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Dr. Ir. Muhdi, S.Hut., M.Si., IPU., ASEAN Eng. is a full-time lecturer at the USU Faculty of Forestry Undergraduate Program in Forestry. He was born in Ujan Mas Lama (Muara Enim) on June 19, 1974, as the fifth child of H. Syeh Ahmad Bin H. Syahri Ramadhan and Hj. Husmah Binti H. Syeh Bourdad. He is married to Prof. Dr. Diana Sofia Hanafiah, SP., MP., with three children: Muhammad Hafizh Abdurrohman, Muhammad Hafazh Abdurrohim, and Shadrina Alyani. He received his Bachelor of Forestry degree from the Faculty of Forestry, Bogor Agricultural University in June 1998. In February 2001, he received his Master of Science degree from the Master of Forestry Science Program, Graduate School of Bogor Agricultural University. Then, in 2007-2012, he attended the Doctoral Program in Forest Management at the Graduate School of Bogor Agricultural University, funded by the Dikti Postgraduate Education Scholarship (BPPS).

Since December 2001, he has served as a CPNS Lecturer at the USU Undergraduate Program in Forestry. In January 2003, he was appointed a PNS (III/b) lecturer at the USU Faculty of Forestry Undergraduate Program in Forestry. On March 1, 2009, he was appointed to the academic/functional position of Associate Professor on the subject of Forest Harvesting. On April 1, 2017, through Presidential Decree No. 00043/KEP/AA/15001/17, effective April 1, 2017, he was promoted to the rank of Senior Pembina (IV/c). During his career at Universitas Sumatera Utara, he was trusted as the Head of the USU Faculty of Agriculture Undergraduate Program in Forestry Forest Products Technology Laboratory/Workshop 2001-2004, Head of the USU Faculty of Agriculture Undergraduate Program in Forest Products Technology 2002-2006, and Secretary of the USU Faculty of Forestry Department of Forest Management, 2017-2021.

In addition to teaching, he is also actively involved in research and community service funded by TALENTA USU and the Ministry of Education, Culture, Research, and Technology's Research and Technology Grant. He has also published his research and community service results at national and international seminars and scientific articles in national and international journals with a good reputation. Based on data released by Sinta as of January 20, 2024, he has an H-Index Scopus of 4 and a Google Scholar of 8. He also holds 2 simple patents.

Training/workshops attended in the last three years: Training and development of assessment and learning strategies, Project Learning and Case Method for lecturers, workshop on Curriculum Development with the OBE Approach Towards ASIIN International Accreditation, Training on Understanding the Implementation of Occupational Health and Safety (K3) in Forest Management and Forest Industries, and National Workshop on the Effectiveness of SVLK Implementation.

The educator certificate in the field of Forest Management was received in September 2014. Professional organizations he is involved in include Member of the Association of Indonesian Forestry Graduates (PERSAKI), Association of Indonesian Forest Product Harvesting Professionals (PERPHINDO), Indonesian Climate Change Researchers Association (APIKI), Indonesian Forest Management Community (KOMHINDO), Indonesian Engineers Association (PII), and ASEAN Federation of Engineering Organisations (AEFO).

The awards he has received include: Best Scientific Paper I in the Science Field at USU in 2004, Second Best Presenter at the USU FP National Seminar in 2016, received the Satya Lancana Karya Satya X Year Award from the President of Indonesia in 2014. In 2015, the Rector of Universitas Sumatera Utara awarded him the USU Outstanding Lecturer I. In 2021, he received the Pioneer Registered Engineer of Forestry Engineering Award from the Ministry of Forestry and Environment of the Republic of Indonesia.

