# RIWAYAT HIDUP

**Data Singkat Kepegawaian**

a. Nama dan gelar lengkap:
   Prof. Ir. Sudi Mungkasi, S.Si., M.Math.Sc., Ph.D.
b. Tempat, tanggal lahir:
   Sleman, 6 Agustus 1982
c. Jabatan fungsional:
   Profesor / Guru Besar 1.050 (1.155,80 AK)
   sejak 1 Oktober 2021
d. Pangkat, golongan/ruang:
   Pembina, IV/a sejak 1 Oktober 2021

e. Status kepegawaian:
Pegawai Negeri Sipil (PNS) dipekerjakan (dpk.)
pada Universitas Sanata Dharma

f. NIP: 198208062005011001

g. NPP: P.2220

h. NIDN: 0006088201

**Keluarga**

- Ayah : Y. W. Mardiwiyono (+2015)
- Ibu : A. S. Mardiwiyono
- Istri : Asti Dwi Kusumawati, S.Pd., M.Pd.
- Anak :

  1. Daniella Sudi Mandhegani (Umur 10 tahun, Kelas 5, SD Kanisius Demangan Baru, Yogyakarta)
  2. Elisa Sudi Mrantasi (Umur 4 tahun, Kelas A, TK Kanisius Demangan Baru, Yogyakarta)

**Riwayat Pendidikan Formal (urut berdasarkan jenjangnya)**

- S-3 *Mathematical Sciences,* Australian National University, dengan gelar *Doctor of Philosophy* (Ph.D.), 2009-2013
- S-2 *Mathematical Sciences,* Australian National University, dengan gelar *Master of Mathematical Sciences* (M.Math.Sc.), 2007-2008
- Profesi Insinyur, Universitas Sanata Dharma, dengan gelar Insinyur (Ir.), 2021-2021
- S-1 Matematika, Universitas Gadjah Mada, dengan gelar Sarjana Sains (S.Si.), 2000-2004

- SMU Negeri 8 Yogyakarta (SMA Negeri 8 Yogyakarta), 1997-2000
- SLTP Negeri 2 Berbah (SMP Negeri 2 Berbah), 1994-1997
- SD Kanisius Totogan, 1988-1994
- TK Kanisius Totogan, 1987-1988

**Pendidikan Lainnya**

- *CIMPA-Philippines School,* University of the Philippines, Diliman, Quezon City, Filipina, 23 Jun – 4 Jul 2014
- *Postdoctoral Fellow,* Australian National University, Canberra, Australia, 1 Okt 2012 – 31 Agt 2013
- *Gene Golub SIAM Summer School,* Naval Postgraduate School, Monterey, California, U.S.A., 29 Jul – 10 Agt 2012

**Riwayat Pekerjaan (urut dari yang terbaru)**

- 1 Jul 2006 – sekarang: Pegawai Negeri Sipil (PNS) dipekerjakan pada Universitas Sanata Dharma
- 1 Jan 2005 – 30 Jun 2006: Calon Pegawai Negeri Sipil (CPNS) dipekerjakan pada Universitas Sanata Dharma

**Riwayat Jabatan Fungsional Dosen (urut dari yang terbaru)**

- 1 Okt 2021 – sekarang: Profesor/Guru Besar 1.050 (1.155,80 AK)
- 1 Jan 2017 – 30 Sep 2021: Lektor Kepala 400 (448 AK) *melalui loncat jabatan, tanpa menjabat Lektor*
- 1 Mei 2007 – 31 Des 2016: Asisten Ahli 100 (100 AK)
- 1 Jan 2005 – 30 April 2007: Tenaga Pengajar

**Riwayat Pangkat dan Golongan PNS (urut dari yang terbaru)**

- 1 Okt 2021 – sekarang: Pembina, IV/a
- 1 Okt 2019 – 30 Sep 2021: Penata Tingkat I, III/d
- 1 Okt 2017 – 30 Sep 2019: Penata, III/c *(melalui penyesuaian ijazah S-3 hasil tugas belajar dan angka kredit jabatan fungsional, tanpa golongan III/b)*
- 1 Jul 2006 – 30 Sep 2017: Penata Muda, III/a
- 1 Jan 2005 – 30 Jun 2006: III/a (CPNS)

