

# CURRICULUM VITAE

## Personal Data

Name : Hendra Gunawan  
Date of Birth : December 1964  
Current Address : Jalan Batununggal Mulia IV/27  
Bandung 40267  
Indonesia  
Mobile : +62-81-220-87464  
E-mail : [hgunawan82@gmail.com](mailto:hgunawan82@gmail.com)  
Wife : Ita Ananta  
Children : Rubio Gunawan (17), Viola Ananta (13)



## Education

- *Ph.D.* in Mathematics, University of New South Wales, Sydney (1992)
- *Sarjana* (B.Sc. w/ thesis) in Mathematics, Bandung Institute of Technology (1987)

## Present Occupation

Position : *Professor* (as of April 2006)  
Employer : Faculty of Mathematics and Natural Sciences,  
Bandung Institute of Technology (ITB)  
Office Address : Jalan Ganesa No. 10, Bandung 40132, Indonesia  
Telephone : +62 22 2502545 ext. 208  
Facsimile : +62 22 2506450  
E-mail : [hgunawan@math.itb.ac.id](mailto:hgunawan@math.itb.ac.id)

**Membership** : *Indonesian Academy of Science* (since 2014)

## Managerial Experience (at Institutional Level)

- Head of Analysis and Geometry Group (December 2013-now)
- Academic Senate Member of ITB (2010-2013)
- Secretary of Council of Professors at ITB (2008-2013)
- Member of Quality Assurance Unit at FMIPA-ITB (2010)
- Head of Quality Commission at ITB (2008-2009)
- Member of Post Graduate School Commission at ITB (2008)
- National and International Accreditation Team Leader at ITB (2007-2010)
- Secretary of Tridharma Commission at MGB-ITB (2007-2008)
- Team Leader of ITB Portfolio for Institutional Accreditation by BAN-PT (2007)
- Head of Quality Assurance Unit at FMIPA-ITB (2006-2009)
- Task Force Member of Quality Assurance Unit at ITB (2006)
- Member of Post Graduate Programme Commission at FMIPA-ITB (2006-2010)
- Senate Member of FMIPA-ITB (November 2005-2010 and November 2010-2014)
- Head of Analysis and Geometry Group (October 2005-2008)

- Board Member of Mathematical Modelling and Simulation Centre (2005-2010)
- Secretary of Department Board (August-December 2005)
- Member of Department Board (2004-2005)
- Board Member of Industrial and Applied Mathematics Research Group at ITB (2004-July 2005)
- Member of Curriculum Task Force at FMIPA-ITB (2004-2005)
- Member of Post Graduate Programme Commission at Dept. of Mathematics (2004-2005)
- Head of Analysis Group (2004-2005)
- Secretary of Curriculum Development Team at Dept. of Mathematics (2002-2003)
- Executive Director of Quality Undergraduate Education Project at Dept. of Math. (1999)
- Coordinator of First Year Calculus at Dept. of Mathematics (1995-1997)
- Secretary for Student Affairs at Dept. of Mathematics (1992-1995)

### Courses Taught

- *Undergraduate level:* Introductory Mathematics, Calculus, Elementary Linear Algebra, Multivariable Calculus, History of Mathematics, Topics in 2D and 3D Geometry, Complex Functions, Elementary Real Analysis, Real Functions, Partial Differential Equations, Ordinary Differential Equations, Introductory Fourier Analysis
- *Graduate level:* Real Analysis, Complex Analysis, Measures and Integration, Functional Analysis, Fourier Analysis and Wavelets Theory, Theory of  $n$ -Normed Spaces and  $n$ -Inner Product Spaces, Systems of Differential Equations, Introduction to Fourier Analysis & Approximation Theory