Publications

2026
Prosiding seminar internasional

Biomass Potential of Understory Vegetation and Carbon Storage in Duku (Lansium domesticum) Stand in Agroforestry Systems of Namombelin and Jabah Villages, Namorambe District, Deli Serdang Regency

MUHDI

2026
Prosiding seminar internasional

Estimation of Litter and Soil Carbon in the Lansium domesticum Area in Namorambe District, Deli Serdang Regency

MUHDI

2026
Prosiding seminar internasional

Productivity of Pinus merkusii Sap Tapping at PT. Inhutani V, Parik Sabungan Village, North Tapanuli Regency

MUHDI

2025
Prosiding seminar internasional

Estimation of carbon biomass from litter and understory at sugar palm stand (Arenga pinnata) in North Sumatra

MUHDI

2025
Artikel ilmiah

Diversity of Species, Biomass and Understory Carbon in Agarwood Stands, Asahan Regency, North Sumatra

MUHDI , DIANA SOFIA HANAFIAH

2025
Prosiding seminar internasional

Productivity of Pinus merkusii Sap Tapping at PT. Inhutani V, Parik Sabungan Village, North Tapanuli Regency

MUHDI

2025
Artikel ilmiah

Harvesting Productivity of blangke bamboo (Gigantochloa pruriens Widjaja) in Timbang Lawan Village, Bahorok District, Langkat Regency, North Sumatra

MUHDI , ORANG KAYA HASNANDA SYAHPUTRA

2025
Prosiding seminar internasional

Effect of noise on blood pressure in workers timber industry at UD Lestari, North Sumatra, Indonesia

MUHDI , DIANA SOFIA HANAFIAH

2025
Jurnal internasional bereputasi

Identification and characterization of corn plants for downy mildew resistance in North Sumatra, Indonesia

DIANA SOFIA HANAFIAH , SYAMSAFITRI , MARIATI , CHAIRANI HANUM L , MUHDI

2024
Jurnal internasional bereputasi

Effects of noise intensity on concentration levels of chainsaw operators and harvesting workers in industrial forest plantation, North Sumatera, Indonesia

MUHDI , ASMARLAILI SAHAR , DIANA SOFIA HANAFIAH

2024
Makalah ilmiah

Effect of noise on blood pressure in workers timber industry at UD Lestari, North Sumatra, Indonesia

MUHDI , DIANA SOFIA HANAFIAH

2024
Makalah ilmiah

A rough calculation of the litter carbon in agarwood small scale forest in Asahan Regency, North Sumatra, Indonesia

MUHDI , DIANA SOFIA HANAFIAH

2023
Jurnal nasional terakreditasi

Product Diversification in The Furniture Industry in Tanjung Anom Village, Deli Serdang

MUHDI , DIANA SOFIA HANAFIAH

2023
Jurnal internasional bereputasi

THE EFFECT OF MACHINE VIBRATION ON COMPLAINTS OF CARPAL TUNNEL SYNDROME AMONG WORKERS IN WOOD PROCESSING

MUHDI , DIANA SOFIA HANAFIAH

2022
Jurnal nasional terakreditasi

Intercropping Technique at a Smallholder Oil Palm Plantation in Mancang Village, Langkat, North Sumatra

IRDA SAFNI , ASMARLAILI SAHAR , DIANA SOFIA HANAFIAH , MUHDI

2022
Jurnal nasional terakreditasi

Intercropping Technique at a Smallholder Oil Palm Plantation in Mancang Village, Langkat, North Sumatra

DIANA SOFIA HANAFIAH , ASMARLAILI SAHAR , MUHDI , IRDA SAFNI

2022
Jurnal internasional bereputasi

Productivity and Cost Analysis of Sawmills by Pandan Bandsaw YT36 and Vertical Bandsaw MJ328

DIANA SOFIA HANAFIAH , MUHDI

2021
Artikel ilmiah

The effect of occupational health and safety to employee performance in the sawmills industries in Langkat, North Sumatra, Indonesia

MUHDI

2021
Prosiding seminar internasional

Spatial distribution of landslide vulnerability level in Langkat Regency, North Sumatra Province, Indonesia

MUHDI

2021
Prosiding seminar internasional

Timber transportation using two types of trucks in industrial plantation forests, North Sumatra, Indonesia

