

Wednesday, 27 June 2018

ASERA 2018 GC Draft Program

Welcome to ASERA 2018 – Waianbah, 8:00-8:30 am

	Waianbah – Chair: Russell Tytler	Elston – Chair: Keith Skamp	Hinterland – Chair: James Davis	Verandah – Chair: Chris Preston
8:40-9:20	Learning Physics With Multiple External Representations: Recommendations For Future Research David Treagust	Teaching Climate Change In Secondary Schools: What And How? Hsiao-Min Yu, Wen-Hua Chang	Ethnomethodology And Research In Science Education James Davis	Supporting Teachers Assessing Student Generated Representations John Kenny, Connie Cirkony
9:20-10:00	Embodied Construction Of Scientific Knowledge: The Case Of Levers Lihua Xu, Joseph Ferguson, Russell Tytler	Voting For Change: An International Study Of Students' Willingness To Vote For/Support Indirect Measures To Ameliorate Climate Change Keith Skamp, Eddie Boyes, Martin Stanistreet	Exploring Changes In College Students' Perceptions Of Scientists Through A Video Focused On Their Daily Lives Hyunok Lee, Jiyeong Mun	Addressing Issues In Teaching Electricity To Year 6 Primary Students Using Representational Pedagogies Peter Hubber, Chris Preston
Morning Tea 10:00-10:20 am				
	Waianbah – Chair: David Treagust	Elston – Chair: Sally Birdsall	Hinterland – Chair: Kathryn Paige	Verandah – Chair: David Geelan
10:20-11:00	An Evaluation Of ICT Integration In Science Learning In Primary Schools In Saudi Arabia Alaa Alharthi, David Treagust, Mihye Won, Rekha Koul	Creating Space For A Range Of Voices: Incorporating Different Ways Of Knowing Sally Birdsall, Bev France, Kathryn Garthwaite, Katie Gormley	Young People Inspiring Awareness Of, And Action Towards, Their Local Natural Ecosystem Marianne Logan, Steve Andrews, Simone Blom	Blended Learning In Stile: How A Cloud-Based Platform Supported Student Generated Representations Connie Cirkony
11:00-11:40	Developing Reasoning About Biology Concepts Through Creating Digital Animations Wendy Nielsen, Peta White, Russell Tytler	Using Talanoa To Explore Primary Teachers' Perception Of Culturally Inclusive Science Curriculum Deepa Chand, John Kenny, Sharon Fraser	Teacher Inquiry, STEM And Water Literacies Kathryn Paige, David Lloyd	Characterising Pre-Service Science Teachers' Noticing Of Different Forms Of Evidence Of Student Ideas Dirac Lam, Kennedy Chan

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11:40-12:20	What Do The Preservice Primary School Teachers Wonder About When Planning Science Classes Utilizing Smart Technologies? Jiyeon Na		Online Citizen Science: Opportunities For Addressing Science Education Curriculum Goals? Dayle Anderson, Markus Luczak-Roesch, Cathal Doyle, Jane Li, Brigitte Glasson	
Lunch 12:20-1:00 pm				
	Waianbah – Chair: Sharon Fraser	Elston – Chair: Christine McDonald	Hinterland – Chair: Subramaniam Ramanathan	Verandah – Chair: Deb Corrigan
1:00-1:40	Science By Doing: Impact On Teachers Wan Ng, Peter Aubusson, Jennifer Fergusson, Kimberley Pressick-Kilborn, Tracey-Ann Palmer	Synchronization: An Organizing Concept Underlying The State Of Emotional Climate In Science Classes Efrat Eilam	The Development Of A Science Learning Activity Package To Promote Scientific Imagination For Thai Lower Secondary School Students Chaninan Pruekpramool	STEM Education and the National Innovation Agenda Deb Corrigan, Debra Panizzon Symposium Session, 1:00-3:00 pm
1:40-2:20	Investigating Practising Science Teachers' Ppck And Epck Development As A Result Of Collaborative Core Design Jared Carpendale, Anne Hume	Complex Or Simple? A Review Of Emotions Research In Science Education Donna King, Alberto Bellocchi, Stephen Ritchie	Fostering Creativity In Science Through Artifact Fabrication: Experiences From An In-Service Program For Teachers Subramaniam Ramanathan	
2:20-3:00	Pedagogical Content Knowledge As A Unifying Concept In Initial Teacher Education Sharon Fraser, Kim Beswick, Greg Oates	Exploring Australian Preservice Primary Teachers' Attitudes Toward Teaching Science Christine Mcdonald, Helen Klieve, Harry Kanasa	Developing A Scientific Creative Thinking Test For Third-Graders Chun-Chiao Hu, Wen-Hua Chang, Ching-Mei Tseng	