**Riwayat Jabatan Struktural di USD (urut dari yang terbaru)**

- 25 Mar 2022 – sekarang: Wakil Rektor I (Wakil Rektor bidang Akademik)
- 1 Feb 2016 – 24 Mar 2022: Dekan Fakultas Sains dan Teknologi
- 1 Agt 2014 – 31 Jan 2016: Wakil Ketua Lembaga Penelitian dan Pengabdian kepada Masyarakat

**Capaian Terpilih (urut dari yang terbaru)**

- Dosen Berprestasi, Universitas Sanata Dharma, selama 9 kali: tahun 2011, 2013-2020
- Satyalancana Karya Satya X Tahun dari Presiden Republik Indonesia, tahun 2018
- Finalis Dosen Berprestasi Nasional (15 besar Dosen Berprestasi tingkat Nasional), 2015
- Dosen Berprestasi Peringkat I, KOPERTIS Wilayah V Daerah Istimewa Yogyakarta, 2015

- Lulusan Terbaik dalam Indeks Prestasi (IP) Kumulatif 3.92 (*Cum Laude*) tertinggi se-Universitas Gadjah Mada dalam wisuda sarjana UGM, 18 Mei 2004

**Publikasi dalam Jurnal Terpilih (urut dari yang terbaru)**

1. Mungkasi S., 2022, An order verification method for truncated asymptotic expansion solutions to initial value problems, *Alexandria Engineering Journal* **61** (1), 175–184. [Penerbit: Elsevier].
2. Mungkasi S., 2022, A fast and accurate analytical-numerical method for solving the prey-predator model, *Journal of Interdisciplinary Mathematics* **25** (2), 273–283. [Penerbit: Taylor & Francis].
3. Mungkasi S., 2021, Variational iteration and successive approximation methods for a SIR epidemic model with constant vaccination strategy, *Applied Mathematical Modelling* **90**, 1–10. [Penerbit: Elsevier].
4. Mungkasi S., 2021, Numerical verification of the orders of accuracy of truncated asymptotic expansion solutions to the van der Pol equation, *Journal of Mathematical Chemistry* **59**, 216–223. [Penerbit: Springer].
5. Istyastono E.P., Radifar M., Yuniarti N., Prasasty V.D., Mungkasi S., 2020, PyPLIF HIPPOS: A Molecular Interaction Fingerprinting Tool for Docking Results of AutoDock Vina and PLANTS, *Journal of Chemical Information and Modeling* **60** (8), 3697–3702. [Penerbit: American Chemical Society].
6. Mungkasi S., Roberts S.G., 2020, Weak local residuals as smoothness indicators in adaptive mesh methods for

shallow water flows, *Symmetry* **12** (3), 345. [Penerbit: MDPI].

7. Nwaigwe C., Mungkasi S., 2020, Comparison of different numerical schemes for 1D conservation laws, *Journal of Interdisciplinary Mathematics* **24** (3), 537–552. [Penerbit: Taylor & Francis].
8. Sulistyono B.A., Wiryanto L.H., Mungkasi S., 2020, A staggered method for simulating shallow water flows along channels with irregular geometry and friction, *International Journal on Advanced Science, Engineering and Information Technology* **10** (3), 952–958. [Penerbit: Insight Society].
9. Mungkasi S., Roberts S.G., 2019, Numerical entropy production as smoothness indicator for shallow water equations, *ANZIAM Journal* **61** (4), 398–415. [Penerbit: Cambridge University Press].
10. Tjendro, Mungkasi S., 2019, Formal expansion method for solving an electrical circuit model, *Telkomnika* **17** (3), 1338–1343. [Penerbit: IAES].
11. Yuniarti N., Mungkasi S., Yuliani S.H., Istyastono E.P., 2019, Development of a graphical user interface application to identify marginal and potent ligands for estrogen receptor alpha. *Indonesian Journal of Chemistry* **19** (2), 531–537, [Penerbit: UGM]
12. Mungkasi S., Magdalena I., Pudjaprasetya S.R., Wiryanto L.H., Roberts S.G., 2018, A staggered method for the shallow water equations involving varying channel width and topography, *International Journal for Multiscale Computational Engineering* **16** (3), 231–244. [Penerbit: Begell House].

