

Geophysics Study Group & SEG Student Section Diponegoro University

**Geophysics Laboratory** 

Physics Department, Math and Science Faculty, Diponegoro University JI. Prof. Soedarto, SH Tembalang-Semarang 50275 Telp. (024)70790933 Fax (024)76480822 Email : seg\_undipss@yahoo.com

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#### HAGI Guest Lecture Program

#### BACKGROUND

Hard skill and soft skill was be compulsory requirements that must be possessed by students before they really in to industry and work competitions. Thus requirements could not be fulfill just by following daily lecture in the class. Like our body which still need supplement nutritions beside primer nutritions to keep health. Studying also need sharing information from any source that related to subjects discussions and concentration. Presented of expertise association and its student chapter/section absolutely golden ways to answer and solving discrepancy between education and industry works. Through HAGI GUEST LECTURE Program, SEG SS Diponegoro University believe it could be answer to experience thirstiness that we have felt for a long time.

There are a lot of concentration in geophysics and we vigorously to learning more and more. Seismic was becoming most influence stuff in exploration and hazards analysis. Many methods in geophysics was broadly use in exploration and mining. Acquire direct lecture from many expert in expertise association like HAGI absolutely an amazing experiences and hugely valuable knowledge.

Method	Physical parameter measured	Typical units	Relevant physical property	Typical source of anomaly	Depth of investiga- tion
Gravity: A,B,G	Total attraction of Earth's gravity field (the vertical attrac- tion of anomalous	Milligals or gravity unit (0.1 mGal)	Density	Rock density con- trasts	All
	masses) Gradient of Earth's gravity field	Eötvös unit (10º gal/cm)			
Magnetic: A,B,G	Vector component, or total attraction of Earth's magnetic	Nanotesla, or gammas	Magnetic suscep- tibility and rema- nent magnetization	Magnetic suscep- tibility and (or) rema- nent magnetization	Surface to Curie isotherm
	field Gradient of Earth's magnetic field	Nanotesla/m		contrasts "	
Gamma-ray	Rate of gamma-ray photons received	Counts/second	Quantity of K+U+ Th and daughters	K+U+Th contrasts in Earth's upper 50 cm K,U, and Th con- trasts in Earth's upper 50 cm	Upper 50 cm
scintillometry: A,B,G Gamma-ray Spectrometry: A,B,G	Rate of gamma-ray photons received and their energy	Counts/second in spectral regions. If calibrated, %K and PPM equiv. U and Th	Quantity of K,U,Th and daughters		
Contact Person : Rey	han (+6285-695-393	.0/3)			
Email : seg_undipss@yahoo.com					2

Seismic refraction: B,G Seismic reflection: B,G	Seismic energy travel time "	Meters, milliseconds "	Velocity o waves "	f P or S	Structures or ve layer contrasts "	locity	A11 "
Thermal bore-hole or shallo hole: B Thermal remote sensing: A	temperature	or Degrees C/m, degrees ure Degrees C	C Thermal co ity Thermal ir		Thermal flux or ductivity variati Thermal inertia trasts	ions	Hole depth About 5 cm
Electrical (see text) Direct current resistivity: B several variations in elec- trode geometry	G Electrode position (m), applied curro (A), and electric field (mV)				Lateral or vertic changes in resis		About 2 km
Electromagnetic methods (see text): A,B,G many variations available	Dependent on method; ratio of received to applied electric and mag- netic fields	Impedance (Ohms) or dimensionless ratio; units of conductivity (Sei- mens/m) or resistivity (Ohm-m)	Conductivity (in verse of resistivi	ty) chan	ral or vertical ges in Earth uctivity	100 m source (1 km	w (10 m; VLF; , controlled e), intermediate ; AMT), deep n; MT)
Mise-a-la-masse: B,G	Applied DC or low frequency AC field	Millivolts	Resistivity	Cond	luctive body	A few	hundred meters
Induced polarization: B,G	Resistivity change w/ frequency (PFE) Phase angle be- tween transmitted and received sig- nal( $\phi$ ) Normalized area of part of received voltage decay curve	Percent change Milliradians Milliseconds	Interface ionic polarization	als ar	llic luster miner- nd pore water and zeolite rals	About	2 km
Self potential: B,G	Natural near-static (direct current) electric field	Millivolts	Eh/pH electronic conductor; streat ing potential and thermal coupling coefficients	m- Eh/pl l electi g grour	cal change in H caused by ronic conductor; nd water flow; nal flux	A few	hundred meters
Remote sensing: A	Reflected radiation intensity (UV, VIS, IR)	Recorded as optical or digital intensity image	Spectral reflecta Albedo		ges in spectral ctance and Albe-	Surfa	e only

(Van Blaricom, 1980)

### PURPOSE

Our purpose to make this guest lectures proposal is to enrichment and completing our knowledge and experience about geophysics. Through this opportunity we believe we will have broadly paradigms. This also will making tighter connection between SEG SS Diponegoro University and HAGI instead.

