SOUTH EAST ASIAN MATHEMATICAL SOCIETY

SEAMS SCHOOL PROPOSAL

Modelling and Simulation for the Environmental Phenomena

Yogyakarta, Indonesia
7-15 September 2015

Organized by
Sanata Dharma University

2015

SEAMS SCHOOL PROPOSAL

1. The proposed title, place and dates of the SEAMS School

Title of the SEAMS School	:	Modelling and Simulation for the Environmental Phenomena
Place	:	Sanata Dharma University, Yogyakarta, Indonesia
Dates	:	7-15 September 2015

2. Organizers (write the names, place of work, and email address, if you have more than two then add the necessary lines)

1. Name	:	**Dr. Sudi Mungkasi**
Institution	:	Department of Mathematics, Sanata Dharma University, Yogyakarta, Indonesia
Email and Phone	:	sudi@usd.ac.id , (+62) 81 328 006 324
2. Name	:	**Prof. Dr. Leo Hari Wiryanto**
Institution	:	Department of Mathematics, Bandung Institute of Technology, Bandung, Indonesia
Email and Phone	:	leo@math.itb.ac.id , +62(22) 2502545 extension 217
3. Name	:	**Drs. Agah Drajat Garnadi, Grad.Dipl.Sc.**
Institution	:	Department of Mathematics, Bogor Agricultural University, Bogor, Indonesia
Email and Phone	:	agah.garnadi@gmail.com , (+62) 82 216 397 897

3. Short Description of the Scientific Content (max 100 words)

The proposed SEAMS School will focus on mathematical modelling and numerical simulation relating to environmental phenomena, such as flood, tsunami, rain, weather, etc. After the School is finished, the participants are expected to have skills on deriving mathematical models for those phenomena as well as solving the models using some numerical techniques. We will consider finite difference, finite volume, finite element, and spectral methods for the numerical techniques. Several available packages, such as ANUGA and SPHEREPACK, will be implemented. ANUGA will be used in simulations of floods and tsunamis, and SPHEREPACK will be used in weather predictions.

4. The speakers of the school (names, address, emails and phones)

1. Name	:	**Prof. Dr. Leo Hari Wiryanto**
Institution	:	Department of Mathematics, Bandung Institute of Technology, Bandung, Indonesia
Email and Phone	:	leo@math.itb.ac.id , +62(22) 2502545 extension 217
2. Name	:	**Prof. Dr. Markus Hegland**
Institution	:	Mathematical Sciences Institute, Australian National University, Canberra, Australia
Email and Phone	:	markus.hegland@anu.edu.au , (+61) 2 6125 4501
3. Name	:	**A/Prof. Dr. Stephen Roberts**
Institution	:	Mathematical Sciences Institute, Australian National University, Canberra, Australia
Email and Phone	:	stephen.roberts@anu.edu.au , (+61) 2 6125 4445
4. Name	:	**Drs. Agah Drajat Garnadi, Grad.Dipl.Sc.**
Institution	:	Department of Mathematics, Bogor Agricultural University, Bogor, Indonesia
Email and Phone	:	agah.garnadi@gmail.com , (+62) 82 216 397 897

5. Name	:	**Dr. Tri Wahyu Hadi**
Institution	:	Department of Meteorology, Bandung Institute of Technology, Bandung, Indonesia
Email and Phone	:	tri@meteo.itb.ac.id , (+62) 81 322 904 224
6. Name	:	**Prof. Dr. Sri Redjeki Pudjaprasetya**
Institution	:	Department of Mathematics, Bandung Institute of Technology, Bandung, Indonesia
Email and Phone	:	sr_pudjap@math.itb.ac.id , (+62) 81 573 122 114
7. Name	:	**Dr. Sudi Mungkasi**
Institution	:	Department of Mathematics, Sanata Dharma University, Yogyakarta, Indonesia
Email and Phone	:	sudi@usd.ac.id , (+62) 81 328 006 324

5. Describe in a few lines the local institution related to this school, including the main academic program and its strength. Give also the Internet site of the local institutions.

We propose that a SEAMS School "Modelling and Simulation for the Environmental Phenomena" be held at Sanata Dharma University, Yogyakarta, Indonesia. The University official website is http://www.usd.ac.id/.

