

PROPOSAL

Penelitian Unggulan Perguruan Tinggi ITB 2016



■

JUDUL

Pembangunan sistem informasi pengelolaan air tanah di Kota Bandung

Ketua Tim Peneliti:

Dr. Dasapta Erwin Irawan

KK : Geologi Terapan
Fakultas/Sekolah : Ilmu dan Teknologi Kebumihan

INSTITUT TEKNOLOGI BANDUNG
April, 2015

HALAMAN PENGESAHAN
PENELITIAN UNGGULAN PERGURUAN TINGGI

Judul Kegiatan : Pembangunan sistem informasi pengelolaan air tanah Kota Bandung
Kode>Nama Rumpun Ilmu : 475 / Teknik Geologi
Bidang Unggulan PT : Infrastruktur, Mitigasi Bencana, dan Kewilayahan
Topik Unggulan : Infrastruktur, Mitigasi Bencana, dan Kewilayahan
Ketua Peneliti
A. Nama Lengkap : DASAPTA ERWIN IRAWAN
B. NIDN : 0017047607
C. Jabatan Fungsional : Lektor
D. Program Studi : Teknik Geologi
E. Nomor HP : 082121424210
F. Surel (e-mail) : erwin@ge.itb.ac.id
Anggota Peneliti (1)
A. Nama Lengkap : RUSMAWAN SUWARMAN ST,MT
B. NIDN : 0030088105
C. Perguruan Tinggi : Institut Teknologi Bandung
Lama Penelitian Keseluruhan : 2 Tahun
Penelitian Tahun ke : 1
Biaya Penelitian Keseluruhan : Rp 200.000.000,00
Biaya Tahun Berjalan :
- diusulkan ke DIKTI Rp 200.000.000,00
- dana internal PT Rp 0,00
- dana institusi lain Rp 0,00
- inkind sebutkan 0

Mengetahui
Ketua Prodi T. Geologi

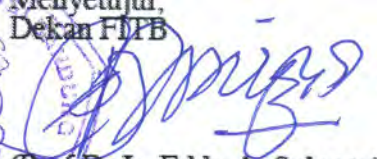



(Dr. Budi Brahmantyo)
NIP/NIK 196212191990031001

Bandung, 29 - 4 - 2015,
Ketua Peneliti,



(DASAPTA ERWIN IRAWAN)
NIP/NIK197604172008011007

Menyetujui,
Dekan FIFB

(Prof. Dr. Ir. Eddy A. Subroto)
NIP/NIK 195406161981021001



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IDENTITAS PROPOSAL

1. Judul : Pembangunan sistem informasi pengelolaan air tanah di Kota Bandung

2. Tim Riset

2.1 Ketua Tim :

- a. Nama Lengkap : Dr. Dasapta Erwin Irawan
- b. Jabatan Fungsional/Golongan : 3B
- c. NIP : 19760417 200801 1 001
- d. Fakultas : Fakultas Ilmu dan Teknologi Kebumihan
- e. Kelompok Keahlian : Geologi Terapan
- f. Alamat Kantor/Telp/Fax/E-mail : Jalan Ganesa No. 10/0222514990/0222514837
- g. Alamat Rumah/Telp/Fax/HP/E-mail : Jalan Banyak Tapis No. 15, Tatar Banyak Sumba, Kota Baru Parahyangan, Kab. Bandung Barat/082121424210/erwin@gc.itb.ac.id

2.2 Anggota Tim Riset:

No.	Nama dan Gelar Akademik	Bidang Keahlian	Unit Kerja/ Lembaga	Alokasi Waktu	
				Jam/mg	bulan
1.	Dr. Rusmawan Suwarman	Hidrogeologi	FITB	5	8
2.	Dr. Nur Ulfa Maulidevi	Sistem informasi	STEI	5	8

2.3 Asisten Peneliti/Mahasiswa (sebutkan nama bila sudah ada):

No.	Nama dan Gelar Akademik	Bidang Keahlian	Alokasi Waktu	
			Jam/mg	bulan
1.	Gunawan Salim (Mahasiswa S1)	Sistem informasi	10	8
2.	Aditya Pratama (Mahasiswa S1)	Teknik Geologi	10	8
3.	Imam Priyono (Mahasiswa S3)	Hidrogeologi	10	8

3. Biaya yang diusulkan : Rp. 200.000.000,- (untuk 2 tahun)

4. Target output (keluaran) Riset :

No.	Nama/Jenis output	Jumlah
1.	Paten sederhana	1
2.	Publikasi di jurnal internasional	1
3.	Publikasi di jurnal nasional terakreditasi	1
4.	Publikasi di seminar nasional	1

5. Jenis skema yang dipilih (pilih salah satu) :

Kategori A

Kategori B

Kategori C

V Kategori D

Dengan ini saya menyatakan bahwa proposal ini belum pernah didanai oleh atau diusulkan ke sumber lain.

Mengetahui,
Ketua Prodi Teknik Geologi

Bandung, 29 April 2015

Ketua Tim Riset

Dekan FITB

Dr. Budi Brahmantyo
NIP. 19621219 1999003 1 001

Dr. Dasapta Erwin Irawan
NIP. 19760417 200801 1 007

Prof. Dr. Ir. Eddy A. Subroto
NIP. 19540616 198102 1 001

1 RINGKASAN PROPOSAL

Kebutuhan akan sistem informasi pengelolaan air tanah di Kota Bandung sudah sangat mendesak. Pemompaan air tanah yang terus-menerus tanpa batasan yang jelas memperburuk kondisi tersebut. Saat ini aplikasi pengelolaan air tanah di Badan Pengelola Lingkungan Hidup Kota Bandung masih sangat terbatas. Aplikasi pemantauan muka air tanah dan perhitungan pajak air tanah telah dijalankan, tetapi belum terintegrasi dalam satu sistem informasi pengelolaan air tanah. Untuk itu tim mengusulkan program penelitian skema ipteks ini untuk membantu lembaga tersebut serta lembaga lain yang terkait agar dapat memiliki dan mengoperasikan sistem informasi agar dapat mengelola air tanah secara lebih berkelanjutan.

