discourse Analysis of a Socio-Scientific Debate among Filipino STEM Senior High School Students</p> <p><i>Donne Jone Panizales Sodusta & Yun-Ping Ge</i></p>

PARALLEL SESSION 1

Day 1: 23 January 2019 (Wednesday)

Parallel Session 1: 11.00am-1.00pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 3
<p>STEM Education Issue in the Context of Gender Disparities</p> <p><i>Nik Mariam-Jamilah Nik Lukmanulhakin, Corrienna Abdul Talib, Akilu Ismail, Marlina Ali, & Ng Khar Thoe</i></p>
<p>Green Technology Integration in Students' STEM Learning and Facilitation Activities</p> <p><i>Shahrol Saeffy Ahmad Shatar</i></p>
<p>Explicit Instruction of Scientific Argument in Practical Work: A Feasibility Study</p> <p><i>Irene Lue Leh Ping, Lilia Halim, & Kamisah Osman</i></p>
<p>Implementation of Blended PBL in Medical Education in Saudi Arabia Universities: Challenges and Opportunities</p> <p><i>Amera Ahmed Abdallah Rabee, Mohd Ali Samsudin, & Azidah Abu Ziden</i></p>
<p>Effects of STEM Project '1,2,3..Newton' in Enhancing Students' Understanding of Newtonian Concepts and Inventive Thinking Skills among Secondary Students</p> <p><i>Azila Muhammad & Salmiza Saleh</i></p>
<p>Best Practice: Collaboration on Asean Teacher Training In Stelr-STEM Education (Reflections on STEM Training and Workshop at ASEAN Level)</p> <p><i>Edi Syahputra</i></p>

PARALLEL SESSION 1

Day 1: 23 January 2019 (Wednesday)

Parallel Session 1: 11.00am-1.00pm

Venue: EUREKA, USM

Level 1: PIPPA Seminar Room
<p>The Effectiveness of Electrochemistry Form 4 Manual in Improving the Understanding of Electrochemistry Form 4 Concepts of Electrochemistry (Ec) and Motivation towards Learning Chemistry</p> <p><i>Munaratul Aini Yahaya & Salmiza Saleh</i></p>
<p>The Effects of <i>Hayati Eksplorasi Berfikir Aras Tinggi</i> (HEBAT) Module (Change In Matter) in Improving the Understanding of Matter Concepts, Higher Order Thinking Skills and Motivation among Form One Students</p> <p><i>Nur Syazwani Rozman & Salmiza Saleh</i></p>
<p>Science Achievement among Chinese Secondary School Students with Respect to Gender, Socioeconomic Status and Parenting Styles</p> <p><i>Nurul Nadiah Nasri & Salmiza Saleh</i></p>
<p>Project -Based Learning that Promotes Innovations in Teaching Aid and Strengthening Strategies of Teaching and Learning in Science</p> <p><i>Kumar Subramaniam @ Balasubramaniam</i></p>
<p>Using Artificial Intelligent (AI) Based Platform to Develop Science TIMSS Bank Item for Computer Adaptive Testing (CAT)</p> <p><i>Mohd Ali Samsudin & Thodsaphorn Som Chut</i></p>
<p>Sparking STEM-preneur Thinking through engaging with STEM Project</p> <p><i>Hartini Hashim, Mohd Norawi Ali, & Mohd Ali Shamsudin</i></p>

PARALLEL SESSION 1

Day 1: 23 January 2019 (Wednesday)

Parallel Session 1: 11.00am-1.00pm

Venue: EUREKA, USM

Level 2: MAPITA Seminar Room
<p>The Effects of Teaching Method Concrete-Pictorial-Abstract (CPA) to the Malaysian Community College Students' Attitude towards Geometry</p> <p><i>Nur Alyani Mohamed & Chew Cheng Meng</i></p>
<p>Effects of Discovery Learning Incorporating Arcs Model on Year Two Pupils' Achievements in Learning Fractions</p> <p><i>Ong Pei Wen & Chew Cheng Meng</i></p>
<p>Research on Effectiveness of "BP & PB" Technique to Improve Remedial Pupils' Skills on Addition involving Regrouping</p> <p><i>Cheetalakchumy Balu</i></p>
<p>The Implementation of STEM Activities and Its Effect on Student's Academic Resilience</p> <p><i>Titiyaka Jajuri, Mohd Norawi Ali, Syed Mohamad Syed Abdullah & Shahabuddin Hashim</i></p>
<p>Effects of STEM Problem-Based-Learning on Knowledge Achievement and Attitude towards Science among Year Five Pupils on Renewable Energy</p> <p><i>Maznah Ali & Noor Azma Abdul Rahman</i></p>
<p>Greening STEM: A Theoretical Exploration for the Malaysian Context</p> <p><i>Aai Sheau Yean & Suzieleez Syrene Abdul Rahim</i></p>