#### PARTICIPANT

Participants of these HAGI GUEST LECTURE are member of SEG Student Section Diponegoro University and also some delegation from institution around us in Semarang who belongs in geophysics fields or its related.

### TIME AND PLACE

All of guest will be held in Geophysics Laboratory, Physics Department, Mathematics and Natural Sciences Faculty Diponegoro University. Prefer topics and estimate time we attach below:

		University/		Estimate
No	Name	Institution	Prefered Topic / Title	Prefered Time
		Name		Schedule
1	SEG SS	Diponegoro	Principles and Aplications of Control	2011 June, 16
	Diponegoro	University	Source Audio Magnetotelluric method	
	University		(CSAMT) for Geophysical Analysis	
2	SEG SS	Diponegoro	Exploits Magnetic Mineralogy ( Methods	2011 July,
	Diponegoro	University	& Principal in Geophysics Observations)	16/17
	University			
3	SEG SS	Diponegoro	Reserve Definition ''Role and Its Process	2011 August,
	Diponegoro	University	in Mining Exploration''	6/7
	University			
4	SEG SS	Diponegoro	Direct Current Techniques in Variety of	2011
	Diponegoro	University	Mineral Exploration & Geo	September,
	University		Environmental Considerations to Various	24/25
			Ore Deposit Types	
5	SEG SS	Diponegoro	Application of Gamma-Ray Method in	2011 October,
	Diponegoro	University	Geophysics Exploration	22/23
	University			
6	SEG SS	Diponegoro	Bore hole/Shallow Probe Methods and	2011
	Diponegoro	University	Thermal Gradient Monitoring in	November,
	University		Geophysical & Exploration Surveys	19/20
7	SEG SS	Diponegoro	Applied Induced Polarization In Order to	2011
	Diponegoro	University	Disseminated Conductsing Minerals	December,
	University			17/18

# COMMITTEE ARANGEMENT

## **Committee Arrangement** HAGI Guest Lecture Program

Protector Advisor	Dean of Mathematics and Natural Science Faculty Diponegoro University Dr. Muhammad Nur, DEA NIP. 1957 1126 1990 01 1 001 Vice Dean for Accademic Affairs of
	Mathematics and Natural Science Faculty Diponegoro University Dr. Agus Subagio, M.Si NIP. 1971 0813 1995 12 1 001
Guarantor	Chief of Physics Department Mathematics and Natural Science Faculty Diponegoro University Drs. Tony Yulianto, MT NIP.1964 0719 1993 03 1 002 Faculty Advisor for SEG SS Diponegoro University Ir. Hernowo Danusaputro, MT NIP. 1954 0108 1986 03 1 001
1	Drs. Dwi P. Sasongko, M.Si NIP. 1958 0905 1987 03 1 002 Dr. Rahmat Gernowo NIP. 1965 1123 1994 03 1 003 Gatot Yulianto, M.Si NIP. 1972 0722 1997 02 1 001 Rina Dwi Indriana, M.Si NIP. 1972 0102 1998 03 2 001
Contact Person : Reyhan (+6285-69 Email : seg_undipss@yahoo.com	5-393-043)

Dr.Eng. Agus Setyawan, M.Si NIP. 1973 0825 1999 03 1 002 Dr. Eng. Udi Harmoko, M.Si NIP. 1971 0810 1999 03 1 001