### Supervisions

#### *Completed*

- **27** undergraduate students [Gunarko, Leonardus Sembiring, Danial, M. Intan, Hanhan, Bungaran M. Sibarani, Budi Setiawan, Hadiid Agita, Eder Kikianty, Gugi Gharmana, Hadi Barry, Maria Anastasia, Ferry Pranolo, Tyas Rangga, Zulkarnain, R. Akbar Wibawa, Yosafat Eka Pangalela, Leslie Lai, Denny I. Hakim, Reza Fahrul, Pangeran BHP; Kevin M. Limanta, Evan A. Williams [plus 5 students from Parahyangan Univ.]
- **43** master students [Toto Nusantara, Sisworo, Dede Suratman, Sugiman, Novi Marina, M. Yunus, I Made Arnawa, Paula Dewi Sondjaja, Lukita Ambarwati, Nursupiamin, Sri Maryani, Suma'inna, Gani Gunawan, Herry P. Suryawan, Anwar Mutaqin, Gerson, M. Yusuf, Cicik A., Zulkarnain, Tyas Rangga, R. Akbar Wibawa, Enjun Junaeti, M. Nur, Januar, M. Idris, Dadang AH, Shelvi Ekariani, Yosafat Eka Pangalela, Maria Anastasia, Harmanus Batkunde, Denny I. Hakim, Deden Hendriana, Lina Nurhayati, A. Sofian, M. Jakfar, V. Agus Sutomo, M. Bahrum, Ifronika, Iis Nasfianti, Indra Rukmana, Arnasli Yahya, Dita Pramesti, Eka Rahmi Kahar]
- **13** doctoral students [Sisworo, Endang Cahya, Eridani, Fajar A. Kusuma, M. Yunus, Idha Sihwaningrum, E. Rusyaman\*, Kusworo Adi\*, Sumanang M. Gozali, A. Darma Setiawan\*, Lukita Ambarwati, Pardomuan Sitompul, Shelvi Ekariani]

#### *Ongoing*

- **2** undergraduate student [Stephanus Ardyanto, Devi Imulia]
- **4** master students [Elin, Marjan, Khairunnisa, Veri]
- **9** doctoral students [M. Kabil, Esih Sukaesih, Cece Kustiawan, Koredianto Usman\*, M. Idris, Al Azhary Masta (2<sup>nd</sup> stage), M. Nur, Harmanus Batkunde, Nicky Tamalun (1<sup>st</sup> stage)]

(\*as a co-promotor)

## Research Interests

1. *Fourier Analysis*, particularly the theory of maximal functions, singular integrals, fractional integrals, and their applications. **Collaborators:** M. Cowling (UNSW, Sydney), J. Garcia-Cuerva (UAM, Madrid), E. Nakai (Ibaraki), Y. Sawano (Tokyo Metropolitan), H. Tanaka (Tokyo), Eridani (Unair, Surabaya), I. Sihwaningrum (Unsoed, Purwokerto)
2. *Functional Analysis*, particularly the theory of  $n$ -normed spaces and  $n$ -inner product spaces, and their applications (esp. in geometry). **Collaborators:** A. Sahiner (Isparta, Turkey), J. Lindiarni (ITB, Bandung), Mashadi (Unri, Pekanbaru), O. Neswan (ITB, Bandung), W. Setya-Budhi (ITB, Bandung), S. Konca (Bitlis Eren, Turkey), M. Basarir (Sakarya, Turkey)