PARALLEL SESSION 2

Day 1: 23 January 2019 (Wednesday)

Parallel Session 2: 3.30pm-5.00pm

Venue: EUREKA, USM

<p>Level Ground Floor: Auditorium 1 (Symposium)</p>
<p>Title: Teachers Design Thinking in STEM Contexts</p>
<p>Discussant: Gillian Kidman (Monash University)</p>
<p>Science: Differences in Teachers Thinking</p> <p><i>Presenter: Dominador Mangao (SEAMEO RECSAM)</i></p> <p><i>Co-authors: Gillian Kidman (Monash University), Roland Gesthuizen (Monash University), Hazel Tan (Monash University) & Dom Mangao (SEAMEO RECSAM)</i></p>
<p>Mathematics: It Can be More Than Numeracy</p> <p><i>Presenter: Hazel Tan (Monash University)</i></p> <p><i>Co-authors: Gillian Kidman (Monash University), Roland Gesthuizen (Monash University), and Dominador Mangao (SEAMEO RECSAM)</i></p>
<p>Technology: Knowing the Educational Purpose</p> <p><i>Presenter: Roland Gesthuizen (Monash University)</i></p> <p><i>Co-authors: Gillian Kidman (Monash University), Hazel Tan (Monash University) and Dominador Mangao (SEAMEO RECSAM)</i></p>

PARALLEL SESSION 2

Day 1: 23 January 2019 (Wednesday)

Parallel Session 2: 3.30pm-5.30pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 2
<p>Application of Geogebra into Teaching and Learning of Linear and Quadratic Equations amongst Senior Secondary School Students in Fagge Local Government Area of Kano State Nigeria</p> <p><i>Mamman, M. A & Isa, S. G.</i></p>
<p>Effects of Collaborative Learning Strategy on Performance among Low Ability Basic Science Students In Kano, Nigeria</p> <p><i>Umar Ishaq & Shehu Aliyu</i></p>
<p>Binary Code Technique in Improving Students' Performance in Science Subject in Secondary School</p> <p><i>Shamsidda Mohamat Nor @ Zainal</i></p>
<p>Effect of Computer Animation Model on Performance and Retention among Biology Students in Some Selected Senior Secondary Schools in Kano State, Nigeria</p> <p><i>Saudat Shehu Bala</i></p>
<p>Mathematics and Science Achievements and Self- Efficacy: An Investigation of Primary Students in Northern Malaysia</p> <p><i>Sharvina Gunaseelan</i></p>
<p>Framing the Pedagogical Role of Mathematics Teachers: Evidence from Pakistan</p> <p><i>Muhammad Shakir</i></p>

PARALLEL SESSION 2

Day 1: 23 January 2019 (Wednesday)

Parallel Session 2: 3.30pm-5.30pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 3
<p>The Development of Pro-STEM Module in Inculcating Students' Higher Order Thinking Skills</p> <p><i>Nurul Huda Kasim & Che Nidzam Che Ahmad</i></p>
<p>FZ-STEM Module: Need Analysis and Development</p> <p><i>Mohd Taufek Harun & Mohd Ikhwan Hadi Yaacob</i></p>
<p>Investigating the Effectiveness of 'MindMup' Application in Biology through STEM Pedagogy in Increasing Students' Understanding and Creativity</p> <p><i>Zarni Asnita Zakaria & Nor Asniza Ishak</i></p>
<p>Stimulating Scientific Minds among Early Secondary Students in Malaysia: A Pilot Study Using 'Engineering And Electronics Made Fun' Approach</p> <p><i>Mohd Zulhakimi Ab Razak, Fazia Adyani Ahmad Fuad, Azlina Abdullah, & Mansor Mohd Noor</i></p>
<p>Cansat Kit for Education (CaKEd), a Project-based Learning for 21st-Century Skill</p> <p><i>Norilmi Amilia Ismail</i></p>
<p>Modelling the Determinants of ICTs Application in Internship in Technical and Vocational Education for Nigerian Higher Institutions</p> <p><i>Babawuro Shuaibu & Andi Mallanti</i></p>