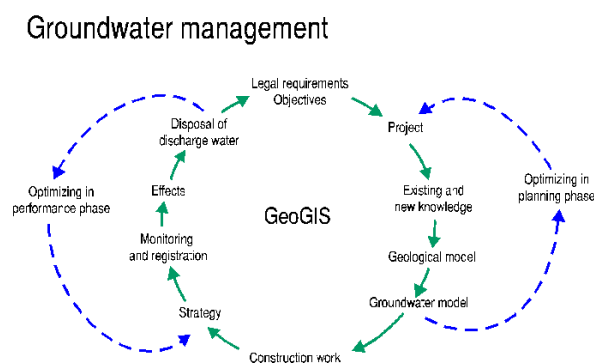
Saat ini kab/kota di Indonesia masih belum memiliki standar baku sisfo pengelolaan air tanah yang sesuai dengan prinsip pengelolaan lingkungan keberlanjutan. Untuk itu prototip hasil penelitian ini dapat memiliki dampak yang sangat luas.

2 PENDAHULUAN

2.1 Latar belakang masalah

Saat ini pengelolaan air tanah dilaksanakan umumnya secara manual. Pendataan para pemilik ijin sumur, pengukuran muka air tanah, perhitungan potensi air tanah, serta perhitungan pajak air tanah, seringkali dilakukan secara manual. Para lembaga pengelola mengandalkan spreadsheet dan database sederhana dalam memantau jumlah pengambilan air tanah.

Badan Pengelola Lingkungan Hidup Kota Bandung, selangkah lebih maju dengan telah membangun sistem informasi pemantauan pajak air tanah, dan pemantauan muka air tanah. Namun dua modul aplikasi tersebut belum terkoneksi, sehingga masing-masing memerlukan entry data sendiri, yang rawan kesalahan. Salah satu benchmark adalah situs pengelolaan air tanah pemerintah Victoria di Australia, via tautan berikut http://www.vvg.org.au/cb_pages/disclaimer.php. Dalam website tersebut tersedia aplikasi yang secara online memvisualkan sistem akuifer, posisi dan spesifikasi pemboran, posisi muka air tanah, serta secara offline (karena berkaitan dengan privacy) pengambilan air tanah. Aplikasi yang dihasilkan berformat spasial dengan memanfaatkan teknologi *Geographical Information System* (GIS). Menurut Moller dan Markussen (1997), siklus pengelolaan air tanah dapat dilihat pada Gambar 1.



Gambar 1 Groundwater management cycle (Moller and Markussen, 1997)

2.2 Tujuan riset

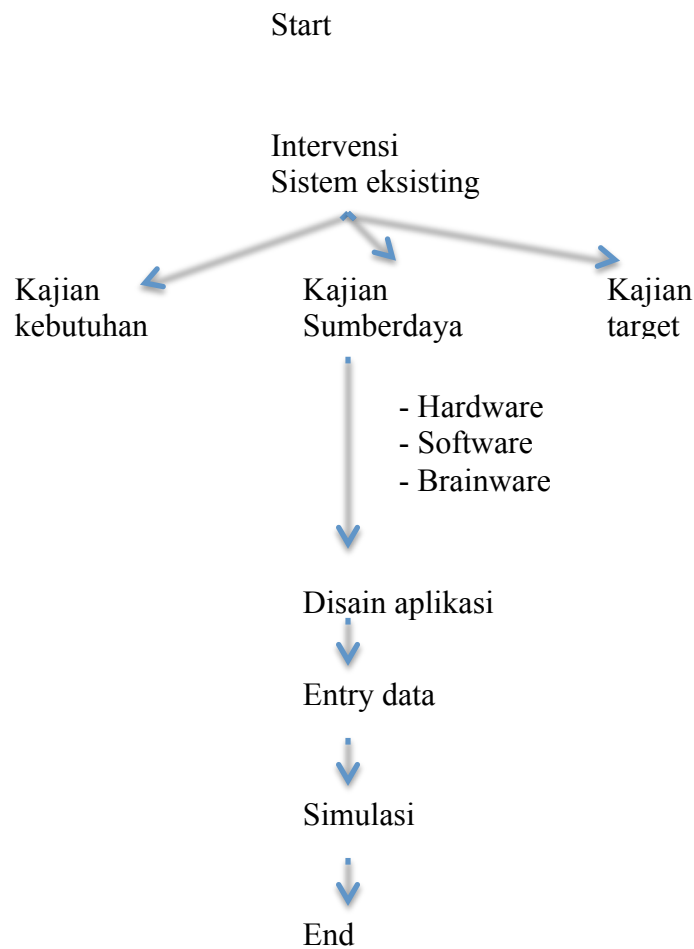
Tujuan riset ini adalah:

1. Menyusun sistem pengelolaan air tanah
2. Mendisain aplikasi sistem informasi pengelolaan air tanah

3 METODOLOGI

Metode penelitian diawali dengan kegiatan analisis kondisi sistem eksisting. Ini terdiri dari kajian kebutuhan BPLH Kota Bandung, kajian sumberdaya yang tersedia (meliputi hardware, software, brainware). Selain itu tim juga akan mempelajari target kerja untuk BPLH, sesuai dengan amanat dari Walikota dan DPRD, misalnya target PAD dari pajak air tanah, dll.