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Poster Session and Afternoon Tea 3:00-4:00 pm

The Role Of Teachers' Value In The Achievement Behavior Of Grade 9 Learners In Natural Sciences In Two Township Schools

Eyitayo Julius Ajayi

Maths Inside: Preliminary Conclusions From AMSPP Research Project On Secondary Schools Maths Learning

Marco Angelini, Anne Prescott

Exploring The Interface Between Aboriginal Perspectives Within The Representation Construction Approach

Connie Cirkony

Demographic Predictors Of Students' STEM Participation Over The Age Of 16: An Australian Case Study

Grant Cooper, Amanda Berry

The Recycling Of Computers As A Context For Learning Chemistry

David-Samuel Di Fuccia

Virtual Reality In Chemistry Education And Research

Mareike Frevert, Dennis Stein-Schomburg, David-Samuel Di Fuccia

Making STEM Professional Development Count

Linda Hobbs, John Cripps Clark

Going Back To Indigenous Township From City - The Experience Of An Indigenous Teacher Promotes Culturally Responsive Curriculum By Mobile Learning

Yen Kuan-Ming, Ku Chih-Hsiung

Learning Outcomes Of School Teachers And Students In Taxidermy Workshop

Yi-Jung Lin, Wei-Wang Kuo, Shu-Fen Cheng, Jer-Ming Hu, Meichun Lydia Wen, Hon-Tsen Yu

Developing Questionnaire For Preservice Elementary School Science Teachers' Conception Of Teaching Science (COTS)

Tzu-Chiang Lin, Ming-Fu Lin

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Exploring Primary School Teachers' Knowledge, Beliefs, Attitudes and Practices of Teaching Critical Thinking in Science Shobhana Madhu, Amanda Berry				
	Waianbah – Chair: Mary Rafter	Elston – Chair: Michael Michie	Hinterland – Chair: William Palmer	Verandah – Chair: Helen Georgiou
4:00-4:40	Thinking Tools Representations In Primary Science And Mathematics Chris Preston, Jenni Way, Eleni Smyrnis	The Application Of Both-Ways And Two-Eyed Seeing Pedagogy: Reflections On Engaging And Teaching Science To Post-Secondary Indigenous Students Michael Michie, Michelle Hogue, Joel Rioux	The Role Of Mathematical Models In Learning Chemistry - Theory And Reality David-Samuel Di Fuccia, Ines Goldhausen	Are We Really Slipping Behind? Latest Results On Australian Students' Attainment In Science Helen Georgiou
4:40-5:20	Two Tools To Promote Deeper Understanding In Science Mary Rafter	Power To The People: The Simplicity Of Solar Lee Hally, Rosaleen Colless, Fran Quinn	Edgar Fahs Smith (1854-1928), Chemical Researcher, Administrator, Educator, And Student Of Chemistry's History William Palmer	Assessing The Impact Of Formative Practices On Scientific Literacy A Mixed Methods Approach James Scott