PARALLEL SESSION 2

Day 1: 23 January 2019 (Wednesday)

Parallel Session 2: 3.30pm-5.30pm

Venue: EUREKA, USM

Level 1: PIPPA MAPITA Seminar Room
<p>Definition of STEM Literacy and Its Importance in Education <i>Azman Mohd Noh & Norizan Esa</i></p>
<p>Student Teachers' Perception on 'STEM' Education in Sri Lanka <i>Anita Nithlavarnan</i></p>
<p>Students' Performance in Mathematics: Impact on STEM Learning <i>Hasni Shamsuddin, Ahmad Zamri Khairani, & Nordin Abd. Razak</i></p>
<p>The Relationship between Level of al-Quran Memorization with Achievement in Biology among Students in Ulul Albab Model School <i>Adilah Abdul Malik & Rabiatal-Adawiah Ahmad Rashid</i></p>
<p>Diversity of Yogyakarta Cultural Arts Tradition in STEAM <i>Muhammad Amin Mujaddid & Syahmirwan</i></p>
<p>Measuring Students' Attitude towards Science, Technology, Engineering and Mathematics <i>Ahmad Zamri Khairani & Hasni Shamsuddin</i></p>

PARALLEL SESSION 2

Day 1: 23 January 2019 (Wednesday)

Parallel Session 2: 3.30pm-5.00pm

Venue: EUREKA, USM

Level 2: MAPITA Seminar Room

Integration of Project-Based Learning (PjBL) Approach in STEM Education to Improve Higher Order Thinking Skills (HOTS) in Primary School Students

Noorhafizah Rasid & Nor Asniza Ishak

The Relationship of Higher Order Thinking and Learning Style towards Matriculation Students' Achievements in Electrochemistry

Faezah Mohd Noor & Nur Jahan Ahmad

Effects of Brain-Based Teaching Approach towards Science-Based Subjects Learning Needs among Technical and Vocational Students

Siti Rozaini Ahmad & Salmiza Saleh

The Impact of Designing and Developing CELIK STEM Module Towards Science Achievement

Ahmad Adnan Mohd Shukri, Che Nidzam Che Ahmad, & Norhayati Daud

PARALLEL SESSION 3

Day 2: 24 January 2019 (Thursday)

Parallel Session 3: 11.00am-1.00pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 1
<p>Gamifying A Computing Program to Encourage Student Engagement</p> <p><i>Lim Chia Yean, Vasuky Mohanan, Neesha Jothi & Teng Wei Jian</i></p>
<p>Using an Analogy between Positive -Negative and Right-Left Hand To Calculate Time Zone</p> <p><i>Mohd Zaki Said</i></p>
<p>Factors Affecting Critical Thinking Skills in STEM Education</p> <p><i>Mohd Khairul Azmi Ahmad, Nurzatulshima Kamarudin, Tajularipin Sulaiman & Azrul Hazri Jantan</i></p>
<p>Inventive Thinking 21st Century Skills among Preparatory Course Science Students</p> <p><i>Punia Turiman, Kamisah Osman, & Tengku Siti Meriam Tengku Wook</i></p>
<p>Comparative Effects of Three Instructional Strategies on Students' Achievements in Physics on the Concept Machine</p> <p><i>Ibrahim Bello</i></p>
<p>Psychology Software Tools in Education: Creating Experiment in E-Prime to Identify Teenagers with Syntactic Specific Language Impairment</p> <p><i>Jong Hui Ying, Rozaida Abdul Rauf Jafri, Malin Abdullah Faruque Reza, Garry Kuan Pei Ern Jason, Tye Kong Chiang</i></p>

PARALLEL SESSION 3

Day 2: 24 January 2019 (Thursday)