Sanata Dharma University is a private university founded in 1955. It currently has eight faculties, namely: Faculty of Teacher Training and Education, Faculty of Economics, Faculty of Letters, Faculty of Science and Technology, Faculty of Pharmacy, Faculty of Psychology, Faculty of Theology, and Faculty of Postgraduate Programs. Among of them, Faculty of Teacher Training and Education is the oldest.

Department of Mathematics itself is under the Faculty of Science and Technology. It is a young department, as it was established in 1993. The lecturers' qualifications comprise of 57% PhD and 43% Masters. The department focuses to deliver Applied Mathematics to the students.

Even though it is still young, Department of Mathematics of Sanata Dharma University is eager to participate in the promotion of mathematics development both locally and internationally. One of the actions is by holding the SEAMS School at Sanata Dharma University.

6. **Provide information about the expected participants. The number and the distribution of expected participants.**

The proposed SEAMS School is expected to serve final-year undergraduate, masters, and first-year PhD students. We anticipate having 40 participants with 30 participants from Indonesia and 10 participants from South East Asia neighbouring countries. This SEAMS School will be announced via website that will be set up by the organizers, at http://www.usd.ac.id/workshop/seams/.

7. **Describe the objectives and the program of the proposed school, including the courses, speakers, abstracts (8 lines each) and tentative schedules for each course.**

Courses

[1]. Course: Mathematical models for some free surface flows
Instructor: Prof. Dr. Leo Hari Wiryanto
Objective: To introduce some fluid problems involving free surface and use boundary element method

Abstract: Mathematical models for free surface flows are derived using some potential functions, and solved numerically by boundary element method. Some mathematical theories of complex function and transformation are used so that the models become an integral equation that can be solved by the method.

[2]. Course: Python programming
Instructor: Drs. Agah Drajat Garnadi, Grad.Dipl.Sc.
Objective: To use Python as a free and open source language in programming

Abstract: The programming language Python is introduced. This language is chosen as it is free and open source, so users do not need to buy any license. We start this Python course with simple examples and practices, and continue to more advanced programming. This course will support numerical experiments and simulations to solve mathematical models.

[3]. Course: Finite volume methods
Instructor: Dr. Sudi Mungkasi
Objective: To solve conservation laws numerically

Abstract: Mathematical models in the form of conservation laws are solved using finite volume methods. In particular we are interested in the shallow water equations, as they govern shallow water flows. Numerical experiments will be executed using Python programming language.

[4]. Course: ANUGA software
Instructor: A/Prof. Dr. Stephen Roberts
Objective: To introduce ANUGA software to simulate shallow water flows

Abstract: ANUGA is a free and open source software, written based on Python. It is a package that solves the shallow water equations using a finite volume method. Participants are expected to be able to simulate flood and tsunami using ANUGA.

[5]. Course: Modelling and simulation for weather
Instructor: Dr. Tri Wahyu Hadi
Objective: To introduce mathematical models for weather

Abstract: Weather models and spectral method are introduced. The barotropic vorticity model is the first and simplest weather model solved by modern computer. We will show how spectral barotropic vorticity model is implemented for weather prediction over the entire globe. Complicated spherical harmonic computation is carried out using free SPHEREPACK software package.

[6]. Course: Finite difference methods
Instructor: Prof. Dr. Sri Redjeki Pudjaprasetya
Objective: To solve mathematical models numerically

Abstract: Finite difference methods are used to solve mathematical models. These methods have advantages as their structures are simple. Therefore programming will not be tedious. This course will complement the finite volume course in this SEAMS School. Of course we also include numerical experiments on solving mathematical models using finite difference methods.

[7]. Course: Finite elements methods
Instructor: Prof. Dr. Markus Hegland
Objective: To solve mathematical models numerically

Abstract: For some types of mathematical models, finite element methods are more appropriate to implement than finite difference and finite volume methods. Finite element methods provide a different approach to solving mathematical models, as they are built based on basis functions. For a particular problem, we shall deliver: the construction of finite element, the derivation of the finite element numerical scheme, and some programming examples using finite element methods.

Schedule

The schedule is written in the table below: 7-15 September 2015. The names here correspond to the first names of the instructors.