Berdasarkan hasil kajian tersebut, tim mulai mendisain aplikasi. Disain ini akan selalu dikonsultasikan dengan pimpinan dan counterpart dari BPLH. Setelah disain dinilai cukup, maka tahap berikutnya adalah ujicoba entry data dan simulasi aplikasi. Proses ini bersifat iteratif. Seluruh aplikasi pada akhirnya akan di-*hosting* secara *online*. Skema selengkapnya dapat dilihat pada Gambar 2.



Gambar 2 Metode riset

4 DAFTAR PUSTAKA

Situs Visualising Victoria's Groundwater, tersedia pada tautan

http://www.vvg.org.au/cb_pages/disclaimer.php.

Australia Government, 2006, Katunga Catchment Groundwater Management Plan, Australia, tersedia pada tautan [http://www.g-](http://www.g-water.com.au/downloads/Groundwater/Katunga_Groundwater_Mgt_Plan.pdf)

[mwater.com.au/downloads/Groundwater/Katunga_Groundwater_Mgt_Plan.pdf](http://www.g-water.com.au/downloads/Groundwater/Katunga_Groundwater_Mgt_Plan.pdf).

Canada Government, 2009, The sustainable management of groundwater, tersedia pada tautan

[http://www.scienceadvice.ca/uploads/eng/assessments%20and%20publications%20and%20news%20relations/groundwater/\(2009-05-11\)%20gw%20report.pdf](http://www.scienceadvice.ca/uploads/eng/assessments%20and%20publications%20and%20news%20relations/groundwater/(2009-05-11)%20gw%20report.pdf).

Moller, HMF. and Markussen, LM., 1997, Groundwater management in Copenhagen, RAMBØLLI, Virum, Denmark, Proceeding of Euro ESRI Conference.

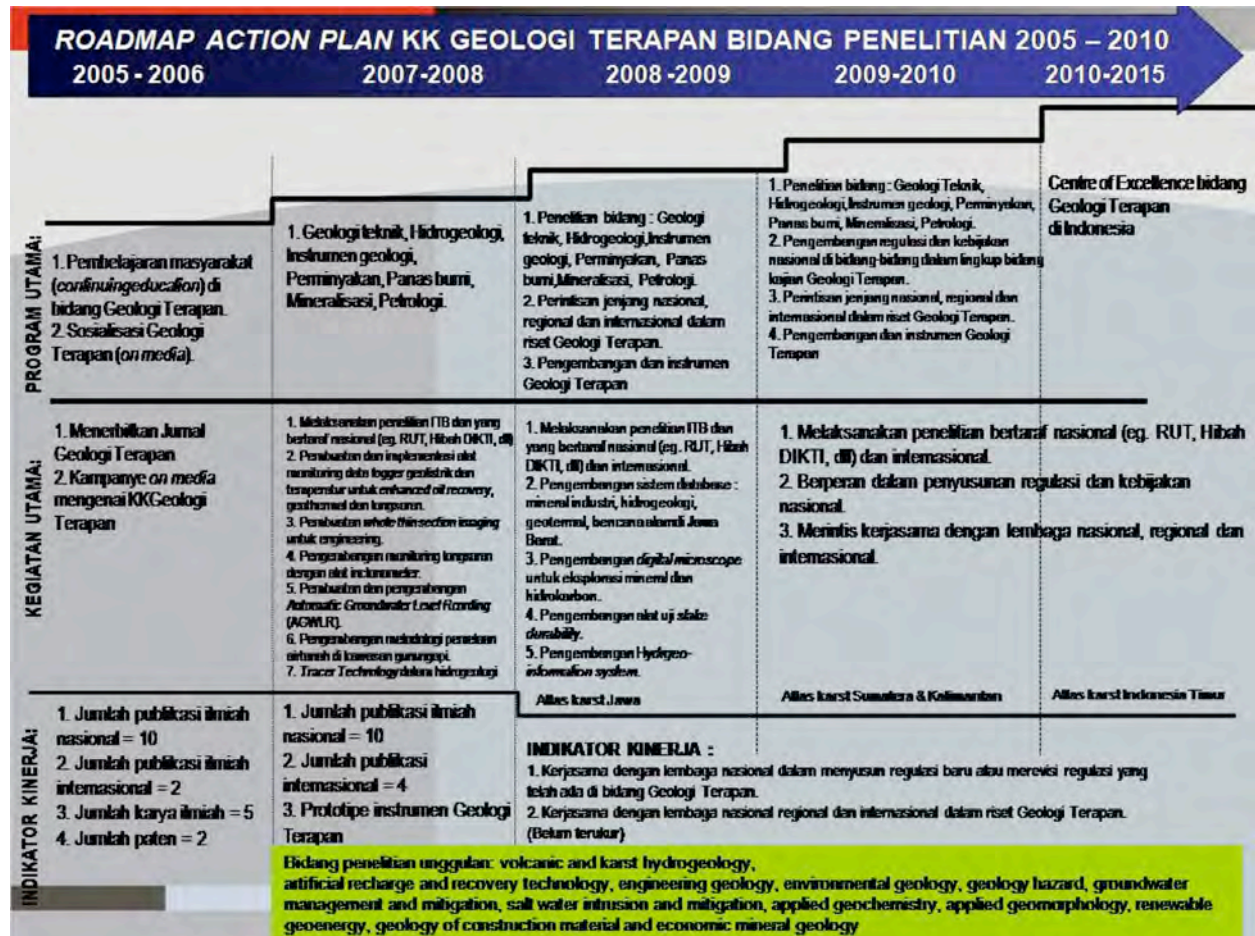
5 INDIKATOR KEBERHASILAN (TARGET CAPAIAN)