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	Waianbah – Chair: Rebecca Cooper	Elston – Chair: Gwendolyn Lawrie	Hinterland – Chair: Emily Rochette	Verandah – Chair: Gillian Kidman
8:00-8:40	<p>Proposal For A Comprehensive Rubric For Differentiating The Quality Of Science Teachers’ Pedagogical Content Knowledge (PCK) Marissa Rollnick, Kennedy Chan, Julie Gess-Newsome</p>	<p>Science Education In Canada: A Meso Level Perspective Todd Milford, Christine Tippett</p>	<p>Learning To Teach Out-Of-Field Is Like Re-Inflating A Deflated Football Linda Hobbs, Frances Quinn, Coral Campbell, Terry Lyons, Christopher Speldewinde, Rob Whannell, Colleen Vale, Russell Tytler</p>	<p>Extending The Practical Work Effectiveness Framework To Encourage Pre-Service Teacher Thinking, Implementation And Critique Of Practical Tasks Jennifer Mansfield</p>
8:40-9:20	<p>Increasing Perceived Relevance By Focusing On School-Related Content Knowledge In University Physics Courses Andreas Borowski, Joost Massolt</p>	<p>Exploration Of Multimodal External Representations In Chemistry Lectures: Pathways To Creating Inclusive Learning Environments Gwendolyn Lawrie, Joao Elias Vidueira Ferreira</p>	<p>Teacher Retention; Supporting Early-Career Science Teachers To Stay In The Teaching Profession Merryn Dawborn-Gundlach</p>	<p>How Do The Students Perceptions During A Year 11 Practical Chemistry Investigation Relate To Their Views Of The Effectiveness Of Investigations? Ewa Biviano, Gillian Kidman</p>
9:20-10:00	<p>Reconsidering Pck Rebecca Cooper, Amanda Berry, Andreas Borowski, Jared Carpendale, Rebecca Cooper, Anne Hume, Jan Van Driel</p>	<p>An Analysis On The Science Classroom Environments Reflecting Cultural Traits: Focusing On The Comparison Between Primary And Secondary Schools In Korea Jina Chang, Jiyeon Na, Jinwoong Song</p>	<p>How Do Out-Of-Field (Oof) Geoscience Teachers Negotiate The Victorian Curriculum? Emily Rochette, Christine Redman, Paul Chandler</p>	<p>Investigation On Problem-Finding Types During Guided Open Inquiry Activities In High School Science Jiyeong Mun, Hyunok Lee</p>

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Morning Tea 10:00-10:20 pm

	Waianbah – Chair: Vaille Dawson	Elston – Chair: Louisa Tomas	Hinterland – Chair: Rena Heap	Verandah – Chair: Coral Campbell
10:20-11:00	Engaging Primary Students And Teachers In Science For Care: A Local Radical Approach Jenny Martin, Carolina Castano Rodriguez, Lyn Carter	Opportunities To Engage With Education For Sustainable Development: An Analysis Of The New Senior Earth & Environmental Science Syllabus In Queensland Reece Mills, Louisa Tomas, Maryam Sadhu	Working With Students As Research Partners When Comparing Education And Biomedical Science Students' Views About The Nature Of Observations And Inferences Yvonne Hodgson, Jennifer Mansfield, Binhui Tu, Pavneet Heer, Thi Ho, Fiona Wightman	Primary Teachers' Professional Learning (PL) Needs In Science Education: What Does A New Evaluation Of Primary Connections Reveal? Kimberley Pressick-Kilborn, Wan Ng, Tracey-Ann Palmer, Peter Aubusson, Paul Burke, Keith Skamp, Jennifer Fergusson
11:00-11:40	Using Socioscientific Issues To Promote Critical Thinking In Disadvantaged Schools Vaille Dawson	Shifting Mindsets, Boundary Crossing And Communities Of Practice: The Influence Of An Industry Engagement On Pre-Service Teachers' Perceptions Of STEM And Its Flow On Effect To Students Carol Aldous	Nature And Technology As Dimensions Of Science Teaching Mareike Frevert, David-Samuel Di Fuccia	Teaching Science In Bush Kinders: Understanding What Teachers Need Coral Campbell, Chris Speldewinde
11:40-12:20	We Own The Teachers: An Analysis Of Students And Teachers Interpretations Of Power Play In The Lower Track Science Classroom Tang Wee Teo, Liu Weilie	Are First Year Students Ready For A Flipped Science Classroom? A Case For A Flipped Learning Continuum Louisa Tomas, Snowy Evans, Tanya Doyle	Educational Technology In Science Education: For Example, To Develop Nature Of Science Understanding Rena Heap	Students' Perception Of Their Science Lesson In Science Core Schools (Scss) In Korea Jin Hee Kim, Jiyeon Na, Jin Woong Song
	Lunch 12:20-1:00 pm			

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ASERA AGM – Waianbah – 1:00-2:10 pm