TIME	MON, 7 SEP 2015	TUE, 8 SEP 2015	WED, 9 SEP 2015	THU, 10 SEP 2015	FRI, 11 SEP 2015	SAT, 12 SEP 2015	SUN, 13 SEP 2015	MON, 14 SEP 2015	TUE, 15 SEP 2015
08:45-09:00	MORNING TEA	MORNING TEA	MORNING TEA	MORNING TEA	EXCURSION	MORNING TEA	FREE TIME	MORNING TEA	MORNING TEA
09:00-10:00	AGAH	SRI	LEO	TRI		MARKUS		MARKUS	SUDI
10:00-11:00	AGAH	SRI	LEO	TRI		MARKUS		MARKUS	DISCUSSION/ PROJECT
11:00-12:00	AGAH	SRI	LEO	TRI		MARKUS		STEVE	DISCUSSION/ PRESENTATION
12:00-13:00	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK		LUNCH BREAK		LUNCH BREAK	CLOSING & LUNCH
13:00-14:00	LEO	AGAH	TRI	SUDI		STEVE		STEVE	
14:00-15:00	LEO	AGAH	TRI	SUDI		STEVE		DISCUSSION/ PROJECT	
15:00-15:30	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK		COFFEE BREAK		COFFEE BREAK	
15:30-16:30	SRI	SUDI	DISCUSSION/ PROJECT	DISCUSSION/ PROJECT		STEVE		DISCUSSION/ PROJECT	
16:30-17:30	SRI	SUDI	DISCUSSION/ PROJECT	DISCUSSION/ PROJECT		DISCUSSION/ PROJECT		DISCUSSION/ PROJECT	

TOTAL HOURS = 45.

1. SRI = 5 HOURS
2. AGAH = 5 HOURS
3. LEO = 5 HOURS
4. TRI = 5 HOURS
5. MARKUS = 5 HOURS
6. STEVE = 5 HOURS
7. SUDI = 5 HOURS

DISCUSSION = 10 HOURS

8. Provide information about provisional budget and the expected funding.

Note: The instructors' living and travel expenses will be covered by their own funds. Indonesian participants should cover their living and travel expenses.

Income (In EURO)

1. CIMPA	5000
2. Sanata Dharma University	900
Total income	5900

Expenses (In EURO)

1. Financial support for 10 foreign participants	4000
2. Lunch and coffee/tea breaks for 7 days	1050
3. Accommodation of the instructors	850
Total expenses	5900

9. Provide CVs for the organizers.

(CVs of the organizers are attached.)

Dr. Sudi Mungkasi
Lecturer
Department of Mathematics, Sanata Dharma University
Mrican, Tromol Pos 29, Yogyakarta 55002, INDONESIA
Office phone: (+62)(274) 513301, ext: 2320
Email: sudi@usd.ac.id

Personal Details

Date of birth	: 6 August 1982
Born in	: Sleman, INDONESIA
Gender	: Male
Marital status	: Married
Nationality	: INDONESIA

Education and Research Training

1. Sarjana Sains (Bachelor of Science) (in Mathematics), Gadjah Mada University, Yogyakarta, Indonesia, August 2000 – May 2004. The University highest GPA holder over 1107 graduates in the May 2004 Gadjah Mada University Graduation Ceremony (GPA: 3.92/4.00)
2. Master of Mathematical Sciences, Australian National University, Canberra, Australia, July 2007 – December 2008 (GPA equivalent: 3.92/4.00)
3. Doctor of Philosophy (in Mathematical Sciences), Australian National University, Canberra, Australia, February 2009 – September 2012
   (PhD thesis was submitted for examination on 14/09/2012; the degree has been awarded since 19/03/2013)
4. Postdoctoral Fellow, Mathematical Sciences Institute, Australian National University, Canberra, Australia, 01/10/2012 – 31/08/2013

Research Interest

1. Computational and applied mathematics
2. Fluid flow modelling and simulations, e.g. water flows

Teaching Employments

1. Lecturer, Department of Mathematics, Sanata Dharma University, Indonesia, 2005–present.
   My status is a public servant under the Ministry of Education and Culture, Republic of Indonesia.
2. Lecturing MATH3511/MATH6111 Scientific Computing, Australian National University, January–June 2013.
3. Mathematics tutor, Australian National University, 2009–2012.
   I was a tutor in the Department of Mathematics and for some AusAID sponsored students at the ANU. Courses taught were Calculus, Linear Algebra, Scientific Computing, and Mathematical Techniques for Economists.