13. Mungkasi S., 2016, Adaptive finite volume method for the shallow water equations on triangular grids, *Advances in Mathematical Physics* **2016**, 7528625. [Penerbit: Hindawi].
14. Supriyadi B., Mungkasi S., 2016, Finite volume numerical solvers for non-linear elasticity in heterogeneous media, *International Journal for Multiscale Computational Engineering* **14** (5), 479–488. [Penerbit: Begell House].
15. Mungkasi S., Li Z., Roberts S.G., 2014, Weak local residuals as smoothness indicators for the shallow water equations, *Applied Mathematics Letters* **30**, 51–55. [Penerbit: Elsevier].
16. Mungkasi S., Roberts S.G., 2014, Well-balanced computations of weak local residuals for the shallow water equations, *ANZIAM Journal* **56**, C128–C147. [Penerbit: Australian Mathematical Society].
17. Mungkasi S., Roberts S.G., 2012, Analytical solutions involving shock waves for testing debris avalanche numerical models, *Pure and Applied Geophysics* **169** (10), 1847–1858. [Penerbit: Birkhauser].
18. Mungkasi S., Roberts S.G., 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* **69** (4), 763–780. [Penerbit: John Wiley & Sons].
19. Mungkasi S., Roberts S.G., 2010, A new analytical solution for testing debris avalanche numerical models, *ANZIAM Journal* **52**, C349–C363. [Penerbit: Australian Mathematical Society].

20. Mungkasi S., Roberts S.G., 2009, 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* **51**, C48–C65. [Penerbit: Australian Mathematical Society].

**Publikasi dalam Prosiding Seminar/Konferensi Terpilih (urut dari yang terbaru)**

1. Mungkasi S., 2021, Some numerical and analytical solutions to an enzyme-substrate reaction-diffusion problem, *Proceedings of the 3rd International Seminar on Research of Information Technology and Intelligent Systems*, ISRITI 2020, 10 December 2020, Yogyakarta, Indonesia, IEEE, hal. 321–325.
2. Ningsi G.P., Mungkasi S., 2020, Variational iteration method used to solve a SIR epidemic model of tuberculosis, *Proceedings of the 2nd International Conference of Science and Technology for the Internet of Things, ICSTI 2019, 3* September 2019, Yogyakarta, Indonesia, EUDL, 7 halaman.
3. Maure O.P., Mungkasi S., 2019, Application of numerical integration in solving a reverse osmosis model, *AIP Conference Proceedings* 2202, artikel 20043.
4. Mungkasi S., Ekaputra I.M.W., 2018, Adomian decomposition method for solving initial value problems in vibration models, *MATEC Web of Conferences* 159, artikel 2007.
5. Mungkasi S., Budiawan I.W., 2018, Numerical simulation of blood flow in human artery using (A, Q) and (A, u) systems, *IOP Conference Series: Materials Science and Engineering* 325 (1), artikel 12014.

6. Mungkasi S., Dheno M.F.S., 2017, Adomian decomposition method used to solve the gravity wave equations, *AIP Conference Proceedings* 1788, artikel 30103.
7. Darmawan J.B.B., Mungkasi S., 2016, Parallel computations using a cluster of workstations to simulate elasticity problems, *Journal of Physics: Conference Series* 776 (1), artikel 12081.
8. Supriyadi B., Mungkasi S., 2016, Structural dynamic modification using matrix perturbation for vibrations without friction, *Journal of Physics: Conference Series* 776 (1), artikel 12078.
9. Mungkasi S., Supriyadi B., Wiryanto L.H., 2016, Steady flow over an arbitrary obstruction based on the gravity wave equations, *Journal of Physics: Conference Series* 776 (1), artikel 12080.
10. Mungkasi S., Ningrum G.I.J., 2016, Numerical solution to the linear acoustics equations, *AIP Conference Proceedings* 1746, artikel 20056.
11. Setianingrum P.S., Mungkasi S., 2016, Variational iteration method used to solve steady state problems of shallow water flows, *AIP Conference Proceedings* 1746, artikel 20057.
12. Mungkasi S., 2016, An adaptive mesh finite volume method for the Euler equations of gas dynamics, *AIP Conference Proceedings* 1737, artikel 40002.
13. Mungkasi S., Roberts S.G., 2016, A smoothness indicator for numerical solutions to the Ripa model, *Journal of Physics: Conference Series* 693 (1), artikel 12011.