MUHDI

2021
Prosiding seminar internasional

Estimation of litter carbon stocks in rubber agroforestry in Simalungun District, Indonesia

MUHDI

2020
Jurnal internasional bereputasi

Diversity, biomass, and carbon stock of understorey plants in the rubber agroforestry and rubber monoculture systems in central Tapanuli district, North Sumatra, Indonesia

MUHDI , DIANA SOFIA HANAFIAH

2020
Jurnal internasional bereputasi

Effect of Sulfate Reducing Bacteria and Ameliorants on Soil pH, C-Organic

and Height of Corn Plants in Acid Sulfate Soils

MUHDI

2020
Jurnal internasional bereputasi

Effect of Sulfate Reducing Bacteria and Ameliorants on Soil pH, C-Organic and Height of Corn Plants in Acid Sulfate Soils.

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2020
Prosiding seminar internasional

Feasibility analysis of sugar palm (Arenga pinnata Merr) by the people around Batang Gadis National Park area

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2019
Prosiding seminar internasional

Analysis of biomass and carbon potential on eucalyptus stand in industrial plantation forest, North Sumatra, Indonesia

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2019
Prosiding seminar internasional

Logging waste of Eukaliptus ind 61 clone in industrial plantation forest, North Sumatra, Indonesia

MUHDI

2019
Jurnal nasional

Struktur dan Komposisi Jenis Tegakan Semai dan Pancang di Hutan Alam Akibat Pemanenan Kayu dengan Teknik Reduced Impact Timber Harvesting

MUHDI

2019
Prosiding seminar internasional

Chainsaw Operators Perception on Occupational Health and Safety (OHS) in Industrial Plantation Forest, North Sumatra, Indonesia

MUHDI

2019
Jurnal nasional terakreditasi

Utilization of organic waste and soil microorganisms in compost making and its application in hybrid corn cultivation in the middle school environment in Medan City

MUHDI

2019
Prosiding seminar internasional

The Utilization of Sugar Palm (Arenga pinnata) by the People Around Batang Gadis Nasional Park Area

MUHDI

2019
Jurnal nasional

The Physical Properties and The Extractive Content of Sugar Palm Stem (Arenga pinnata)

MUHDI , RUDI HARTONO

2018
Jurnal internasional bereputasi

Residual stand damages caused by conventional and reduced impact timber harvesting in the natural forest

MUHDI

2018
Jurnal internasional bereputasi

Estimation of aboveground tree biomass Toona sureni and Coffea Arabica in agroforestry system of Simalungun, North Sumatra, Indonesia

MUHDI

2016
Jurnal nasional

Analisis biaya dan produktivitas produksi kayu pada Hutan Tanaman Industri (Studi Kasus: PT. Sumatera Riang Lestari-Blok I Sei Kebaro, Kabupaten Labuhanbatu Selatan danÃƒâ€šÃ‚Â …

MUHDI

2016
Jurnal nasional

PENDUGAAN CADANGAN KARBON PADA TEGAKAN EUCALYPTUS IND 47 UMUR 5 TAHUN DI IUPHHK PT. TOBA PULP LESTARI, Tbk. SEKTOR TELE

MUHDI

2016
Jurnal nasional

ANALISIS BIOMASSA DAN CADANGAN KARBON BAMBU BELANGKE

MUHDI

2016
Jurnal nasional

MODEL ALOMETRIK BIOMASSA DAN MASSA KARBON BAMBU BELANGKE (Gigantochloa pruriens Widjaja.) DI HUTAN RAKYAT DESA SIRPANG SIGODANG, KECAMATAN PANEI, KABUPATEN SIMALUNGUN

MUHDI

2016
Jurnal nasional

PENDUGAAN CADANGAN KARBON PADA TANAMAN KARET (Hevea brasiliensis Muell. Arg.) DI PERKEBUNAN RAKYAT DESA TAREAN KECAMATAN SILINDAK, KABUPATEN SERDANG BEDAGAI