## Publications

### *On Fourier Analysis (esp. Fractional Integral & Singular Integral Operators):*

1. A.A. Masta, H. Gunawan, W. Setya-Budhi, "Inclusion properties of Orlicz and weak Orlicz spaces", to appear in *J. Math. Fund. Sci.*
2. M. Idris, H. Gunawan, Eridani, "The boundedness of Bessel-Riesz operators on generalized Morrey spaces", *AJMAA* **17** : 1 2016, Article 9
3. H. Gunawan, D.I. Hakim, K.M. Limanta, A.A. Masta, "Inclusion property of generalized Morrey spaces", *Math. Nachr.* 2016
4. I. Sihwaningrum, A. Wardayani, H. Gunawan, "Weak type inequalities for some operators on generalized Morrey spaces over metric measure spaces", *AJMAA* **12** (2015), no. 1, Art. 16, 9 pp.
5. Y. Sawano, D.I. Hakim, H. Gunawan, "Non-smooth atomic decomposition for generalized Orlicz-Morrey spaces", *Math. Nachr.* **288** : 14-15 (2015), 1741-1775
6. Y. Sawano, H. Gunawan, V. Guliyef, H. Tanaka, "Morrey spaces and related function spaces", *J. Function Spaces*, Vol. 2014, *Article ID* 867192, 2 pp.
7. Eridani, H. Gunawan, E. Nakai, Y. Sawano, "Characterizations for the generalized fractional integral operators on Morrey spaces", *Math. Inequalities & Appl.* **17** : 2 (2014), 761-777
8. H. Gunawan, D.I. Hakim, Y. Sawano, I. Sihwaningrum, "Weak type inequalities for some singular integral operators on generalized non-homogeneous Morrey spaces", *J. Function Spaces & Appl.* Vol. 2013, *Article ID* 809704, 12 pp.
9. H. Gunawan, I. Sihwaningrum, "Multilinear maximal functions and fractional integrals on generalized Morrey spaces", *J. Math. Analysis* **4** : 3 (2013), 23-32
10. D.I. Hakim, H. Gunawan, "Weak  $(p,q)$  inequalities for fractional integral operators on generalized non-homogeneous Morrey spaces", *Math. Aeterna* **3**: 3 (2013), 161-168
11. H. Tanaka, H. Gunawan, "The local trace inequality for potential type integral operators", *Potential Analysis* **38**: 2 (2013), 653-681
12. H. Gunawan, E. Nakai, Y. Sawano, H. Tanaka, "Generalized Stummel class and Morrey spaces", *Publ. Inst. Math. Beograd* **92**(106) (2012), 127-138
13. Eridani, M.I. Utoyo, H. Gunawan, "A characterization for fractional integrals on generalized Morrey spaces", *Analysis in Theory & Appl.* **28**: 3 (2012), 263-267
14. I. Sihwaningrum, S. Maryani, H. Gunawan, "Weak-type inequalities for fractional integral operators on generalized non-homogeneous Morrey spaces", *Analysis in Theory & Appl.* **28**: 1 (2012), 65-72
15. I. Sihwaningrum, H.P. Suryawan, H. Gunawan, "Fractional integral operators and Olsen inequalities in non-homogeneous spaces", *Austral. J. Math. Anal. Appl.* **7** (2010), no.1, Art. 14, 6 pp.
16. H. Gunawan, Y. Sawano, I. Sihwaningrum, "Fractional integral operators in non-homogeneous spaces", *Bull. Austral. Math. Soc.* **80**: 2 (2009), 324-334
17. H. Gunawan, Eridani, "Fractional integrals and generalized Olsen inequalities", *Kyungpook Math. J.* **49**: 1 (2009), 31-39
18. H. Gunawan, I. Sihwaningrum, "Fractional integral operators and their boundedness on various spaces", *J. Matematika & Sains* **12**: 4 (2007), 119-126

19. Eridani, H. Gunawan, "Stummel class and Morrey spaces", *Southeast Asian Bull. Math.* **29**: 6 (2005), 1053-1056
20. Eridani, H. Gunawan, E. Nakai, "On generalized fractional integral operators", *Sci. Math. Jpn.* **60**: 3 (2004), 539-550 (e10, 307-318)
21. H. Gunawan, "A note on the generalized fractional integral operators", *JIMS* **9** : 1 (2003), 39-43
22. M. Cowling, J. Garcia-Cuerva H. Gunawan, "Weighted estimates for fractional maximal functions related to spherical means", *Bull. Austral. Math. Soc.* **66**: 1 (2002), 75-90
23. H. Gunawan, "Some weighted estimates for imaginary powers of the Laplace operators", *Bull. Austral. Math. Soc.* **65**: 1 (2002), 129-135
24. Eridani, H. Gunawan, "On generalized fractional integrals", *MIHMI* **8**: 3 (2002), 25-28
25. H. Gunawan, "Weighted estimates for imaginary powers of the Laplace operator", *Proceedings ITB* **34**: 1 *Suplemen* (2002), 217-223
26. H. Gunawan, J. Wright, "Weighted estimates for some singular integrals", unpublished
27. H. Gunawan, "Some weighted estimates for Stein's maximal function", *Bull. Malays. Math. Soc.* **21**: 2 (1998), 101-105
28. H. Gunawan, "On weighted estimates for Stein's maximal function", *Bull. Austral. Math. Soc.* **54**: 1 (1996), 35-39
29. H. Gunawan, " $L^2$  estimates for some maximal functions", *Boll. Un. Mat. Ital. Ser. B* **7**: 2 (1993), 263-282
30. H. Gunawan, "A generalization of maximal functions on compact semi-simple Lie groups", *Pacific J. Math.* **156**: 1 (1992), 119-134
31. H. Gunawan, "Maximal Functions and Harmonic Analysis", Ph.D. Thesis, University of New South Wales (1991) [Abstract appears in *Bull. Austral. Math. Soc.* **47** (1993), 351]
32. H. Gunawan, "Ketaksamaan maksimal dan teorema Lebesgue", *MIHMI* **1**: 1 (1992), 1-10

