

# **First Ahmad Dahlan International Conference on Mathematics and Mathematics Education (AD-INTERCOMME 2017)**

Journal of Physics: Conference Series Volume 943

Yogyakarta, Indonesia  
13 – 14 October 2017

ISBN: 978-1-5108-5847-3  
ISSN: 1742-6588

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2017) by the Institute of Physics  
All rights reserved. The material featured in this book is subject to  
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics  
at the address below.

Institute of Physics  
Dirac House, Temple Back  
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481  
Fax: 44 1 17 920 0979

[techtracking@iop.org](mailto:techtracking@iop.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# Table of contents

## Volume 943

**The First Ahmad Dahlan International Conference on Mathematics and Mathematics Education**

**13–14 October 2017, Daerah Istimewa Yogyakarta 55213, Indonesia**

**Accepted papers received: 18 December 2017**

**Published online: 5 February 2018**

### **Preface**

[The First Ahmad Dahlan International Conference on Mathematics and Mathematics Education](#)

[The Committees of The First Ahmad Dahlan International Conference on Mathematics and Mathematics Education \(AD-INTERCOMME\)](#)

[The Photographs of The First Ahmad Dahlan International Conference on Mathematics and Mathematics Education \(AD-INTERCOMME\)](#)

[Peer review statement](#)

### **Papers**

[The relationships within the mathematical content of teachers' lesson sequences](#)

M Shahrill, R C I Prahmana and R Roslan.....1

[Exploring local plausible reasoning: the case of inequality tasks](#)

I Rofiki, T Nusantara, Subanji and T D Chandra.....10

[A study of local domination number of  \$S\_n \triangleright H\$  graph](#)

Dafik, Ika Hesti Agustin, Dwi Agustin Retno Wardani and Elsa Yuli Kurniawati.....18

[Visualizer's representation in functions](#)

F Setyawan, R C I Prahmana, A Istiandaru and A Hendroanto.....25

[Mathematics creative thinking levels based on interpersonal intelligence](#)

R H Kuncorowati, Mardiyana and D R S Saputro.....31

[Improved structural pricing model for the fair market price of Sukuk Ijarah in Indonesia](#)

D Rosadi and Muslim.....38

[Students' thinking level based on intrapersonal intelligence](#)

Rahadian Sholikhati, Mardiyana and Dewi Retno Sari Saputro.....42

[Implementation of problem-based learning in geometry lessons](#)

S N S H Ahamad, H-C Li, M Shahrill and R C I Prahmana.....49

[Geographically weighted regression model on poverty indicator](#)

I Slamet, N F T A Nugroho and Muslich.....63

[Utilizing geogebra in financial mathematics problems: didactic experiment in vocational college](#)

Saiful Khozi and Suci Yuniarti.....68

[Construction and reconstruction concept in mathematics instruction](#)

Jenne Mumi, Rully Charitas Indra Prahmana and Benidiktus Tanujaya.....75

[Modified convolution theorem for one-sided quaternion linear canonical transform](#)

Resnawati and Selvy Musdalifah.....82

[Implementing thinking aloud pair and Pólya problem solving strategies in fractions](#)

N S H Simpol, M Shahrill, H-C Li and R C I Prahmana.....91

[The Van Hiele geometry thinking levels of mild mental retardation students](#)

Z A Shomad, T A Kusmayadi and Riyadi.....101

[Models for financial crisis detection in Indonesia based on M1, M2 per foreign exchange reverse, and M2 multiplier indicators](#)

Sugiyanto, Etik Zukhronah and Esteti Sophia Pratiwi.....108

[Mathematics learning on geometry for children with autism](#)

F E Widayati, B Usodo and I Pamudya.....114

[Teaching materials of algebraic equation](#)

S A Widodo, R C I Prahmana, A S Purnami and Turmudi.....118

[An analysis on Kendall Lee queueing system with non-preemptive priority at BRI Ahmad Dahlan Yogyakarta](#)

S D Ayuningtyas and N Binatari.....125

[Behaviour analysis of students in solving mathematics word problem](#)

A T Wahyudi, S Subanti and B Usodo.....133

[The Integration of technology in teaching mathematics](#)

D Muhtadi, Wahyudin, B G Kartasasmita and R C I Prahmana.....140

[Stability of  \$C\_0\$ -quasi semigroups in Banach spaces](#)

Sutrima, Ch. Rini Indrati and Lina Aryati.....148

[Scaffolding in geometry based on self regulated learning](#)

A S Bayuningsih, B Usodo and S Subanti.....161

[Characteristics of manipulative in mathematics laboratory](#)

A Istiandaru, V Istihapsari, R C I Prahmana, F Setyawan and A Hendroanto.....167

[Models for financial crisis detection in Indonesia based on bank deposits, real exchange rate and terms of trade indicators](#)

Sugiyanto, Etik Zukhronah and Anis Nur Aini.....174

[Conjecturing via analogical reasoning constructs ordinary students into like gifted student](#)

Supratman, N Ratnaningsih and S Ryane.....180

[The students' mathematical argumentation in geometry](#)

Sukirwan, Darhim, T Herman and R C I Prahmana.....189

[On locating independent domination number of amalgamation graphs](#)