No.	Indikator Keberhasilan	Deskripsi
1.	Keluaran (<i>output</i>) Hasil Riset Mohon mengacu kepada ketentuan target keluaran untuk masing-masing kategori riset Desentralisasi DIKTI 2013.	<ul style="list-style-type: none"> • Paten sederhana (berupa disain dan program) • Publikasi pada jurnal internasional (target: Hydrogeology Journal terbitan Springer Science dan Dewan Redaksi dari International Association of Hydrogeologists) • Publikasi pada jurnal nasional terakreditasi (target: ITB Journal of Information and Communication Technology atau Jurnal Teknik Sipil)
2.	Dampak (<i>outcome</i>) Hasil Riset	<ul style="list-style-type: none"> • Kebijakan daerah • Replikasi sisfo di kab/kota se Jawa Barat
3.	Keterlibatan Mahasiswa S1,S2, S3	<p><u>Mahasiswa S1:</u></p> <ul style="list-style-type: none"> • Gunawan Salim (Mahasiswa Prodi Sistem dan Teknologi Informasi ITB, NIM:....) • Aditya Pratama (Mahasiswa Prodi Teknik Geologi, NIM: 12011065) <p><u>Mahasiswa S3:</u></p> <p>Imam Priyono (Mahasiswa Prodi Teknik Geologi dengan spesialisasi Hidrogeologi, NIM:)</p>
4.	Pembinaan <i>peer</i>	<ul style="list-style-type: none"> • Ahmad Darul Rochman, ST., MT., alumni Prodi S2 Teknik Air Tanah yang saat ini menjadi dosen di Prodi Perencanaan Wilayah dan Kota, Institut Teknologi dan Sains Bandung. • Badan Pengelola Lingkungan Hidup Kota Bandung
5.	Networking nasional dan internasional	<p>Nasional:</p> <p>Badan Pengelola Lingkungan Hidup Kota Bandung</p> <p>Badan Pengelola Lingkungan Hidup Provinsi Jawa Barat</p> <p>Badan Perencanaan dan Pembangunan Daerah Provinsi Jawa Barat</p>

6 JADWAL PELAKSANAAN

No	Kegiatan	Bulan ke-							
		1	2	3	4	5	6	7	8
1	Studi literatur	■							
2	Kajian kondisi eksisting (hardware, software, brainware)		■						
3	Disain aplikasi			■	■	■	■		
4	Entry data						■		
5	Simulasi aplikasi							■	
6	Hosting web							■	
7	Pelaporan		■			■			■

7 PETA JALAN (ROAD MAP) RISET



8 USULAN BIAYA RISET

8.1 Belanja Pegawai						
No	Pelaksana	Jumlah Orang	Honor Per Jam	Jumlah Jam/Bulan	Jumlah Bulan/Tahun	Jumlah Biaya (Rp)
1	Peneliti utama	1	50,000	60	8	24,000,000
2	Anggota peneliti	2	40,000	60	8	38,400,000
3						
Jumlah total honor peneliti (Rp)						62,400,000
8.2 Belanja barang habis						
No.	Barang Habis/Bahan	Volume	Satuan	Biaya Satuan (Rp)	Jumlah Biaya (Rp)	
1	Kertas HVS	10	rim	50,000	500,000	
2	Toner printer	2	set	1,000,000	2,000,000	
Jumlah total biaya belanja barang habis (Rp)					2,500,000	
8.3 Belanja jasa						
a. Honor pihak ketiga non PNS ITB dan ITB-BHMN atau asisten mahasiswa						
No.	Pelaksana Kegiatan	Jumlah Orang	Honor per Jam	Jumlah Jam/Bulan	Jumlah Bulan/Tahun	Jumlah Biaya (Rp)
1	Asisten mahasiswa S1 (20 jam/minggu)	2			6	18,000,000
2.	Asisten mahasiswa S3 (15 jam/minggu)	1			6	12,000,000
Jumlah total biaya honor (Rp)						30,000,000
b. Perjalanan						
No.	Tujuan	Volume	Satuan	Biaya Satuan (Rp)	Jumlah Biaya (Rp)	
1	Lokal Bandung	3	bulan	700,000	2,100,000	
2						

3						
Jumlah total biaya perjalanan (Rp)					2,100,000	
c. Sewa Alat, Jasa Layanan dan Lain-lain						
No.	Nama alat/jasa layanan	Volume	Satuan	Biaya Satuan (Rp)	Jumlah Biaya (Rp)	
1	Jasa kalibrasi alat ukur sifat fisik-kimia air	1	set	3,000,000	3,000,000	
2	Jasa uji kualitas air	0	sampel	1,000,000	0	
3						
Jumlah total biaya sewa alat dan jasa layanan (Rp)					3,000,000	
Total biaya tahun ke-1		100,000,000				
Total biaya dua tahun		200,000,000				

9 CV TIM PENELITI

CV Ketua Tim: Dasapta Erwin Irawan

Snapshot halaman Scopus.com

The screenshot shows a Scopus search results page for the author 'Irawan, Dasapta Erwin' (AU-ID: 3477445600). The page displays two document results. The first result is 'Groundwater-surface water interactions of Ciliwung River streams, segment Bogor-1 Jakarta, Indonesia' (2014, Environmental Earth Sciences) with 0 citations. The second result is 'Hydrogeochemistry of volcanic hydrogeology based on cluster analysis of Mount Ciremai, West Java, Indonesia' (2009, Journal of Hydrology) with 8 citations. The left sidebar shows filters for Year (2014: 1, 2009: 1), Author Name (Irawan, D.E.: 2, Puradimaja, D.J.: 2, Brahmantyo, B.: 1, Lubis, R.F.: 1, Notosiswoyo, S.: 1, Silaen, H.: 1, Soemintadredja, P.: 1, Sumintadredja, P.: 1), and Subject Area (Environmental Science: 2).