Selected Publications in the Past Five Years

- **S. Mungkasi** and S. G. Roberts, 2010, On the best quantity reconstructions for a well balanced finite volume method used to solve the shallow water wave equations with a wet/dry interface, **ANZIAM Journal**, Vol. 51, pp. C48–C65, Australian Mathematical Society, http://journal.austms.org.au/ojs/index.php/ANZIAMJ/article/view/2576/1289
- **S. Mungkasi** and S. G. Roberts, 2011, Numerical entropy production for shallow water flows, **ANZIAM Journal**, Vol. 52, pp. C1–C17, Australian Mathematical Society, http://journal.austms.org.au/ojs/index.php/ANZIAMJ/article/view/3786/1410

- **S. Mungkasi** and S. G. Roberts, 2011, A new analytical solution for testing debris avalanche numerical models, **ANZIAM Journal**, Vol. 52, pp. C349–C363, Australian Mathematical Society, http://journal.austms.org.au/ojs/index.php/ANZIAMJ/article/view/3785/1465
- **S. Mungkasi** and S. G. Roberts, 2011, A finite volume method for shallow water flows on triangular computational grids, **Proc. IEEE International Conference on Advanced Computer Science and Information System (ICACSIS) 2011**, pp. 79–84, http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=6140781
- **S. Mungkasi** and S. G. Roberts, 2012, ANUGA software for numerical simulations of shallow water flows, **Journal of Computer Science and Information**, Vol. 5, pp. 1–8, University of Indonesia, http://jiki.cs.ui.ac.id/index.php/jiki/article/view/180/100
- **S. Mungkasi** and S. G. Roberts, 2012, Approximations of the Carrier–Greenspan periodic solution to the shallow water wave equations for flows on a sloping beach, **International Journal for Numerical Methods in Fluids**, Vol. 69, pp. 763–780, John Wiley & Sons, http://doi.wiley.com/10.1002/fld.2607
- **S. Mungkasi** and S. G. Roberts, 2012, Analytical solutions involving shock waves for testing debris avalanche numerical models, **Pure and Applied Geophysics**, Vol. 169, pp. 1847–1858, Springer, http://dx.doi.org/10.1007/s00024-011-0449-1
- **S. Mungkasi** and S. G. Roberts, 2013, Validation of ANUGA hydraulic model using exact solutions to shallow water wave problems, **Journal of Physics: Conference Series**, Vol. 423, Art. No. 012029, Institute of Physics (IOP) Publishing, http://dx.doi.org/10.1088/1742-6596/423/1/012029
- **S. Mungkasi** and S. G. Roberts, 2013, Behaviour of the numerical entropy production of the one-and-a-half-dimensional shallow water equations, **ANZIAM Journal**, Vol. 54, pp. C18–C33, Australian Mathematical Society, http://journal.austms.org.au/ojs/index.php/ANZIAMJ/article/view/6243/1662
- **S. Mungkasi**, 2013, A study of well-balanced finite volume methods and refinement indicators for the shallow water equations, **Bulletin of the Australian Mathematical Society**, Vol. 88, pp. 351–352, Cambridge University Press, http://dx.doi.org/10.1017/S0004972713000750
- **S. Mungkasi**, R. van Drie and S. G. Roberts, 2013, Predictions on arrival times of water of the St. Francis dam break flood using ANUGA, **Proc. 20th MODSIM Conference**, Adelaide, Australia, 1-6 December 2013, MSSANZ, http://www.mssanz.org.au/modsim2013/A4/mungkasi.pdf
- **S. Mungkasi**, 2014, Performance of a second order finite volume method with different slope limiters in solving the dam-break problem, **Proc. AMAES 2014 Conference**, 19-22 January 2014, Curtin University Sarawak, Miri, Malaysia
- N. Hidayat, Suhariningsih, A. Suryanto and **S. Mungkasi**, 2014, The significance of spatial reconstruction in finite volume methods for the shallow water equations, **Applied Mathematical Sciences**, Vol. 8, pp. 1411–1420, http://dx.doi.org/10.12988/ams.2014.4124
- **S. Mungkasi** and N. Hidayat, The Courant–Friedrichs–Lewy number influences the accuracy of finite volume methods, **Proc. 4th Annual Basic Science International Conference**, Malang, Indonesia, 12-13 February 2014, Brawijaya University, http://basic.ub.ac.id/web/sites/default/files/proceeding-basic-2014.pdf
- **S. Mungkasi**, 2014, Shock wave propagation of circular dam break problems, **Journal of Physics: Conference Series**, Vol. 539, Art. No. 012022, Institute of Physics (IOP) Publishing, http://dx.doi.org/10.1088/1742-6596/539/1/012022
- L. H. Wiryanto and **S. Mungkasi**, 2014, A Boussinesq-type model for waves generated by flow over a bump, **Applied Mathematical Sciences**, Vol. 8, pp. 5293–5302, http://dx.doi.org/10.12988/ams.2014.47528
- **S. Mungkasi**, Z. Li and S. G. Roberts, 2014, Weak local residuals as smoothness indicators for the shallow water equations, **Applied Mathematics Letters**, Vol. 30, pp. 51–55, Elsevier, http://dx.doi.org/10.1016/j.aml.2013.12.007
- **S. Mungkasi** and S. G. Roberts, 2014, Weak local residuals in an adaptive finite volume method for one-dimensional Shallow water equations, **Journal of the Indonesian Mathematical Society**, Vol.20, pp. 11–18, http://www.jims-a.org/index.php/jimsa/article/view/176/pdf
- **S. Mungkasi**, 2014, On the advantage of implementing an adaptive moving mesh to solve the burgers' equation, **Proc. CUTSE 2014 Conference**, 3-4 December 2014, Curtin University Sarawak, Miri, Malaysia
- **S. Mungkasi**, 2014, An Accurate Smoothness Indicator for Shallow Water Flows along Channels with Varying Width, *accepted in* **Applied Mechanics And Materials**.