Dwi Agustin Retno Wardani, Dafik, Ika Hesti Agustin and Elsa Yuli Kurniawati.....195

[Numbered head together with scientific approach in geometry learning](#)

Dwi Indarti, Mardiyana and Ikrar Pramudya.....202

[Photography activities for developing students' spatial orientation and spatial visualization](#)

Aan Hendroanto, Frans van Galen, D van Eerde, R C I Prahmana, F Setyawan and A Istiandaru.....207

[Interictal Epileptiform Discharges \(IEDs\) classification in EEG data of epilepsy patients](#)

J W Puspita, G Soemarno, A I Jaya and E Soewono.....216

[The utilization of mind map painting on 3D shapes with curved faces](#)

Ayuk Nur Sholikhah, Budi Usodo and Ikrar Pramudya.....222

[Ethnomathematics: Exploration in Javanese culture](#)

Irma Risdiyanti and Rully Charitas Indra Prahmana.....228

[Measuring the Indonesian provinces competitiveness by using PCA technique](#)

Ditha Runita and Rohmatul Fajriyah.....234

[The teacher understanding of probability using scientific approach](#)

Taufik Fajar Gumilang, Budi Usodo and Ikrar Pramudya.....244

[Addition of fraction in swimming context](#)

R I I Putri, M S Gunawan and Zulkardi.....251

[Optimal control of nutrition restricted dynamics model of Microalgae biomass growth model](#)

R Ratianingsih, Azim, N Nacong, Resnawati, Mardlijah and B Widodo.....262

[Mathematical problem solving ability of sport students in the statistical study](#)

E F P Sari, Zulkardi and R I I Putri.....271

[Developing Ill-defined problem-solving for the context of "South Sumatera"](#)

S Arifin, Zulkardi, R I I Putri, Y Hartono and E Susanti.....275

[The effectiveness of robust RMCD control chart as outliers' detector](#)

Darmanto and Suci Astutik.....284

[Mathematics understanding and anxiety in collaborative teaching](#)

B I Ansari and N Wahyu.....300

[Teaching strategies in the learning of highest common factor and lowest common multiple](#)

N L A Halim, H-C Li, M Shahrill and R C I Prahmana.....306

[tscvh R Package: Computational of the two samples test on microarray-sequencing data](#)

Rohmatul Fajriyah and Dedi Rosadi.....315

[Performance assessment in algebra learning process](#)

Ida Lestariani, Imam Sujadi and Ikrar Pramudya.....321

[Primary school student teachers' perception to \*Pendidikan Matematika Realistik Indonesia\* \(PMRI\) instruction](#)

A Fauziah, R I I Putri, Zulkardi and Somakim.....325

[The estimation of time-varying risks in asset pricing modelling using B-Spline method](#)

Nurjannah, Solimun and Adji Rinaldo.....333

[ICT media design for higher grade of elementary school mathematics learning using CS6 program](#)

M Zainil, R C I Prahmana, Y Helsa and S Hendri.....341

[Interactive multimedia-based teaching material for 3-dimensional geometry](#)

A Prabowo, R P Anggoro, D Astuti and S Fahmi.....347

[Almost stochastic dominance for poverty level in Central Java Province](#)

Isnandar Slamet, Aryanto Agus Wibowo and Mania Roswitha.....355



[Mathematical modeling in realistic mathematics education](#)

B Riyanto, Zulkardi, R I I Putri and Darmawijoyo.....362

[Interactive basic mathematics web using Wordpress](#)

Tika Septia, Husna and Anna Cesaria.....369

[Modeling Tetanus Neonatorum case using the regression of negative binomial and zero-inflated negative binomial](#)

Luthfatul Amaliana, Umu Sa'adah and Ni Wayan Surya Wardhani.....375

[Visualization on triangle concept using Adobe Flash Professional SC6](#)

Laela Sagita and Adha Ratih Kusumarini.....383

[The instruments of higher order thinking skills](#)

S Ahmad, R C I Prahmana, A K Kenedi, Y Helsa, Y Arianil and M Zainil.....390

[The models for financial crisis detection in Indonesia based on import, export, and foreign exchange reserves](#)

Sugiyanto, Supriyadi Wibowo and Vivi Rizky Aristina Suwardi.....398

[Student's rigorous mathematical thinking based on cognitive style](#)

H Fitriyani and U Khasanah.....403

[Edmodo social learning network for elementary school mathematics learning](#)

Y Ariani, Y Helsa, S Ahmad and RCI Prahmana.....409

[On factoring RSA modulus using random-restart hill-climbing algorithm and Pollard's rho algorithm](#)

M A Budiman and D Rachmawati.....414

[Helping students mathematical construction on square and rectangle's area by using Sarong motive chess](#)

Eka Zuliana, Fariz Setyawan and Arsaythamby Veloo.....422

[Teachers' ability in using math learning media](#)

Masniladevi, R C I Prahmana, Y Helsa and M Dalais.....430

[Super  \$\(a^\*, d^\*\)\$ - \$\mathcal{H}\$ -antimagic total covering of shackle graphs](#)

Ika Hesti Agustin, Dafik, Rosanita Nisviasari and R.M. Prihandini.....435