MUHDI

2016
Jurnal nasional

ANALISIS PENGEMBANGAN OBYEK WISATA PEMANDIAN ALAM KARANG ANYAR, KECAMATAN GUNUNG MALIGAS, KABUPATEN SIMALUNGUN, PROVINSI SUMATERA UTARA

MUHDI

2016
Jurnal nasional

Pendugaan cadangan karbon pada tanaman bambu talang (Schizostachyum brachycladum kurz.) di hutan rakyat bambu desa pertumbukan Kecamatan Wampu Kabupaten Langkat

MUHDI

2016
Jurnal nasional

ANALISIS EKONOMI PADA KAWASAN KONSERVASI EKS-SITU TAMAN HEWAN PEMATANG SIANTAR

MUHDI

2016
Jurnal internasional

Wood waste caused by reduced-impact logging in Indonesian Selective Cutting and Planting System, North Borneo, Indonesia

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2016
Jurnal nasional

Pendugaan Cadangan Karbon Tumbuhan Bawah Pada Tegakan Mindi (Melia

Azedarach) Dan Mahoni (Swietenia Macrophylla)

MUHDI

2016
Jurnal nasional

Pengaruh Struktur dan Komposisi Tegakan Terhadap Cadangan Karbon Tumbuhan Bawah di Hutan Desa Simorangkir Julu, Kabupaten Tapanuli Utara

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2016
Jurnal nasional

Analisis Perubahan Tutupan Vegetasi Berdasarkan Nilai Ndvi Dan Faktor Biofisik Lahan Di Cagar Alam Dolok Sibual-Buali

MUHDI

2016
Jurnal nasional

Pendugaan cadangan karbon pada tanaman karet (Hevea brasiliensis Muell. Arg.) umur 10 tahun di perkebunan rakyat Desa Tarean, Kecamatan Silindak, Kabupaten Serdang Bedagai

MUHDI

2016
Jurnal nasional

Analisis biaya dan produktivitas produksi kayu pada Hutan Tanaman Industri (Studi Kasus: PT. Sumatera Riang Lestari-Blok I Sei Kebaro, Kabupaten Labuhanbatu Selatan danÃ‚Â …

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2016
Jurnal nasional

Pendugaan Cadangan Karbon Tumbuhan Bawah pada Kemiringan Lahan yang Berbeda di Hutan Pendidikan Universitas Sumatera Utara Kabupaten Karo

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2016
Jurnal nasional

PERUBAHAN PENUTUPAN LAHAN HUTAN DI CAGAR ALAM DOLOK SIBUALBUALI TAHUN 2006 DENGAN 2013

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2016
Jurnal internasional bereputasi

Estimation of above Ground Biomass in Logged over Areas, North Borneo, Indonesia

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2015
Jurnal nasional terakreditasi

The estimation of reserves of biomass aboveground oil palm plantations in northern Sumatra.

MUHDI

2015
Jurnal nasional

Modifikasi Teknik Pemanenan Dengan Perlakuan Fisik Dalam Upaya Peningkatan Produktivitas Getah Kemenyan Toba (Styrax Sumatrana)

MUHDI

2015
Jurnal nasional terakreditasi

Analisis Biaya dan Produktivitas Penyaradan Kayu Dengan Traktor Caterpillar D7G di Hutan Alam Tropika Basah PT Inhutani II, Kalimantan Utara

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2015
Jurnal nasional

Analisis finansial pemanenan kayu teknik reduced impact logging melalui skema REDD+, Kalimantan Utara

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2015
Jurnal nasional

Kuantifikasi Biomassa Perkebunan Kelapa Sawit Di Langkat, Sumatera Utara

MUHDI

2015
Jurnal nasional

Analisis Pengembangan Objek Wisata Pemandian Manigom di Kabupaten Simalungun

MUHDI

2014
Jurnal nasional

Increasing Oleoresin (Pinus merkusii) Productivity with Physical Treatment Modification and Time of Tapping in Riil Method

MUHDI

2014
Jurnal nasional

(The Application of H2SO4 As Stimulant To Increase The Productivity of Oleoresin (Pinus merkusii Jungh et de Vriese) With Riil Method

MUHDI

2013
Jurnal nasional terakreditasi

Studi Pembuatan Papan Partikel dari Limbah Pemanenan Kayu Akasia (Acacia mangium L.)