PERSONAL DATA

Name : Dasapta Erwin Irawan

Birth place/date : Surabaya, 17th April 1976

Nationality : Indonesian

Address : 104/105 Bridge Road, Sydney, NSW, 2145

Phone : 04 5056 1704 (mobile only)

Email : d.erwin.irawan@gmail.com + erwin@ge.itb.ac.id

Affiliation : Applied Geology Research Division, Faculty of Earth Sciences and Technology, Institut Teknologi Bandung, Indonesia

Current activity : Visiting Scholar at the Faculty of Agricultural and Environmental Sciences, The University of Sydney

EMPLOYMENT HISTORY

Work Experience

Academic-Teaching

- 2007–now Full Time Lecturer/Researcher, Research Division on Applied Geology, Faculty of Earth Sciences and Technology, ITB>
Undergraduate courses: General Hydrogeology
Master courses: Groundwater Geology, Groundwater Investigation Method, Research Methodology
- 2005–2007 Academic Assistant, Research Division on Applied Geology, Faculty of Earth Sciences and Mineral Technology, ITB
- 2001–2008 Lecturer, Department of Geology, Institut Teknologi dan Sains Bandung (ITSB)
- 1998–2005 Research assistant, Laboratory of Hydrogeology, Department of Geology, Faculty of Earth Sciences and Mineral Technology, ITB

Academic-Managerial Experience

- Mar 2015-now Secretary of ITB Management Board for Business Units and Endowment Fund
- Mar-Dec 2015 Member of ITB otonomy preparation team
- 2014-Dec 2014 Member of accreditation team for Geology undergrad program
- 2014-Dec 2014 Member of accreditation team for Groundwater Engineering master program
- 2013 Member of Independent Reviewer Team for Regional Planning Program Competition, Employer: West Java Province Board of Regional Planning and Development (Prof.Dr. Deny Juanda Puradimaja)
- 2012-now Member of Action Research on Human Resources Development, Employer: West Java Province Board of Regional Planning and Development (Prof.Dr. Deny Juanda Puradimaja)
- 2012-Feb '14 Secretary of Board of Commercial Unit ITB
- 2012 Manager of Collaboration Affairs, Faculty of Earth Sciences and Technology, ITB.
- 2012 Member of Curriculum Evaluation Team, Department of Geologi (Undergraduate Program), ITB.
- 2012 Member of Curriculum Evaluation Team, Department of Groundwater Engineering (Master Program), ITB.
- 2012 Member of Matriculation Team for 1st Year Students, Faculty of Earth Sciences and Technology, Department of Geologi (Undergraduate Program).
- 2010-now Coordinator for undergraduate thesis seminar, Department of Geology, Faculty of Earth Sciences and Technology, ITB.
- 2007-2010 General affairs coordinator, Faculty of Earth Sciences and Technology, ITB.
- 2010 Member of Accreditation Team, Department of Groundwater Engineering, Faculty of Earth Sciences and Technology, ITB.
- 2009 Member of Accreditation Team, Department of Geology (Undergraduate Program), Faculty of Earth Sciences and Technology, ITB.
- 2009 Member of Accreditation Team, Department of Geology (Master Program), Faculty of Earth Sciences and Technology, ITB.
- 2008-now Member of West Java Province Regional Planning Committee, Employer: West Java Province Board of Regional Planning and Development (Prof.Dr. Deny Juanda Puradimaja)
- 2007 Member of Curriculum Team, Department of Groundwater Engineering, Faculty of Earth Sciences and Mineral Technology, ITB.
- 2006 Member of Initiator Team, Department of Groundwater Engineering, Faculty of Earth Sciences and Mineral Technology, ITB.
- 2005-now Students Recruitment Committee, Faculty of Earth Sciences and Technology, ITB.
- 2005-now Member of Board of Reviewers for Competitive Grant, organized by the Government of West Java Province, Team leader: Dr. Ichary Sukirno
- 2003-2005 Project coordinator, Vice Rector Office for Resources, ITB.
- 2002-2003 Project coordinator, The Foundation for Research and Industry Affiliation, ITB.
- 2000-2004 Project coordinator, Board of Reviewers, Directorate General of Higher Education, Ministry of National Education.

Invited Lecture/Resource Person/Visiting Researcher/Speaker (2008-2015)

2015

- Resource person, Hydrogeological analysis using open source tools: case Cikapundung River, Bandung, Sarasehan Geologi Populer, Geological Survey Agency, 13 Mar 2015.
- Resource person, Introduction to R, ITB, 19 Jan 2015.
- Resource person, Citation Management, ITB, 18 Jan 2015.
- Resource person, Citation Management, ITB, 10 April 2015.

2014

- Resource person, Seminar on Water Crisis in Balikpapan, Hotel Benakutai, Balikpapan, 25 Nov 2014.

2013

- Resource person, Groundwater Pricing Regulation of Bandung, West Java.