CV last updated: 24 December 2014

Curriculum Vitae

L. Hari Wiryanto
Professor
Faculty of Mathematics and Natural Sciences
Jl. Ganesa 10 Bandung, 40132, Indonesia
Email Address: leo@math.itb.ac.id
Telephone: +62(22) 2502545 ext: 217
Fax: +62(22) 2506450

1.1 Education:

1. B.Sc., Bandung Institute of Technology, 1985
2. Magister, Bandung Institute of Technology, 1988
3. Doctor, University of Adelaide, Australia, 1998

1.2 Teaching:

1. Calculus I and II
2. Engineering mathematics I and II
3. Mathematical Numeric
4. Partial Differential Equations

1.3 Research Interest

1. Free-surface flows
2. Water waves

1.4 Publication

1. **L.H. Wiryanto**, and E.O. Tuck, A back-turning jet formed by a uniform shallow stream hitting a vertical wall, in Proceedings of Intl. Conference on Differential Equations, editors: E. van Groesen and E. soewono, Kluwer Academic Press, 371-379, 1997
2. E.O. Tuck, S.T. Simakov, and **L.H. Wiryanto**, Steady splashing flow, 12th Int. workshop on water wave and floating bodies, Marseilles France, 1997, Proc. Editor B. Molin, Encole superieure d'Ingenieurs de Marseille, pp. 249-253
3. **L.H. Wiryanto**, and E.O. Tuck, A boundary-element solutions of a free-surface flow in a blocked channel, in Proceedings of Computation Technique and Application Conference, editors: J. Noye, M. Teubner, and A. Gill, World Scientific, 743-750, 1998
4. **L.H. Wiryanto**, A 2-D flow emerging from a tunnel, in Proceedings ISASTI 98, 391-394, 1998
5. **L.H. Wiryanto**, A cusp-like free-surface flow caused by a source/sink in a channel of finite depth, Bull. Malaysian Maths. Soc., 22, 57-65, 1999
6. **L.H. Wiryanto**, Zero gravity of free-surface flow over a weir, Proceeding ITB, 31, 1-4, 1999