	Waianbah – Chair: Michelle Tewkesbury	Elston – Chair: Carrie Swanson	Hinterland – Chair: Amanda Woods-McConney	Verandah – Chair: Debra Panizzon
2:20-3:00	Teaching Chemistry And NCEA Assessment: A Complex Relationship Michelle Tewkesbury	Using Dramatic Inquiry Conventions To Support Science Learning, Scientific Literacy And Literacy Carrie Swanson	Teacher Education Students' Self-Efficacy For Teaching Primary Science In Australia Amanda Woods-Mcconney, Marold Wosnitza, Ralph Delzepich	Using Collaborative Inquiry Projects To Enhance Students' Self-Efficacy And Self-Concept In Science: Patterns And Surprises In The Data Debra Panizzon, Bruce White, Katrina Elliott, Alex Semmens

Afternoon Tea and Poster Session 3:00-4:00 pm

Developing Understanding Of Meiosis Through Video Animation To The Undergraduate Students At Tanjungpura University, Indonesia
 Asriah Mardiyyaningsih, Chris Cane, Mark Goodwin

Designing A Trial School Science Lesson And Mutual Assessment Activity For Teacher Training Courses: Enhancing Students' Awareness Of The Importance Of Children's Viewpoints In Science Teaching
 Hayashi Nakayama, Tomokazu Yamamoto

Supporting Development Of Cultural Competence In Nutrition/Dietetics
 Wendy Nielsen, Karen Walton, Helen Georgiou

Pre-Service Teachers' Views Of Science Center Visits
 Subramaniam Ramanathan

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The Interface, Algorithm And Learning Features: A Validation Toward STEM Based E-Module

Diana Rochintaniawati, Rika Rafikah Agustin, Lilit Rusyati

The Effect Of Digital Game Based Learning To Improve Students Achievement In Learning Sciences In Elementary And Secondary School: A Meta-Analysis Of Quantitative Studies From 2010 To 2017

Heru Setiawan, Wiwi Isnaeni

Pedagogical Content Knowledge Understanding Of Different Students Entry (International, National And Institutional Selection Program) In Science Education Department

Beni Setiawan, Muchamad Arif Al Ardha, Chia-Ling Chiang

A Study On The Maker-Centered Learning Based Contests For Improving The Participates' Hands On Scientific Literacy - In The Case Of Nation-Wide Creation And Production Contests Of Powerless-AUG In Taiwan

Tso-Chung Sung, Chia-Cheng Yeh, Jiahn-Horng Chen

Structure In STEM

Shireen Vanbuskirk

Strengthening Teachers' PCK To Support The Implementation Of STEM Education

Ari Widodo, Widi Purwianingsih, Riandi Riandi, Siti Sriyati

What Should Be Evaluated As The Outcome Of Integrated Education?

Heojeong Yoon, Dami Bang

Analysis Of Science Text Reading Characteristics Of Middle School Students By Using Eye Tracking Test

Eunjeong Yun, Yunebae Park

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	Waianbah – Chair: David Geelan	Elston – Chair: Yu-Ling Lu	Hinterland – Chair: Kim Nichols	Verandah – Chair: Carole Haeusler
4:00-4:40	Using Cogenerative Dialogue To Achieve Solidarity Towards Change For Physics Students In Madrasah Mohamed Faizal Badron, Tang Wee Teo, Aik Ling Tan	The Effects Of Collaborative Argumentation Learning Activity On University Students’ Online Reading And Reasoning Regarding A Socioscientific Issue: Evidence From Eye Tracking Analysis Miao-Hsuan Yen, Ying-Tien Wu	What Can Google Tell Us About The Public's Awareness Of Genetic Testing In Australia? Caitlin Curtis, Kim Nichols	Enhancing Students Understanding Of Shape Of Molecule Based On Valence Shell Electron Pair Repulsion Theory (VSEPR) Using Card-Game And Simple Molecular Model Erlina Erlina, Chris Cane, Dylan P Williams
4:40-5:20	Navigation Everyday And Scientific Discourse Through The Use Of Self-Generated Analogies Nantana Taptamat	Comparative Effectiveness Of Different Media On Students’ Growth Of Argumentation Skills: Game-Based, Film-Based And Traditional Instruction Yu-Ling Lu, Yen-Chieh Chen	Torn At The Genes: A STEAM Approach To Teaching Year 10 Genetics Using Ethical Dilemma Story Pedagogy (EDSP) Elisabeth Taylor, John Werth, Peter Charles Taylor	Empowering Primary Teachers To Teach Children About Atoms Carole Haeusler, Jennifer Donovan