Parallel Session 3: 11.00am-1.00pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 2
<p>STEM Education and Society (A New Board-Game-Based-Learning in Teaching Arithmetic for Young Learners – DAMAT Prospective)</p> <p><i>Maz Jamilah Masnan, Nursalasawati Rusli & Amran Ahmed</i></p>
<p>STEM-Based Project-Based Learning across Science and Mathematics Curriculum in a Secondary School</p> <p><i>Rohana Sedik, Rehan Suwarni Abu Bakar & Chin Chee Keong</i></p>
<p>Development of PhyKER Games and Its Effect On Students' Achievement in Science Process Skills</p> <p><i>Norfaridatul Akmar Hasim, Mohd Mustamam Bin Abd Karim, & Nurulhuda Abd Rahman</i></p>
<p>STEM Interest and Informal Learning Opportunities in Malaysia: The Role of Non-State Sector Organisations</p> <p><i>Aizuddin Mohamed Anuar</i></p>
<p>The Needs Analysis in Game-Based STEM Module Development for KSSM Science Teachers</p> <p><i>Farihah Mohd Jamel, Mohd Norawi Ali & Nur Jahan Ahmad</i></p>
<p>Integrated STEM Course: A New Pedagogy for Training Pre-Service Mathematics Teachers in Sokoto State, Nigeria</p> <p><i>Usman Galadima, Zaleha Ismail, & Norulhuda Ismail</i></p>

PARALLEL SESSION 3

Day 2: 24 January 2019 (Thursday)

Parallel Session 3: 11.00am-1.00pm

Venue: EUREKA, USM

<p>Level Ground Floor: Auditorium 3</p>
<p>The Relationship between Student Engagement with Academic Performance among Non-Food Science Students Enrolled in Food Science Course</p> <p><i>Rashidah Sukor, Mohd Ayub, A.F. & Nor Khaizura, Mahmud @ A. R.</i></p>
<p>Engineering Students' Program Outcome Attainment of the 21st Century Skills through Individual and Team Work</p> <p><i>Che Maznah Mat Isa, Afifah Azmina Ahmad Amin, Hamidah Mohd Saman, Janmaizatulriah Jani, Mazidah Mukri, & Nur Kamaliah Mustaffa</i></p>
<p>STEM Education and Society Challenges Faced By Thenmaradchy Zonal Education Office, Jaffna District: An administrative Perspective</p> <p><i>Vipulan Nadgunarajah</i></p>
<p>The Effect of Modeling Clay in Enhancing Level of Understanding in Mechanism of Dehydration in Alcohol among Matriculation Student</p> <p><i>Mohd Shaffie Ghazali, Marina Mat Yusof, Siti Armiah Mohamed Isa, Mohd Aznul Fikri Zainol, & Nor Asniza Ishak</i></p>
<p>STEM-Based Learning Effects through Scratch Applications towards Student Attitudes and Achievements in force Topics</p> <p><i>Suzlipah Sanusi & Mohd Ali Samsudin</i></p>
<p>Using Multi-facet Rasch Model (MFRM) Analysis to Evaluate the Performance of 21st Century Skills of the ITE Teacher Trainees in Teaching Practice for Design and Technology Subject (RBT)</p> <p><i>Rozaini Abu Bakar & Mohd Ali Samsudin</i></p>

PARALLEL SESSION 3

Day 2: 24 January 2019 (Thursday)
Parallel Session 3: 11.00am-1.00pm
Venue: EUREKA, USM

Level 1: PIPPA Seminar Room
<p>Attitudes and Behaviors on Environment among Secondary School Students</p> <p><i>Mohamad Zamier Md Taib & Norizan Esa</i></p>
<p>Exploring Graphs of Functions with Graphing Technology</p> <p><i>Jeyaletchumi Muthiah, Munirah Ghazali & Chew Cheng Meng</i></p>
<p>A Needs Analysis of Fred Rogers Approach in Developing STEAM Module using ASSURE Model for Preschool</p> <p><i>Zahiroh Awang & Nooraida Yakob</i></p>
<p>Implementing STEM Biodiversity Projects for Improving Knowledge of Teaching 21st Century Skills Among Biology Teachers at Pre-University Level</p> <p><i>Hidayatul Illah Ahmad Saad, Norizan Esa & Rabiatal Adawiyah Ahmad Rashid</i></p>
<p>Understanding the Process of Scientific Knowledge Applied Contextually</p> <p><i>Zainun Mustafa & Nooraida Yakob</i></p>
<p>Student Teacher Readiness Towards STEM Education: A Preliminary Study</p> <p><i>Ahmad Muslihin Ahmad & Nooraida Yakob</i></p>

PARALLEL SESSION 3

Day 2: 24 January 2019 (Thursday)