Chief	Reyhan Priyotama	J2D 007 031
Secretary	Muhammad Fahmi	J2D 007 027
Treasurer	Sheyza Rery D.A	24040110110014
Event Section	Adhita Meryanto	J2D 007 003
	M. Ulin Nuha A	J2D 008 036
	Retno Septiani	$J2D \ 008 \ 045$
	Galih Candra K	J2D 008 018
	Ophie Thio Rendy	J2D 009 007
Public Relation Section	Anin Naim	J2D 007 007
	Bagus Prasetyo	J2D 008 008
	Nuraeni	J2D 008 043
	Irfan Roismanto	J2D 008 027
	Nurul Firdausi N	$J2D \ 009 \ 035$
	Muhammad Nur H	$J2D \ 008 \ 035$
Equipment Section	M. Akbar Triana	J2D 008 034
	Yodhabumi A	J2D 009 038
	Rio Gunawan	J2D 007 033
<b>Consumption Section</b>	Aprilia Widya B	J2D 007 008
	Dewi Maryaningsih	J2D 008 012
	Imroatun Nikmah	J2D 008 023
	Anna Sofiana	J2D 007 006
	Pertiwi	J2D 009 001
	Noviana Fransiska	J2D 008 040
	Sigit Darmawan	J2D 008 052

# ACTIVITY FUNDS

No	Type of Outcome	Unit Price (Rp)	Volume	Total (Rp)
1	Publications	700,000	1	700,000
3	Seminar's kit	180,000	50	9,000,000
4	Cleanliness	700,000	1	700,000
<b>5</b>	Documentations	500,000	1	500,000
6	<b>Committee Equipments</b>	500,000	1	500,000
7	Secretariat	500,000	1	500,000
8	Souvenir	1,000,000	1	1,000,000
9	Decoration	700,000	1	700,000
10	Consumtion	140,000	50	7,000,000
11.	*Speakers Fee	-	-	-
		Total		20,600,000

st accommodation and transportation costs will covered by HAGI

Contact Person : Reyhan (+6285-695-393-043) Email : seg\_undipss@yahoo.com

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### CLOSING

Here all of our proposal for **HAGI Guest Lecture Program**. We really apologize if there were improper things. We really expected that HAGI would admit and approve our proposal.

President of SEG SS Diponegoro University

Adhita Meryanto NIM. J2D 007 003 Semarang, April 19<sup>th</sup> 2011 Chief Committee of HAGI Guest Lecture Program

> Reyhan Priyotama NIM. J2D 007 031

Accussed by,

Chief of Physics Department Mathematics and Natural Science Faculty

<u>Drs. Tony Yulianto, MT</u> NIP.1964 0719 1993 03 1 002 Coordinator HAGI of Central Java Region

<u>Ir.Hernowo Danusaputro, M.</u> NIP. 1954 0108 1986 03 1 00

Vice Dean for Accademic Affair Mathematics and Natural Science Faculty Diponegoro University

<u>Dr. Agus Subagio, M.Si</u> NIP. 1971 0813 1995 12 1 001

No	Nama	NIM
1	Achmad Chalid Afif A	J2D009037
2	Adhita Meryanto	J2D007003
3	Agus Joko Prasetyo	J2D009018
4	Anin Naim	J2D007007
5	Anjar Oktikawati	J2D009011
6	Arga Brahmantyo	J2D009027
7	Bagus Budi Prasetyo	J2D008008
8	Bagus Sajiwo	J2D009033
9	Dewi Maryaningsih	J2D008012
10	Dita Aprilina	J2D009042
11	Elida Septiana Putriutami	J2D009025
12	Endriasmoro M. Siagian	J2D009029
13	Faizal Ahmad	J2D009010
14	Farhatin Nurul Ihya	J2D009028
15	Galih Candra Kusuma	J2D008018
16	Harri Yudianto	J2D009013
17	Imroatun Nikmah	J2D008023
18	Irfan Roismanto	J2D008027
19	M. Rizqi Aditya	J2D009021
20	Magna Insani	J2D009024
21	Maila Shofa	J2D009008
22	Muhamad Akbar Triana	J2D008034
23	Muhammad Fahmi	J2D007027
24	Muhammad Nur Handoyo	J2D008035
25	Muhammad Ulin Nuha Aba	J2D008036
26	Nur Aeni	J2D008043
27	Nurul Firdausi Nuzula	J2D009035
28	Ophie Thio Rendy	J2D009007
29	Prima Erfido Manaf	J2D009030
30	Reyhan Priyotama	J2D007031
31	Ryan Kurniawan	J2D009019
32	Sheyza Rery Dynza Anggary	24040110110014
33	Slamet Pujiono	J2D004196
34	Yodhabumi Adiprabatawastu	J2D009038

### List Member of SEG SS Diponegoro University