***On Functional Analysis (esp.  $n$ -Normed Spaces):***

1. M. Idris, S. Konca, H. Gunawan, "A partial solution to an open problem", *Bitlis Eren Univ. J. Sci. & Technol.* **5** : 2 (2015), 52-56
2. H. Gunawan, O. Neswan, E. Sukaesih, "Fixed point theorems on bounded sets in an  $n$ -normed space", *J. Math. Analysis.* **6** : 3 (2015), 51-58
3. S. Konca, M. Idris, H. Gunawan, M. Basarir, " $p$ -summable sequence spaces with 2-inner products", *Contemporary Analysis & Appl. Math.* **3** : 2 (2015), 213-226
4. S. Konca, M. Idris, H. Gunawan, " $p$ -summable sequence spaces with inner products", *Bitlis Eren Univ. J. Sci. & Technol.* **5** : 1 (2015), 37-41
5. S. Ekariani, H. Gunawan, J. Lindiarni, "On the  $n$ -normed space of  $p$ -integrable functions", *Math. Aeterna.* **5**: 1 (2015), 11-19
6. S. Konca, H. Gunawan, M. Basarir, "Some remarks on  $\ell^p$  as an  $n$ -normed space", *Math. Sci. & Appl. E-Notes* **2**: 2 (2014), 45-50
7. Y.E.P. Pangalela, H. Gunawan, "The  $n$ -dual space of the space of  $p$ -summable sequences", *Math. Bohemica* **138**: 4 (2013), 439-448.
8. H. Batkunde, H. Gunawan, Y.E.P. Pangalela, "Bounded linear functionals on the  $n$ -normed space of  $p$ -summable sequences", *AUMB Series Mathematics* (2013), 66-75
9. S. Ekariani, H. Gunawan, M. Idris, "A contractive mapping theorem for the  $n$ -normed space of  $p$ -summable sequences", *J. Math. Analysis* **4**: 1(2013), 1-7
10. R.A. Wibawa-Kusumah, H. Gunawan, "Two equivalent  $n$ -norms on the space of  $p$ -summable sequence", *Per. Mat. Hungar.* **67**: 1 (2013), 63-69
11. T.R. Kristianto, R.A. Wibawa-Kusumah, H. Gunawan, "Equivalence relations of  $n$ -norms on a vector space", *Mat. Vesnik* **65**: 4 (2013), 488-493
12. M. Idris, S. Ekariani, H. Gunawan, "On the space of  $p$ -summable sequences", *Mat. Vesnik* **65**: 1 (2013), 58-63