2012

- Resource person, Groundwater Management Regulation of Bandung, West Java.
- Resource person, Bottled Water Regulation, Board of Drug and Food Monitoring of Indonesia.

2011

- Invited resource person, Regional Development based on Environmental Support Meeting, Office for Public Works, Tangerang, West Java.
- Invited resource person, Geothermal Development in West Java, Board of Regional Planning and Development.
- Invited speaker, One Day Workshop: Managing Conservation Area of Mt. Ciremai, Office for Mining and Energy, Kuningan Regency, West Java.

2010

- Invited speaker, One Day Workshop: Managing Conservation Area of Mt. Ciremai, Office for Mining and Energy, Kuningan Regency, West Java.
- Invited speaker, Two Days Workshop: Groundwater Exploration, Office for Public Works, Pandeglang Regency, Banten.

2009

- Visiting researcher at Center for Environmental Remote Sensing (CEReS), Chiba University, Jepang (Nov-Dec).
- Invited speaker, One Day Workshop: Earth Resources and Environmental Management, Office for Energy and Mineral Resources, East Java.

2008

- Invited speaker, One Day Workshop: Groundwater Vulnerability: Case Study Jakarta, Office for Energy and Mineral Resources, Jakarta.

Scientific Journal Editorialship

- 2008-now Role : Associate Reviewer, Indonesian Geology Journal,
 Publisher : Indonesian Geological Survey
- 2008-now Role : Associate Reviewer, Journal Ristek,
 Publisher : Geotechnology Division of Indonesian Science Foundation (LIPI)
- 2008-now Role : Associate Reviewer, Indonesian Geology Magazine,
 Publisher : Indonesian Association of Geologist
- 2005-now Role : Editorial Board Member, Journal Geoaplika
 Publisher : Faculty of Earth Sciences and Technology, ITB

PROFESSIONAL EXPERIENCE

2013-2014

- Project : Development of Kendal Industrial Complex. As Hydrogeologist
 Funding from : The Kendal Industrial Complex, private company
- Project : Groundwater Basic Pricing Update in Bandung Area, West Java
 Funding from : Office of Environmental Management of Bandung City Government

2012

- Project : Groundwater Well Testing and Water Supply Assessment at Langsa, East
 Aceh, Sumatera, Indonesia
 Funding from : Medco Company

2011

- Project : Academic Draft for Groundwater Management Regulation
 Funding from : Board of Environment, Bandung
- Project : Hot Springs Mapping for Geotourism Object
 Funding from : Board of Planning and Development, West Java Province

2010

- Project : Hydrogeological Analysis on the Northern Bandung Recharge Area
 Funding from : Board of Planning and Development, West Java Province
- Project : Geothermal Prospection of Tiris Area, Probolinggo, East Java
 Funding from : Board of Planning and Development, West Java Province

2009

- Project : Groundwater Potential Mapping at, Bogor Regency
 Funding from : The Indonesian Army Training Center

2008

- Project : Groundwater Potential Identification of Rembang Area
Funding from : Board of Planning Rembang Regency

2007

- Project : Groundwater Potential Identification of Cimahi Area
Funding from : Office for Environment, Cimahi
- Project : Groundwater Vulnerability of Jakarta Area
Funding from : Ministry of Energy and Mineral Resources

2006

- Project : Groundwater Vulnerability in Coastal Areas of Semarang, Mid Java
Funding from : Office for Mining and Energy Mid Java Province

2005

- Project : Groundwater Inventarization and Mapping at Cimahi, West Java.
Funding from : Office for Environment, Cimahi

2003-2004

- Project : Construction of Groundwater Monitoring and Controlling System at
Tangerang Regency, Banten, West Java
Funding from : Office for Environment, Tangerang Regency

2002

- Project : Inventarisation of Groundwater Potential of North Coastal of Java Island,
Mid Java Province Government
Funding from : Office for Energy and Mineral Resources, Mid Java Province

2001

- Project : Feasibility Study of MRT System in Jakarta, Jakarta Province Government
LAPI ITB
Funding from : Board of Planning and Development, Jakarta

2000

- Project : Groundwater Spring Survey at Sumedang Areas, Sumedang Regency
Government – LAPI ITB
Funding from : Office for Environment, Sumedang Regency

1999

- Project : Vulnerability of Groundwater in Ultrabasic Rocks Aquifer System, Malili,
South Sulawesi
Funding from : Ministry of Environment

RESEARCH EXPERIENCE**2013-2014**

- Project : Interactions between groundwater and river water: case Cikapundung
River, Bandung, West Java, Indonesia.
Role : Hydrogeologist (Team leader)
Funding from : Private funding

2013

- Project : Modeling of Sea Water Intrusion to River and Groundwater System, at
Karawang Coastal Area, West Java, Indonesia.
Role : Hydrogeologist (Member)
Funding from : ITB research grant

2012

- Project : Multiple Technique Observation of Groundwater Springs Hydrology, Northern Bandung Area, Indonesia.
Role : Hydrogeologist (Team Leader)
Funding from : ITB research grant

2011

- Project : Identification of Groundwater Potential and Conservation Zone of Tangerang
Role : Hydrogeologist (Team Leader)
Funding from : Public Works Office of Tangerang
- Project : The Hydrostratigraphy of Bandung Basin
Role : Hydrogeologist (Team Leader)
Funding from : ITB Competitive Research Grant
- Project : The Morphometry of Northern Bandung Area
Role : Hydrogeologist
Funding from : ITB Competitive Research Grant
- Project : Hydrogeology in CBM Field, MuaraEnim
Role : Hydrogeologist
Funding from : Pertamina

