

# ***ATCM 2007 Contributed Papers***

**ISSN 1940-2279 (CD) ISSN 1940-4204 (Online)**

## **(A) Mathematical Research with Technology**

**Visualization of Gauss-Bonnet Theorem** Pages 2-8

*Yoichi Maeda, Japan*

**Generalizing 2D Geometric Properties to 3D With the Aid of DGS** 9-19

*Dohyun Kim, South Korea*

*Hyobin Lee, South Korea*

*Seunguk Jang, South Korea*

*Youngdae Kim, South Korea*

20-30

**The arbelos, mathematics and computer graphics**

*Hiroshi Okumura and Masayuki Watanabe, Japan*

**A LATEX plotting software KETpic and its development** 31-39

*Yuuki TADOKORO Takayuki ABE Kenji FUKAZAWA*

*Masataka KANEKO Masayoshi SEKIGUCHI Satoshi YAMASHITA*

*Setsuo TAKATO, Japan*

**On Proof Techniques and Technology** 40-49

*Ma. Louise Antonette N. De Las Peñas, Philippines*

*Debbie Marie Y. Bautista, Philippines*

**Two Explorations with Cabri 3D Leading to Two Theorems** 50-59

*Jean-Jacques Dahan, France*

**Application of Network Simplex Method to Currency Arbitrage Detection** 60-68

*Amanda Soon Wanmei, Singapore*

**Loci Associated with Tangents and Normals of Conic Sections** 69-80

*Tilak de Alwis, USA*

## **(B) Mathematics Teaching and Learning with Technology**

**Using Videotaped Components of Lesson Study to Build Communities of Practice for Prospective Mathematics Teachers** Pages 2-8

*Jack A. Carter, USA*

*Beverly J. Ferrucci, USA*

**Development of the Web resources for Interactive Lessons in Geometry** 9-18

**- Based on the mathematics standards in Iran –**

*Maryam Benhoodi, Japan*

*Jun Moriyama, Japan*

**Using MS Word and Field Codes for Teaching** 19-28

**Calculus for the Blind**

*Felino G. Pascual, U.S.A.*

**Graphic Tool for Communication with Visually Impaired Persons** 29-38

*Ryoji Fukuda, Japan*

*Tetsuya Ohashi, Japan*

**Beyond the Web-Based Cognitive and Interactive Metacognition Interface within Teaching Similar Triangles** 39-48

*Hsiu-Ju Chang, Taiwan*

**Exploring Ellipses by Shuttling Between the 2D & 3D Worlds** 49-57

**-Integrated Learning Function and Geometry to Foster “Function Sense”-**

*Chieko FUKUDA, Japan*

*Kyoko KAKIHANA, Japan*

**How learning and teaching of Mathematics can be made interesting: a case study** 59-68

*Sarwar J. Abbasi, Pakistan*

*Kahkashan Iqbal, Pakistan*

**Mathematics Problems and Real Life Scenarios** 69-73

*Andrew Toon, Singapore*

**The Dynamic Geometry Software as an Effective Learning and Teaching Tool** 74-83

*Zhonghong Jiang, U.S.A.*

**Converting ‘More to Less’ and ‘Less to More’: Designing Self-Determined Learning Environments within Minimalist Instruction** 84-94

*Lenni Haapasalo, Finland*

**Making Mathematics Simple, Attractive, and Personal** 95-104

*Brenda Lee, Taiwan*

**Exploring Ethnomathematics with the Geometer’s Sketchpad (GSP):Thai Students’ Weaving Projects** 105-114

*Krongthong Khairiree, Thailand.*

**(C) Research and Applications of Calculators in Mathematical Fields**

**Enhancing Conceptual Understanding in Calculus Using Class Pad 300** Pages 2-14

*Jonaki B Ghosh, India*

<b>Effects of Integrating the Use of Graphic Calculators on Performance in Teaching and Learning of Mathematics from the Cognitive Load Perspective</b>	15-27
<i>Nor'ain Mohd. Tajudin, Malaysia</i>	
<i>Rohani Ahmad Tarmizi, Malaysia</i>	
<i>Wan Zah Wan Ali, Malaysia</i>	
<i>Mohd. Majid Konting, Malaysia</i>	
<b>Integrating Calculators into the Singapore's Primary Mathematics Curriculum</b>	28-36
<i>Yeo Kai Kow Joseph, Singapore</i>	
<b>Calculators in the Mathematics Classroom: A Longitudinal Study</b>	37-47
<i>Jennifer Bosley, NZ</i>	
<i>Alan Gil delos Santos, NZ</i>	
<i>Ye Yoon Hong, NZ</i>	
<i>Michael O. J. Thomas, NZ</i>	