13. S.M. Gozali, H. Gunawan, J. Lindiarni, "On the concept of  $b$ -orthogonality in  $n$ -normed spaces", unpublished
14. S.M. Gozali, H. Gunawan, "On  $b$ -orthogonality in 2-normed spaces", *JIMS* **16**: 2 (2010), 127-132
15. S.M. Gozali, H. Gunawan, O. Neswan, "On  $n$ -norms and bounded  $n$ -linear functionals in a Hilbert space", *Annals Funct. Analysis* **1**: 1 (2010), 72-79
16. A. Mutaqin, H. Gunawan, "Equivalence of  $n$ -norms on the space of  $p$ -summable sequences", *JIMS* **16**: 1 (2010), 1-7
17. A. Sahiner, M. Gurdal, S. Saltan, H. Gunawan, "Ideal convergence in 2-normed spaces", *Taiwanese J. Math.* **11**: 5 (2007), 1477-1484
18. H. Gunawan, E. Kikianty, Mashadi, S. Gemawati, I. Sihwaningrum, "Orthogonality in  $n$ -normed spaces" (2006), unpublished
19. H. Gunawan, Mashadi, S. Gemawati, Nursupiamin, I. Sihwaningrum, "Orthogonality in 2-normed spaces revisited", *Univ. Beograd Publ. Elektrotehn. Fak.* **17** (2006), 76-83
20. H. Gunawan, O. Neswan, "On angles between subspaces of inner product spaces", *JIMS* **11**: 2 (2005), 129-135
21. H. Gunawan, O. Neswan, W. Setya-Budhi, "A formula for angles between subspaces of inner product spaces", *Beiträge Algebra Geom.* **46**: 2 (2005), 311-320
22. H. Gunawan, W. Setya-Budhi, Mashadi, S. Gemawati, "On volumes of  $n$ -dimensional parallelepipeds in  $l^p$  spaces", *Univ. Beograd Publ. Elektrotehn. Fak.* **16** (2005), 48-54
23. H. Gunawan, "Inner products in  $n$ -inner product spaces", *Soochow J. Math.* **28**: 4 (2002), 389-398
24. H. Gunawan, "On convergence in  $n$ -inner product spaces", *Bull. Malays. Math. Sc. Soc.* **25**: 1 (2002), 11-16
25. H. Gunawan, "Ketaksamaan Cauchy-Schwarz, ketaksamaan Bessel, dan kesamaan Parseval di ruang  $n$ -hasilkali dalam baku", *Matematika* **3** (2002), 142-147
26. H. Gunawan, "A generalization of Bessel's inequality and Parseval's identity", *Per. Math. Hungar.* **44**: 2 (2002), 177-181
27. H. Gunawan, "On  $n$ -inner products,  $n$ -norms, and the Cauchy-Schwarz inequality", *Sci. Math. Jpn.* **55**: 1 (2002), 53-60
28. H. Gunawan, "The space of  $p$ -summable sequences and its natural  $n$ -norm", *Bull. Austral. Math. Soc.* **64**: 1 (2001), 137-147
29. H. Gunawan, "An inner product that makes a set of vectors orthonormal", *Austral. Math. Soc. Gaz.* **28**: 4 (2001), 194-197
30. H. Gunawan, Mashadi, "On  $n$ -normed spaces", *Int. J. Math. Math. Sci.* **27**: 10 (2001), 321-329
31. H. Gunawan, Mashadi, "On finite-dimensional 2-normed spaces", *Soochow J. Math.* **27**: 3 (2001), 321-329
32. H. Gunawan, "On the triangle inequality for the standard  $n$ -norm", *MIHMI* **6**: 5 (2000)
33. H. Gunawan, W. Setya-Budhi, "On the triangle inequality for the standard 2-norm", *MIHMI* **6**: 2 (2000), 91-95

### **On Other Topics:**

1. L. Ambarwati, H. Gunawan, "On the product of  $N$  Chebyshev systems", *Int. J. Math. Sci. & Appl.* **1**: 3 (2011), 1515-1524
2. H. Gunawan, Y. Sawano, "Application of reproducing kernel Hilbert spaces to a minimization problem with prescribed nodes", *East Asia J. Applied Math.* **1**: 4 (2011), 372-378
3. H. Gunawan, E. Rusyaman, L. Ambarwati, "Surfaces with prescribed nodes and minimum energy integral of fractional order", *ITB J. Sci.* **43 A**: 3 (2011), 209-222
4. E. Rusyaman, H. Gunawan, A.K. Supriatna, R.E. Siregar, "Eksistensi interpolan deret ganda sinusoida", *J. Matematika & Sains* **15**: 1 (2010), 9-15
5. H. Gunawan, F. Pranolo, E. Rusyaman, "An interpolation method that minimizes an energy functional of fractional order", in D. Kapur (Ed.), *ASCM 2007*, LNAI **5081**, Springer-Verlag, 2008, 151-162