Parallel Session 3: 11.00am-1.00pm

Venue: EUREKA, USM

Level 2: MAPITA Seminar Room
<p>Integrating Technology into STEM Education in the Aspects Knowledge and Skills of Primary School Teachers</p> <p><i>Eda Rohani Che Deris, Nor Asniza Ishak & Nur Jahan Ahmad</i></p>
<p>The Importance of STEM in Special Education School for Hearing Impaired Special Needs Students</p> <p><i>Choo Li Suan & Nooraida Yakob</i></p>
<p>The Impact of STEM Integrative Approach on Primary Pupils' Awareness in Solid Waste Management</p> <p><i>Mohd Norawi Ali & Chuah Hong Chuan</i></p>
<p>Enhancing Student Engagement using Brain-Based-Learning Approach</p> <p><i>Mimi Maya Badri & Salmiza Saleh</i></p>
<p>The Effectiveness of Integrating Technology in STEM Activities (Inquiry Based Learning) in Improving Content Knowledge and Promoting Interest among Primary Pupils</p> <p><i>Kaiyathri S. Samugam & Nor Asniza Ishak</i></p>
<p>Pedagogical Belief and Assessment for Learning in Science: An Exploration of Teachers' Experiences Anchored on the Theory of Reasoned Action</p> <p><i>Sarah Namoco & Rozniza Zaharudin</i></p>

PARALLEL SESSION 4

Day 2: 24 January 2019 (Thursday)

Parallel Session 4: 3.30pm-5.00pm

Venue: EUREKA, USM

Level Ground Floor: Auditorium 1
Use of Anycast And Smartphone Plickers Application in Primary School Mathematics <i>Azimah Abdullah</i>
The Development of Disney's Strategy Module Based on Nlp in the Tutorial Teaching of Mathematics in Matriculation <i>Mohamad Tahar Mohamad Amirnudin & Salmiza Saleh</i>
Transum Flipped Classroom for Mathematics <i>Loh Chee Hoo</i>
Finger-Used-Method in Multiplication of Two Decimal Integers <i>Nor Hayati Abi Khallad</i>
Level Ground Floor: Auditorium 2
Does STEM Pjbl Increase Student Achievement In Learning Physics? <i>Mohd Ali Samsudin & Seyedh Mahboobeh Jamali</i>
Investigating the Effect of Integrating Technology in Engineering Problem through STEM Pedagogy in Accelerating Students' Scientific Creativity. <i>Sangeetha Senappan, Norizan Esa & Nor Asniza Ishak</i>
Kahoot! in Biology Classroom to Enhance Pre-University Students' Active Learning <i>Nor Asniza Ishak</i>
Effect of Instructional Approaches on Financial Accounting Achievement Among Secondary School Students in Gombe State, Nigeria <i>Umar Inuwa</i>

PARALLEL SESSION 4

Day 2: 24 January 2019 (Thursday)

Parallel Session 4: 3.30pm-5.00pm

Venue: EUREKA, USM

<p>Level Ground Floor: Auditorium 3</p>
<p>Analysing Malaysian Nature Education in Preschool (Myneps) Pre And Post Assessment</p> <p><i>Mohd Allif Abu Yazid, Suziyani Mohamed, Haryanti Mohd Affandi, Nurhafizah Abdul Musid, Nurul Ezzaty Sohimi, Farah Shafawati Mohd Taib, Abdul Halim Masnan, Faszly Rahim</i></p>
<p>Frog VLE Applications in Science Teaching in Secondary School in North Malaysia: Teacher's Perspectives</p> <p><i>Nofaizah Ramli & Salmiza Saleh</i></p>
<p>Enhancing Students' Knowledge and Creativity towards Food Waste Management Using 'Wasted Beauty' Project Infused with 5E Model</p> <p><i>Pavitra Krishnan & Nor Asniza Ishak</i></p>
<p>STEM Education: Enhancing HOTs Through Play Activities among Preschool Children</p> <p><i>Norhailee Abdul Rasid & Nooraida Yakob</i></p>
<p>Level 1: Bilik Seminar PIPPA (Workshop)</p>
<p>Social Network Analysis Research in STEM Education: Using Facebook, YouTube and Twitter Data to Analyse the Emerging Themes in STEM Education</p> <p><i>Shamimah Parveen Abd Rahim & Sathisha Goonasakaran</i></p>
<p>Level 2: Bilik Seminar MAPITA (Workshop)</p>
<p>The Hunter and Monkeys</p> <p><i>Mohd Shukri Mohd Ali & Rohaya Ahmad</i></p>