Conference Dinner – 7:00-11:00 pm

Friday, 29 June 2018

	Waianbah – Chair: Rekha Koul	Elston – Chair: Karen Marangio	Hinterland – Chair: George Aranda	Verandah – Chair: Leonie Rennie
8:00-8:40	Learning To Teach And Teaching To Learn STEM Through A Makerspace Approach Rekha Koul, Rachel Sheffield, Jose J Kurisunkal, Susan Blackley	Contemporary Science Practice In Schools Peta White, Russell Tytler, Stuart Palmer, David Symington	Advocate To Critique: Digital Literacy Though Socio-Scientific Perspectives John Cripps Clark	Investigating The Development Of In-Service Science Teachers' Knowledge In High Needs Schools Stephen Witzig
8:40-9:20	Teachers' Perceptions Of The Values That Underpin Science As A Way Of Thinking And Acting Kathy Smith, Deborah Corrigan	Victorian Teachers Of Psychology Views: Connecting With The Victorian And Australian Science Curricula Via Teaching Of Psychology Concepts With Science Practices Karen Marangio, Deborah Corrigan, Debra Panizzon	Learning Trajectory Of A Science Undergraduate Working As An Intern In A Research Laboratory Cassander Tan, Aik Ling Tan	How To Support Self-Directed Learning In Science And Technology: Lessons From Adult Learners Leonie Rennie, Susan Stockmayer, John Gilbert
9:20-10:00	Exploring Teachers' Understanding Of Value In The NCS/CAPS And Its Enactment In Grade 9 Natural Sciences Classroo Eytayo Julius Ajayi, Shalini Dukhan, Femi Otulaja	In And Out Of 'The Pit': The Complexity Of Teacher-Led Research, Linked To Questioning In STEM Yvonne Zeegers, Katrina Elliott, Marianne Nicholas	Developing Student's Computational Thinking Through Flow Chart Programming George Aranda, Joseph Ferguson	The Diagrammatic Representations Of Preservice Teachers Understanding Of STEM Education Pattamaporn Pimthong, John Williams
Morning Tea 10:00-10:20 pm				
	Waianbah – Chair: David Geelan	Elston – Chair: Melanie Williams	Hinterland – Chair: Chris Nielsen	Verandah – Chair: Joseph Ferguson
10:20-11:00	Evaluation Of An Arts-Integrated STEM Program Hye-Eun Chu, Sonya Martin, David Treagust	A Qualitative Risk Analysis Model In Action Kathryn Garthwaite, Sally Birdsall, Bev France	Student And Teacher Perceptions Of The Effectiveness Of Vocabulary Strategies Taught In A Secondary Science Classroom Chris Nielsen	How Transition To Agroecology Questions Knowledge Production And Learning Dynamics? Nicolas Herve, Nadia Cancian, Nathalie Panissal, Jean Simonneaux, Laurence Simonneaux

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11:00-11:40	<p>Design And Evaluation Of STEM Tasks Related To Biology Dominic Koh, Aik Ling Tan</p>	<p>Model-Based Reasoning In Primary Science Education Jan Van Driel, Lihua Xu, Wendy Jobling, Wanty Widjaja, Dan Jazby, Ryan Healey</p>	<p>Investigating Students' Data Modeling In The Science Of Learning Research Classroom Russell Tytler, Peta White, Joseph Ferguson</p>	<p>What Virtues Do Science Teachers Embody Through Their Class? - Interpreting Science Teachers' Teaching In The Perspective Of Wisdom Insook Lim, Jinwoong Song</p>
11:40-12:20	<p>The Disciplinary Nature Of STEM Education: A Required Pedagogical Approach Gillian Kidman</p>	<p>Using A Multimodal Teaching Approach To Support The Meaning Making Of English Language Learners In Science Melanie Williams, Kok-Sing Tang, Mihye Won</p>		<p>Students Are Not Inferential-Misfits: Naturalising Logic In The Science Classroom Joseph Ferguson</p>
<p>Lunch 12:20-1:00 pm</p>				