2010-2011

- Project : Stratigraphical Correlation of Halang Formation based on High Resolution Biostratigraphy and Hydrocarbon Potential, Banyumas Area, Mid Java.
Role : Geologist
Funding from : ITB Competitive Research Grant

2009

- Project : Application of Hydrochemical Tracer Technology to Reconstruct Groundwater Hydrodynamics in Volcanic Aquifer System of Mt. Ciremai.
Role : Hydrogeochemist
Funding from : ITB Competitive Research Grant

2008

- Project : Fracture Mapping on Karst Area of Cijulang, South Ciamis West Java.
Role : Hydrogeochemist
Funding from : ITB Competitive Research Grant
- Project : Application of Hydrochemical Tracer Technology to Reconstruct Groundwater Hydrodynamics in Volcanic Aquifer System of Mt. Ciremai.
Role : Hydrogeochemist
Funding from : ITB Competitive Research Grant

2007

- Project : Hydrodynamic Relation of River Water and Groundwater at Cisadane River Banks.
Role : Groundwater flow analyst
Funding from : Indonesia Higher Education Competitive Research Grant

2006

- Project : Characterization Volcanic Hydrogeology. Case Study: Mt. Ciremai, Mt. TangkubanPerahu, Mt. Gede, Mt. Karang.
Role : Hydrogeochemist
Funding from : ITB Competitive Research Grant
- Project : Characterization Volcanic Hydrogeology. Case Study: Mt. Ciremai, Mt. TangkubanPerahu, Mt. Gede, Mt. Karang.
Role : Hydrogeochemist
Funding from : Indonesia Higher Education Competitive Research Grant
- Project : Hydrodynamic Relation of River Water and Groundwater at Cisadane River Banks.
Role : Groundwater flow analyst
Funding from : Indonesia Higher Education Competitive Research Grant
- Project : Hydrogeological Characterization of Fractured Limestone Aquifer, Padalarang Area.

Role : Hydrogeologist
Funding from : Laboratory of Hydrogeology

2005

- Project : Characterization Volcanic Hydrogeology. Case Study: Mt. Ciremai, Mt. TangkubanPerahu, Mt. Gede, Mt. Karang.
Role : Hydrogeochemist
Funding from : ITB Competitive Research Grant

2003-2004

- Project : Mapping of Limestone Hydrogeological System of Padalarang Area
Role : Hydrogeologist
Funding from : ITB Competitive Research Grant

TRAINING, SYMPOSIUM, SEMINAR AND CONFERENCES

2015

- Paper co-author (*accepted paper*); ITB International Geothermal Workshop, Mar 2015; Bandung Organizer: Faculty of Mining and Petroleum Engineering, ITB.
- Paper presenter (*accepted paper*); Indonesia Petroleum Association, Jakarta, May 2015; Organizer: Indonesia Petroleum Association

2014

- Paper co-author (*accepted paper*); International Conference on Math and Natural Sciences, Nov 2014; Bandung Organizer: Faculty of Math and Natural Sciences, ITB.

2013

- Paper presenter (*accepted paper*); Asia-Oceania Geosciences Society Conference, Brisbane Australia, June 2013; Organizer: Asia-Oceania Geosciences Society.

2012

- Paper presenter (*accepted paper*); European Geosciences Union General Assembly, Vienna Austria, April 2012; Organizer: European Geosciences Union.

2011

- Paper presenter; European Geosciences Union General Assembly, Vienna Austria, 3-8 April 2011; Organizer: European Geosciences Union.
- Paper presenter; Environmental Technology and Management Conference, ITB, 03-04 November 2011.

2008-2010

- Participant; Annual Conference of Indonesian Petroleum Association; Indonesia.

2008

- Participant; International Symposium on Efficient Groundwater Resources Management, Bangkok, Thailand; Organizer: Department of Water Resources of Thailand with International Hydrology Program UNESCO.

2007

- Paper presenter; International Symposium and Workshop on Current Problems in Groundwater Management and Related Water Resources Issues, Bali, Indonesia; Organizer: International Hydrology Program UNESCO with Indonesia Institution of Science

2006

- Paper presenter; Joint Geosciences Conference, UniversitiKebangsaan Malaysia, Langkawi, Malaysia; Organizer: UniversitiKebangsaan Malaysia 2003
- Participant; Training on Hydrodynamics: How to Use Pressure and Water Salinity Data in Exploration and Production; Organizer: Indonesian Petroleum Association
- Paper presenter; International Conference of Environmental Management, Yogyakarta, Indonesia; Organizer: UniversitasGadjahmada

2004

- Participant; Training on Hydrodynamic Evaluation in Oil and Gas Exploration; Organizer: Indonesia Petroleum Association (IPA)

2002

- Participant; Training on Computer Aided Workshop on Groundwater Contamination; Organizer: International Hydrology Program (IHP)-UNESCO and LIPI

1998-2006

- Paper presenter; Annual Conference of Indonesian Association of Geologists, Indonesia; Organizer: Indonesian Association of Geologists

BOOK CHAPTER – WRITING MATERIALS

- **Irawan, DE.** and Puradimaja, DJ., 2014ed, Learning Guide on General Hydrogeology, Ombak Publishing.
- **Irawan, DE.** and Puradimaja, DJ., 2013, Learning Guide on General Hydrogeology, Nulisbuku Publishing.
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- Puradimaja, DJ. and **Irawan, DE.**, 2007, The Hydrogeology of Indonesia, ITB Press, self publishing.