MUHDI

2012
Jurnal nasional terakreditasi

Kerusakan Tegakan Tinggal Akibat Pemanenan Kayu Reduced Impact Logging Dan Konvensional Di Hutan Alam Tropika (Studi Kasus Di Areal Iuphhk PT. Inhutani II, Kalimantan TimurÃƒâ€šÃ‚Â …

MUHDI

2012
Jurnal nasional terakreditasi

Kerusakan Tegakan Tinggal Akibat Pemanenan Kayu Reduced Impact Logging Dan Konvensional Di Hutan Alam Tropika (Studi Kasus Di Areal Iuphhk PT. Inhutani II, Kalimantan TimurÃ‚Â …

MUHDI

2009
Jurnal nasional terakreditasi

Struktur dan Komposisi Jenis Permudaan Hutan Alam Tropika Akibat Pemanenan Kayu dengan Sistem Silvikultur Tebang Pilih Tanam Indonesia (Tpti)

MUHDI

2009
Jurnal nasional terakreditasi

Kerusakan Tegakan Akibat Pemanenan Kayu Konvensional dan Teknik Reduced Impact Logging di Hutan Alam

MUHDI

2007
Jurnal nasional terakreditasi

Desain Primer Spesifik untuk Gen yang Berperan pada Biosintesis Beta Karoten Kelapa Sawit

MUHDI

2007
Jurnal nasional terakreditasi

Dampak Pemanenan Kayu Berdampak Rendah terhadap Kerusakan Tegakan Tinggal di Hutan Alam (Studi kasus di areal HPH PT. Suka Jaya Makmur, Kalimantan Barat)

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2006
Tulisan ilmiah

Dampak Pemanenan Kayu Berdampak Rendah dan Konvensional terhadap Kerusakan Tegakan Tinggal di Hutan Alam (Studi Kasus di Areal HPH PT. Suka Jaya Makmur, Kalimantan Barat)

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2006
Jurnal nasional terakreditasi

Dampak pemanenan kayu berdampak rendah dan konvensional terhadap kerusakan tegakan tinggal di hutan alam (Studi Kasus dai Areal HPH PT. Suka Jaya Makmur, West Kalimantan)

MUHDI

2026
Jurnal nasional

Pengaruh Penyaradan Kayu Dengan Traktor Caterpillar D7g Terhadap Porositas Tanah di Hutan Alam (the Effect of Skidding by Tractor Caterpillar D7g to Soil Porosity in NaturalÃƒâ€šÃ‚Â …

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2026
Jurnal internasional

Wood Waste Caused by Reduced Impact Logging in Indonesian Selective Cutting and Planting System, North Borneo, Indonesia.

MUHDI

2026
Tulisan ilmiah

Effectivness of reduced impact logging to carbon stock in tropical natural forest, East Kalimantan

MUHDI

2026
Jurnal nasional

T., & Widyanti, M.(2006) Studi produktivitas penyaradan kayu dengan menggunakan traktor Komatsu D70 LE di hutan alam

MUHDI

2026
Tulisan ilmiah

Pengaruh Penyaradan Kayu Dengan Traktor Caterpillar D7g Terhadap Porositas Tanah di Hutan Alam (the Effect of Skidding by Tractor Caterpillar D7g to Soil Porosity in NaturalÃ‚Â …

