

LabMath-Indonesia (LMI) is an independent non-profit research institute aimed to facilitate the execution of scientific research and to disseminate the results to the community. LMI advocates and stimulates the use of mathematical modelling and simulation in various disciplines for relevant Indonesian problems.

Increase of human capacity in these areas is supported by providing opportunities for personal development for bright young students and senior scientists through courses, residency and participation in research. National and International relations with universities, institutes and companies are actively developed to expand the existing network.

LMI advocates and stimulates the use of modern modelling and simulation methods. Strategic research is executed in the areas of Coastal Oceanography and Environmental Water. For both topics we consider aspects that are especially important for Indonesia, including the effects of Climate Change.

Research support in various areas of Engineering Mathematics is provided as far as requested and in line with the general aims.

Various databases are under development; these are GIS type of databases, such as wave characteristics of Indonesian waters, economic data such as production and trade of agricultural goods, but also information about Indonesian human capacity in modelling and simulation in general, and in coastal management aspects in particular (see www.IndonesianCoastalHUB.org).

Scientific projects funded by national or international organisations provide the practical possibilities for many of the research activities.

PhD-research consists of projects executed at or with support from LMI by Indonesian students with the aim to get a PhD degree of the foreign university that provides the funding for the research.

Graduate Research is directed to young students (S1 or S2) for research training. As junior researcher with internship at LMI, they work on a topic from one of the projects during a period from 3 to 12 months, often to prepare themselves for continued study (MSc or PhD) abroad. National and international student exchange is included.

For dissemination of new methods, to stimulate research, and to select young students, LMI regularly organizes *Research Work Shops* in various areas with Indonesian and international lecturers. Symposia are organized to stimulate contacts between universities and with (governmental) agencies.

www.LabMath-Indonesia.org

Lawangwangi,
Mekarwangi, Bandung

LMI-Staff

Dr. Andonowati, Director
Prof.E. (Brenny) van Groesen, Sc.Director
Dr. SK Saptomo, Assoc. Researcher
Dr. Wiwin Windupranata, Assoc. Researcher

Associated Scientists

Dr. Dodo Gunawan BMKG
Dr. Hamzah Latief ITB
Prof.Dr. Hidayat Pawitan, IPB
Dr. Jamari UNDIP
Prof.Dr. Sri Widiyantoro, ITB
Prof.Dr. Wiratmaja Puja, ITB

Internships

Indonesian students
2007&2008 : 16 students for 112 months
International Students
2007 & 2008: 7 students for 18 months

Recent Research Projects

Modelling the Total Water Balance in Indonesia
KNAW Mobility Programme 2009-2010
Aspects of Tsunami Simulations
KNAW Mobility Programme 2008-2009
Integrating Indonesian Capacity for Coastal Zone Management
APN 2008-2009
Nearshore tsunami modelling and simulations
NWO-AL, with UTwente, 2008 – 2012
Determination of squared Response Amplitude Operator
MARIN –Netherlands 2009
Inverse Water Wave Modelling
MARIN –Netherlands 2008-2009
Extreme Water Wave Modelling: towards safety of sea transportation
RISTEK, With ITB, 2008
Internal fluid velocities determined from AB-simulations
MARIN –Netherlands, 2008

PhD and PD projects

Didit Adytia, Tsunami modelling and simulation
LMI and UT 2008 - 20012
M. Tauviqurahman, Lubricated MEMS
UNDIP and UT 2008-2012
Jamari, Controlled Running-in
KNAW-PostDoc, 2007-2010
Rifky Ismail, Rolling Sliding
UNDIP and UT 2007-2011
Made Parwata, Wheel-rail contact
ITB and UT 2007-2012

(Research) Work Shops and Symposia

International Symposium on Coastal Zone Management 18-20 May 2009
International Workshop Coastal Oceanography 16-17 May 2009
2-Week Course: Math Theory of Systems & Control 18-30 January 2009
RWS Tsunami Modelling and Simulations 12-23 January 2009
RWS Financial Engineering 4-15 August 2008
Symposium Integrated Water Resource Management 19 January 2008
RWS Integrated Water Resource Management 7-18 January 2008
RWS Operations Research and Optimization 6 – 16 August 2007
RWS Inverse Modelling In The Natural Sciences 15 – 26 January 2007
RWS Math & Numerical Modelling Of Geophysical Flows 17 – 28 July 2006
Symposium Tsunami Modelling 10 August 2006
WS Tsunami Modelling a new Variational Boussinesq Code 23 – 27 January 2006