PUBLICATIONS

Recently submitted

Sunarwan, B, **Irawan, D.E.**, Puradimaja, D.J, Notosiswoyo, S, Sadisun, I.A, 2013, The Hydrostratigraphy of Bandung-Soreang Groundwater Basin, submitted to Indonesian Journal of Geosciences, Publisher: Indonesia Geological Survey Agency.

Sunarwan, B, **Irawan, D.E.**, Puradimaja, D.J, Notosiswoyo, S, Sadisun, I.A, 2013, Multivariate Analysis on Hydrochemistry of Bandung-Soreang Groundwater Basin, submitted to Indonesian Journal of Geosciences, Publisher: Indonesia Geological Survey Agency.

International journal

Irawan, D.E., Puradimaja, D.J., Notosiswoyo, S., Soemintadiredja, P., 2009, Hydrogeochemistry of Volcanic Hydrogeology based on Cluster Analysis of Mount Ciremai, West Java, Indonesia, *Journal of Hydrology*, doi: 10.1016/j.jhydrol.2009.07.033.

Irawan, D.E., Puradimaja, D.J., Brahmantyo, B., Silaen, H., 2014, The Hydrogeology of Ciliwung River Streams, Bogor-Jakarta Segment, Indonesia, *Journal of Environmental Earth Sciences* (Springer).

In review papers:

Sumintadireja, P., Saepuloh, A., **Irawan, DE.**, Irawan, D, and Fadillah, A., 2015, Magneto-Telluric Survey for Geothermal Exploration at Mount Ciremai, West Java, Indonesia.

International proceedings

Darul, A, **Irawan, DE.**, Trilaksono, NJ., Rachmi, CN., 2015, Conceptual model of Groundwater and River Water Interactions in Cikapundung Riverbank, Bandung, West Java, Asia-Oceania Geosciences Society, Singapore, August 2015.

Irawan, DE., Darul, A, Akter, F, and Vervoort, W, 2015, Groundwater quality analysis in volcanic area using R: a case from Bandung Basin Indonesia, European Geosciences Union, Vienna, April 2015.

- Irawan, DE.**, Iqbal, R., and Maulana, H., Produced water: a way out of water crisis, Indonesia Petroleum Association, Jakarta, May 2015.
- Agustin, A., **Irawan, DE.**, Susanto, A., and Herdianita, R., 2015, Application of Geochemical Methods in Geothermal Exploration in Indonesia: a Literature Review (Part 1), ITB International Geothermal Workshop, Mar 2015, ITB.
- Mahantara, RD., Khurniawan, S., Rosyid, FA., Chandra, M., Hasani, M., Hidayat, S., and Irawan, DE., 2015, Volcanic gasses and unconfined groundwater mixing in Cibuni Area: a preliminary investigation, ITB International Geothermal Workshop, Mar 2015, ITB.
- Ahmad, D., **Irawan, DE.**, and Trilaksono, NJ., 2014, Groundwater and River Water Interaction on Cikapundung River: Revisited, International Conferences on Math and Natural Sciences, Nov 2014, ITB.
- Pratama, A., Abdulbari, N., Nugraha, MI., Prasetio, Y., Tulak, GP., Darul, A., and **Irawan, DE.**, 2014, Groundwater and river water interaction at Ciromban and Cibeureum riverbank, Tasikmalaya: can we solve water shortage?, International Conferences on Math and Natural Sciences, Nov 2014, ITB.
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- Irawan, D.E.**, Sumintadireja, P., Irawan, D., Saepulloh, A., and Rachmi, C.N., Heterogeneous Geological Control on Volcanic Aquifers at Mount Ciremai, West Java, Indonesia, Proceedings of the 2012 European Geosciences Union General Assembly, Vienna, 22-27 April 2012.
- Irawan, D.E.**, Puradimaja, D.J., and Silaen, H., 2011, Hydrodynamic Relationship Between Man-Made Lake and Surrounding Aquifers, Ciseupan Lake, Cimahi, West Java, Proceedings of The International Conference on Civil and Environmental Engineering, Bali, 26-28 Oct 2011
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- Irawan, D.E.**, Hukama, I.R., and Dauwani, K.N., 2011, Satellite Image Processing of Bandung Area to Simulate Zero Artificial Run Off, Proceedings of Environmental Technology and Management Conference, ITB, 03-04 November 2011.
- Suseno, W. and **Irawan, D.E.**, 2011, Remote Sensing Application Using NOAA-18 AVHRR Satellite Image for Extracting Agricultural Drought Pattern in Java Island, Proceedings of Environmental Technology and Management Conference, ITB, 03-04 November 2011.
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- Irawan, D.E.**, Puradimaja, D.J., Notosiswoyo, S., Soemintadiredja, P., 2008, Hydrogeological Model of Stratovolcano using Physical and Chemical Parameters of Groundwater at Mt.

Ciremai's Spring Zone, presented at International Symposium on Efficient Groundwater Resources Management Bangkok Thailand.

- Puradimaja, D.J., **Irawan, D.E.**, Brahmantyo, B., Silaen, H., 2007, Hydrodynamic Relationship between River and Aquifer to Water Quality at Ciliwung River Banks. an Overview of Integrated Water Management, presented at International Symposium and Workshop on Current Problems in Groundwater Management and Related Water Resources Issues, 2-8 December 2007.
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Circular

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10 LAMPIRAN BUKTI CAPAIAN OUTPUT TAHUN 2013-2014

Proposal ini adalah program tahun pertama bila disetujui untuk dilaksanakan di tahun 2016, sehingga belum ada output tahun 2013-2014.