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2026
Tulisan ilmiah

EKSPOSE HASIL-HASIL PENELITIAN 2016

MUHDI

2026
Tulisan ilmiah

Medan, 9 Agustus 2016

MUHDI

2026

Tulisan ilmiah

PENDUGAAN CADANGAN BIOMASSA DI ATAS PERMUKAAN TANAH PERKEBUNAN KELAPA SAWIT DI SUMATERA UTARA

MUHDI

2026
Jurnal nasional terakreditasi

THE EFFECT OF REDUCED IMPACT LOGGING TO RESIDUAL STAND DAMAGE IN THE TROPICAL NATURAL FOREST (A Case Study in Forest Concession Areas of PT. Suka Jaya Makmur, West Kalimantan)

MUHDI

2026
Tulisan ilmiah

Kerusakan tegakan tinggal akibat pemanenan kayu reduced inpact logging dan konvensional di hutan al; am tropika (Studi kasus di areal IUPHHK PT. INHUTANI II, Kalimantan Timur)

MUHDI

2026
Jurnal nasional

Muhdi. 2014. Penggunaan Asam Sulfat (H2SO4) sebagai Stimulansia dalam Meningkatkan Produktivitas Getah Pinus dengan Metode Rill

MUHDI

2026
Jurnal internasional

Productivity and Cost Analysis of Felling in Indonesian Selective Cutting and Planting, North Borneo, Indonesia

MUHDI

Researches

2024
Penelitian Unggulan Perguruan Tinggi

Karakterisasi Jagung dan Identifikasi Cendawan Bulai di Sumatera Utara

MUHDI , MARIATI , DIANA SOFIA HANAFIAH , SYAMSAFITRI , CHAIRANI HANUM L

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2026
Paten nasional

Hak Perlindungan Varietas Tanaman, Varietas Kedelai: G1 USU

DIANA SOFIA HANAFIAH , ROSMAYATI , Khairunnisa Lubis , HARYATI , LUTHFI AZIZ MAHMUD SIREGAR , MUHDI , GALI RAKASIWI

2026
Paten nasional

Hak Perlindungan Varietas Tanaman: Kedelai Varietas Soya USU

MUHDI , DIANA SOFIA HANAFIAH , ROSMAYATI , LUTHFI AZIZ MAHMUD SIREGAR , REVANDY I M DAMANIK , IRDA SAFNI , Khairunnisa Lubis , RATNA ROSANTI LAHAY , GALI RAKASIWI , ANGGRIA LESTAMI

2026
Paten nasional

Hak Perlindungan Varietas Tanaman: Kedelai Varietas Athelia USU

MUHDI , DIANA SOFIA HANAFIAH , REVANDY I M DAMANIK , LUTHFI AZIZ MAHMUD SIREGAR , IRDA SAFNI , Khairunnisa Lubis , ROSMAYATI , ANGGRIA LESTAMI , RATNA ROSANTI LAHAY

2021
Paten nasional

METODE PENGGUNAAN KADAR AIR TANAH 110 % KAPASITAS LAPANG

UNTUK MENDUKUNG PERTUMBUHAN TANAMAN HORTIKULTURA PADA LAHAN SULFAT MASAM

ASMARLAILI SAHAR , DIANA SOFIA HANAFIAH , MUHDI , ABDUL RAUF , SARIFUDDIN

2021
Paten nasional

Metoda penggunaan kadar air tanah 110% kapasitas lapang untuk mendukung pertumbuhan tanaman hortikultura

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2021
Paten nasional

Inokulan bakteri pereduksi sulfat (BPS) untuk meningkatkan pertumbuhan tanaman jagung pada tanah sulfat masam

MUHDI

2021
Paten nasional

INOKULAN BAKTERI PEREDUKSI SULFAT (BPS) UNTUK MENINGKATKAN PERTUMBUHAN TANAMAN JAGUNG PADA TANAH SULFAT MASAM

ASMARLAILI SAHAR , SARIFUDDIN , MUHDI , DIANA SOFIA HANAFIAH , ABDUL RAUF