7. E.O. Tuck, and **L.H. Wiryanto**, On steady periodic interfacial waves, J. Eng. Math., 35, 71-84, 1999
8. **L.H. Wiryanto**, and E.O. Tuck, An open-channel flow meeting a barrier and forming one or two jets, J. Austral. Math. Soc. Seri B, 41, 458-472, 2000
9. **L.H. Wiryanto**, A subcritical flow over a stepping bottom, Bull. Malay. Math. Sci. Soc., **28**(1), 2005, 95-102.
10. Syawaluddin H, Hang Tuah, Widianyana Meranti, **Leo Wiryanto**, Beberapa Permasalahan pada Teori Gelombang Linear, Jurnal Teknik Sipil, 12 (1), 2005, 13-20.
11. Syawaluddin H, Hang Tuah, Widianyana Meranti, **Leo Wiryanto**, Integrasi Numeris dengan menggunakan polinomial Lagrange, Jurnal Teknik Sipil, 12 (2), 2005, 115-125.
12. **L.H. Wiryanto**, Numerical solution of Boussinesq equations as a model of interfacial-wave propagation, Bull. Malay. Math. Sci. Soc., **28**(2), 2005, 163-172.
13. **L.H. Wiryanto**, Zero gravity of a jet emerging from a slit, J. Indones.Math. Soc. (MIHMI), **12**, 2006, 89-98.
14. **L.H. Wiryanto** dan Wasoma Djohan**,** Metoda Beda Hingga pada Persamaan KdV Gelombang Interface, Jurnal Matematika, 9 (1), 117-123, 2006
15. **L.H. Wiryanto**, Metoda beda hingga pada persamaan KdV gelombang interface, Jurnal Matematika, **9**, 2006, 117-123.
16. **L.H. Wiryanto** and Warsoma Djohan, Stability analysis of FTBS on shallow water equations, Proc. 5th SEAMS-GMU Int. Conf. Math. And its Appl., 469-474, 2007.
17. **L.H. Wiryanto** and Achirul A, An implicit finite difference method for a forced KdV equation, Jurnal Matematika, 11, 2008, 1-5.
18. **L.H. Wiryanto**, A jet emerging from a slit at the corner of quarter plane, J. KSIAM, 13(4), 2009, 237-245
19. **L.H. Wiryanto** and Anwarus, Monochromatic waves over permeable bed, Proc. 5th Asian Mathematics Conference, Kuala Lumpur, 617-622, 2009.
20. **L.H. Wiryanto** and Adil A Akbar, Fully nonlinear solutions of supercritical flow on terminated channel, Proc. IndoMS Int. Conf. Maths Appl., 2009, 411-418.
21. L. H. Wiryanto, A jet emerging from a slit at the corner of quarter plane, *J. Korean Soc. Indust. Appl. Math*., 13(4), 2009, 237 – 245.
22. **L.H. Wiryanto**, Unsteady waves generated by flow over permeable bed, Int. J. Applied Maths., 40:4, IJAM 40 4 02, 2010
23. **L.H. Wiryanto** & W. Djohan, A mathematical model of surface waves in a system of two porous layers, Int. J. Applied Math. Stat., v17(j10),June 2010, 116-124
24. **L.H. Wiryanto,** Wave propagation passing over a submerged porous breakwater, J. Eng. Math. DOI 10.1007/s10665-010-9419-3, 70: 129-136, 2011.
25. **L.H. Wiryanto,** Wave Propagation over a Submerged Bar, ITB J. Sci. Vol. 42 A, No. 2, 2010, 81-90.
26. **L.H. Wiryanto,** A Solitary-like wave generated by flow passing a bump Proc. ICMSA, 2010.
27. **L.H. Wiryanto**, J. Wijaya, B. Supriyanto, Free-surface flow under a sluice gate from deep water, Bull. Malay. Math. Sci. Soc., 34(3), 601-609, 2011.

28. **L.H.Wiryanto**, H.B. Supriyanto, The cotraction coefficient of a free-surface flow under gravity entering a region beaneath a semi-infinite plane, East Asian J. On Applied Math. (2) (2012), pp. 342 – 352.