6. H. Gunawan, O. Neswan, J. Lindiarni, "P-, I-, g-, and D-angle in normed spaces", *ITBJ. Sci.* **40 A** (2008), 24-32
7. H. Gunawan, S. Gupta, "On integrals arising from a Lie group contraction problem", *Far East J. Math. Sci.* **24**: 3 (2007), 321-328
8. H. Gunawan, Nursupiamin, E. Kikianty, "Beberapa konsep ortogonalitas di ruang norm", *Jurnal MIPA* **28**(2005), 75-80
9. H. Gunawan, W. Setya-Budhi, "On the behaviour of the solution of the wave equation", *J. Matematika & Sains* **9**: 2 (2004), 255-258
10. H. Gunawan, "On measures of central location", *J. Sains & Teknologi* **9**: 3 (2003), 6-10
11. H. Gunawan, "A note on Dragomir-Mcandrew's trapezoid inequalities", *Tamkang J. Math.* **33**: 3 (2002), 241-244
12. H. Gunawan, "On finding the fundamental dominant weights of a root system", *Southeast Asian Bull. Math.* **21**: 3 (1997), 321-328
13. H. Gunawan, Teorema pembatasan dimensi dua, *J. Matematika & Sains* **1**: 2 (1996), 15-19
14. H. Gunawan, Constructing a metric on an arbitrary set using graph theoretic arguments, *MIHMI* **1**: 2 (1993)

### Awards/Grants

1. *Anugerah Komunikasi Indonesia* for Public Communication in Education – from Ministry of Communication and Information (2016)
2. *Habibie Award* in Basic Sciences (2016)
3. Member of Akademi Ilmu Pengetahuan Indonesia (2014)
4. Pengabdian 25 Tahun ITB – from Rector of ITB (2014)
5. *Ganesa Wira Utama* – from Rector of ITB (2014)
6. *Satyalancana Karya Satya 20 Tahun* – from President of Republic of Indonesia (2012)
7. *MIPA UI Columbia Award* for the Most Contributive Mathematician (2011)
8. *Australian Alumni Award for Excellence in Education* -- from Australia Education International (2009)
9. Travel Grant from Directorate General of Higher Education to attend International Workshop on Orthogonal Polynomials and Approximation Theory, Madrid (2008)
10. *Satyalancana Karya Satya 10 Tahun* – from President of Republic of Indonesia (2007)
11. Travel Grant from AMS Organizer to attend Asian Mathematics Conference, Singapore (2005)
12. Travel Grant from ICIAM Organizer to attend International Conference on Industrial and Applied Mathematics, Sydney (2003)
13. Travel Grant from Indonesian QUE Project to attend 45<sup>th</sup> Annual Meeting of the Australian Mathematical Society in Canberra (2001)
14. *Australia-Indonesia Merdeka Fellowship* -- from Australian Government to undertake research at the University of New South Wales, Sydney (2000-2001)
15. Travel Grant from Indonesian URGE Project to attend International Conference on Mathematical Analysis and its Applications in Kaohsiung (2000)
16. Best Lecturer Award -- from Department of Mathematics, Bandung Institute of Technology for First Year Calculus teaching (1999)
17. Travel Grant from International Mathematical Union to attend International Congress of Mathematicians in Berlin (1998)
18. Scientific Publication Award -- from Indonesian URGE Project for the paper "On weighted estimates for Stein's maximal function" (1998)
19. *Finalist of Young Researcher Competition* -- organized by Indonesian Institute of Sciences (1995)
20. Travel Grant from International Mathematical Union to attend International Congress of Mathematicians in Zurich (1994)
21. Scholarship from World Bank XVII Project to undertake Ph.D. study at University of New South Wales, Sydney (3½ years, 1988-1991)