14. Mungkasi S., Wiryanto L.H., 2016, On the relevance of a variational iteration method for solving the shallow water equations, *AIP Conference Proceedings* 1707, artikel 50010.
15. Mungkasi S., 2015, Some advantages of implementing an adaptive moving mesh for the solution to the Burgers equation, *IOP Conference Series: Materials Science and Engineering* 78 (1), artikel 12031.
16. Mungkasi S., Darmawan J.B.B., 2015, Fast and efficient parallel computations using a cluster of workstations to simulate flood flows, *Communications in Computer and Information Science* 516, hal. 469–477.
17. Mungkasi S., 2014, Shock wave propagation of circular dam break problems, *Journal of Physics: Conference Series* 539 (1), artikel 12022.
18. Mungkasi S., Roberts S.G., 2013, Validation of ANUGA hydraulic model using exact solutions to shallow water wave problems, *Journal of Physics: Conference Series* 423 (1), artikel 12029.
19. Mungkasi S., van Drie R., Roberts S.G., 2013, Predictions on arrival times of water of the St. Francis dam break flood using ANUGA, *The 20th International Congress on Modelling and Simulation, Proceedings of MODSIM 2013,* hal. 304–309.
20. Mungkasi S., Roberts S.G., 2011, A finite volume method for shallow water flows on triangular computational grids, *The 2011 International Conference on Advanced Computer Science and Information Systems, Proceedings of ICACSIS 2011, IEEE*, hal. 79–84.

**Pengalaman Kunjungan/Aktivitas Akademik (sebagian)**

- Australian National University, Canberra, Australia
- Charles Sturt University, Albury, Australia
- Curtin University of Technology, Miri, Malaysia
- Gene Golub SIAM Summer School, Naval Postgraduate School, Monterey, California, U.S.A.
- Geoscience Australia, Canberra, Australia
- Institut Pertanian Bogor, Bogor, Indonesia
- Institut Teknologi Bandung, Bandung, Indonesia
- Institut Teknologi Sumatera, Lampung, Indonesia
- RWTH Aachen University, Aachen, Jerman
- Sekolah Tinggi Teologi Injili Indonesia, Yogyakarta, Indonesia
- Soongsil University, Seoul, Korea Selatan
- St. Francis Institute of Technology, Mumbai, India
- Swinburne University of Technology, Kuching, Malaysia
- Universidad de Deusto, Bilbao, Spanyol
- Universitas Atma Jaya Makassar, Makassar, Indonesia
- Universitas Atma Jaya Yogyakarta, Indonesia
- Universitas Brawijaya, Malang, Indonesia
- Universitas Gadjah Mada, Yogyakarta, Indonesia
- Universitas Katolik De La Salle Manado, Manado, Indonesia
- Universitas Katolik Indonesia Atma Jaya, Jakarta, Indonesia
- Universitas Katolik Widya Mandala Surabaya, Surabaya, Indonesia
- Universitas Katolik Widya Mandira, Kupang, Indonesia
- Universitas Negeri Yogyakarta, Yogyakarta, Indonesia

- Universitas Nusa Cendana, Kupang, Indonesia
- Universitas Sebelas Maret, Surakarta, Indonesia
- Universiti Tun Hussein Onn, Batu Pahat, Malaysia
- University of Adelaide, Adelaide, Australia
- University of Queensland, Brisbane, Australia
- University of South Australia, Adelaide, Australia
- University of the Philippines, Manila, Filipina
- University of Washington, Seattle, Washington, U.S.A.
- University of Wollongong, Wollongong, Australia
- Pontificia Universidad Javeriana de Bogota, Kolombia
- Pontificia Universidad Javeriana de Cali, Kolombia
- Xavier Institute of Engineering, Mumbai, India