Departemen MATEMATIKA
FMIPA - Institut Pertanian Bogor

Sign In

AGENDA E-LEARNING PERPUSTAKAAN FORUM BUKU TAMU

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- ALUMNI TERKAIT

DOSEN & PENDUKUNG

Staf Dosen

Staf Pendukung

RANDOM QUOTES

Lelaki yang tidak berharta
biasanya memiliki
lidah bermadu.

anonim

Profil Dosen

Akademik

Nama Lengkap	:	**Drs. Agah Drajat Garnadi, Grad.Dipl.Sc.**
Inisial	:	ADG
NIP Dosen	:	131 803 648
Institusi	:	Departemen Matematika
Bagian	:	Matematika Komputasi
Minat Riset	:	Matematika Komputasi, Aljabar

Kontak

Telepon	:	+62-251-625276 ext.302
Email:	:	adg661@yahoo.com
URL	:	agah.garnadi@gmail.com

Daftar Publikasi

No	Publikasi
1	Garnadi AD, Ilyas M, Ruhiyat, Nurdiati S. (2013). **Teknik Rekonstruksi Aljabar untuk Menyelesaikan Sistem Persamaan Linear dengan Scilab**. Seminar Nasional dan Workshop Aljabar dan Pembelajarannya
2	

	Ayatullah F, Julianto MT, Garnadi AD, Nurdiati S. (2012). **Metode Conjugate Gradient Paralel untuk Menyelesaikan Sistem Persamaan Linear dalam Scilab**. Jurnal Matematika dan Aplikasinya 11 (2)
3	Alatas H, Garnadi AD, Nurdiati S, Pujanegara T, Yuliawati L. (2012). **Simulasi Waveguide Menggunakan Metode Galerkin dalam Matlab**. Jurnal Matematika dan Aplikasinya 11 (2)
4	Garnadi AD, Guritman S, Kusnanto A, Hanum F. (2012). **Survei Pola Grup Kristalografi Bidang Ragam Batik Tradisional**. Jurnal Matematika dan Aplikasinya 11 (2) pp. 1-10
5	Ruhiyat, Ilyas M, Garnadi AD, Nurdiati S. (2012). **Teknik Rekonstruksi Aljabar untuk Menyelesaikan Sistem Persamaan Linear dengan Scilab**. Jurnal Matematika dan Aplikasinya 11 (2) pp. 11-18
6	Garnadi AD, Khatizah E. (2010). **Masalah Dirichlet untuk Persamaan Beda dalam Graf Terboboti**. Jurnal Matematika dan Aplikasinya 9 (2)
7	Garnadi AD, Verawati, Prasetyaning DRL. (2010). **Simulasi Sistem Parameter Terdistribusi Menggunakan Metode Garis Lateral di Lingkungan PSE SCILAB**. Jurnal Matematika dan Aplikasinya 9 (1) pp. 31-42
8	Drs. Agah D. Garnadi. (2006). **2-D Numerical Reconstruction of Electrical Impedance Tomography using Iteratively Regularized Gauss-Newton Algorithms with a-posteriori parameter choice rule**. Poc. Asian Control Confrence
9	Agah D. Garnadi, Elis Khatizah. (2006). **Masalah Variasional Untuk Persamaan Beda Dalam Graf Terboboti**. Jurnal Matematika dan Aplikasinya 5 (2) pp. 31-41
10	Agah D. Garnadi. (2006). **Tomografi elektrik trimatra, real time, paralel**. Makalah Seminar
11	Drs. Agah Drajat G and D. Kurniadi. (2005). **2-D Numerical Reconstruction of Electrical Impedance Tomography using Tikhnov Regularizon Algorithms with a-posteriori parameter choice rule**. Proceeding 2005 Asian Physics Symposium
12	Agah D. Garnadi. (2005). **Mixed Finite Element Formulation of the Biharmonic Equation**. Journal of Mathematics and Its Applications 4 (1) pp. 1-12
13	Agah D. Garnadi. (2005). **Rekonstruksi Tomografi impedans elektrik dengan teknik regularisasi Tikhonov tak linear disertai pemilihan parameter secara apostriori**. Makalah seminar
14	Agah D. Garnadi. (2004). **Masalah Syarat Batas Bebas Persamaan Diferensial Parsial Parabolik Satu-dimensi**. Jurnal Matematika dan Aplikasinya 3 (2) pp. 11-27
15	Agah D. Garnadi. (2004). **Pemetaan Dirichlet ke Neumann untuk Rangkaian Resis-tor Berbentuk Segi**. Jurnal Matematika dan Aplikasinya 3 (2) pp. 45-49
16	. (). .
17	. (). .
18	. (). .