**Pengalaman Keanggotaan Organisasi Profesi**

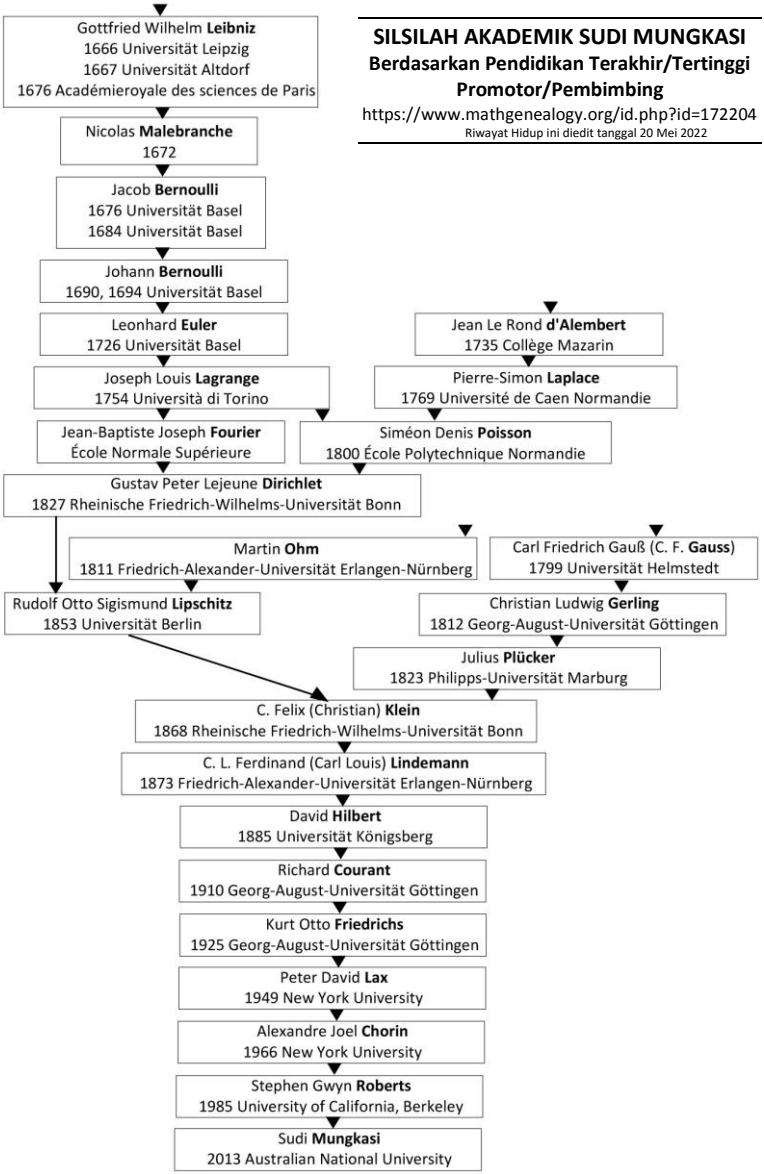
- American Mathematical Society (AMS)
- Australian Mathematical Society (AustMS)
- Indonesian Mathematical Society (IndoMS)
- Institute of Electrical and Electronics Engineers (IEEE)
- Persatuan Insinyur Indonesia (PII)
- Society for Industrial and Applied Mathematics (SIAM)

**Bahasa (Aktif):** Jawa, Indonesia, Inggris

**Hardskill**

- Metode dan analisis numerik
- Matematika komputasi
- Pemodelan matematis

**Pengalaman sebagai Penguji Disertasi S-3**

- Charles Sturt University, Albury, Australia
- Institut Teknologi Bandung, Bandung, Indonesia
- Swinburne University of Technology, Hawthorn, Australia
- Swinburne University of Technology, Sarawak, Malaysia
- Université Paris-Est Marne-la-Vallée, Perancis

**SILSILAH AKADEMIK SUDI MUNGKASI**
**Berdasarkan Pendidikan Terakhir/Tertinggi Promotor/Pembimbing**
https://www.mathgenealogy.org/id.php?id=172204
Riwayat Hidup ini diedit tanggal 20 Mei 2022