

Prof. Dr. Tulus, Vor.Dipl.Math., M.Si., Ph.D.

Lecturer of Master's Program in Mathematics Study Program
Fakultas Matematika Dan Ilmu Pengetahuan Alam
Universitas Sumatera Utara

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Prof. Dr. Tulus, Vor.Dipl.Math., M.Si., Ph.D. was born in Purbalingga, Central Java, on September 1, 1962. He is a Lecturer in Mathematics at Universitas Sumatera Utara. He completed a Doctoral Program in Mechanical and Materials Engineering at UKM in 2007.

Education profile:

Bachelor - USU, Medan

Master - ITB, Bandung

Ph.D - UKM, Malaysia

Publications

2021

Prosiding seminar internasional

Utilization of botanical pesticide as rice pests control of in Soporaru Village, North of Tapanuli, Indonesia

TULUS , KEMALA SARI LUBIS , AMELIA ZULIYANTI SIREGAR

2017

Jurnal nasional

Pemanfaatan tanaman atraktan mengendalikan hama keong mas padi

TULUS , AMELIA ZULIYANTI SIREGAR

2020

Jurnal nasional terakreditasi

Models in active learning in schools

MUHAMMAD ROMI SYAHPUTRA , SAWALUDDIN , TULUS , TULUS JOSEPH HERIANTO

2023

Prosiding seminar internasional

Heat transfer in non-Newtonian fluid

TULUS

2022

Prosiding seminar internasional

Analysis Number Sense of Students in Different Level using Decision Theory

TULUS , Rissa Isabella Marpaung , TULUS JOSEPH HERIANTO

2024

Prosiding seminar internasional

Improving data security with the utilization of matrix columnar transposition techniques

TULUS , Jonathan Liviera Marpaung , RINOVIA MERY GARNIERITA S. , Kiki Ariyanti , SYAFRIZAL SY

2023

Jurnal nasional terakreditasi

Empowerment of Groups of Society Through Creative Economy Production Convection and Sablon in SMPS PTPN 4 Dolok Ilir Simalungun

SURIATI , FREDDY SUTANTO , Rony Genevent Marpaung , Jonathan Liviera Marpaung , TULUS , TULUS JOSEPH HERIANTO

2022

Jurnal nasional terakreditasi

COMPARISON OF FEATURE SELECTION TO PERFORMANCE IMPROVEMENT OF K-NEAREST NEIGHBOR ALGORITHM IN DATA CLASSIFICATION

TULUS , POLTAK SIHOMBING

2023

Prosiding seminar internasional

Computational Analysis for Dam Stability Against Water Flow Pressure

TULUS , TULUS JOSEPH HERIANTO

2024

Jurnal internasional bereputasi

Distance antimagic labeling of circulant graphs

Kiki Ariyanti , RINOVIA MERY GARNIERITA S. , TULUS , CHRISTYAN TAMARO NADEAK , SYAFRIZAL SY

2019

Prosiding seminar internasional

Stability analysis of heartbeat system with lyapunov's direct method

MUHAMMAD ROMI SYAHPUTRA , TULUS , TULUS JOSEPH HERIANTO

2023

Jurnal internasional bereputasi

Computational Assessment of Wave Stability Against Submerged Permeable Breakwaters: A Hybrid Finite Element Method Approach

TULUS

2020

Artikel ilmiah

Stability Analysis in Three Dimensions for the Incompressible Navier-Stokes Equation

TULUS JOSEPH HERIANTO , TULUS , MUHAMMAD ROMI SYAHPUTRA

2022

Prosiding seminar internasional

Inventory insects of sorghum plantation in Northern Sumatera, Indonesia

AMEILIA ZULIYANTI SIREGAR , YUNILAS , TULUS

2020

Jurnal nasional terakreditasi

Arrangement of Beauty in the Sweembath Tourism Environment to Achieve Community Welfare

TUGIMAN , HARIADI SUSILO , DARDANILA , EVA SARTINI BAYU , AMLYS SYAHPUTRA SILALAH , MARUF TAFSIN , TULUS , FARIDA ARIANI , SAIB SUWILO

2022

Jurnal nasional terakreditasi

THE CYCLE LENGTH OF SPARSE REGULAR GRAPH

TULUS , SAIB SUWILO

2024

Prosiding seminar internasional

Hidden Markov model to provide coordination relationship for learning behavior development in the era of industrial reform

TULUS

2024

Prosiding seminar internasional

Combination of penalty function and gradient projection method in relaxed MIQQP-convex

TULUS

2024

Prosiding seminar internasional

Improving data security with the utilization of matrix columnar transposition techniques

2020

Jurnal nasional terakreditasi

Increasing the Brand Image of the Sweembath Tourism Area Towards a Tourism Village in Naga Sopa Village, Bandar Hulan District, Simalungun Regency

TULUS , HARIADI SUSILO , DARDANILA , ANAS MARUF , EVA SARTINI BAYU , TUGIMAN , PENI PATRIANI

2023

Prosiding seminar internasional

Data-Driven optimization approach to health care management planning

TULUS

2024

Jurnal internasional bereputasi

Biomedical Simulation of Non-Newtonian Fluid Dynamics in Cardiovascular Systems: A Finite Volume Method Approach to Pulsatile Flow and Atherosclerosis Analysis

TULUS , TULUS JOSEPH HERIANTO , YAN BATARA PUTRA SIRINGORINGO , M.R. Rasani , Md Mustafizur Rahman , Suriati , Jonathan Liviera Marpaung

2021

Jurnal nasional terakreditasi

Penggunaan Pestisida Nabati Mengendalikan Hama-Hama Padi Merah (*Oryza nivara* L.) Di Dusun Soporaru, Tapanuli Utara, Sumatera Utara

KEMALA SARI LUBIS , AMELIA ZULIYANTI SIREGAR , TULUS

2022

Jurnal nasional

Pelatihan pengolahan kopi tepat guna menjadi makanan dan minuman aneka rasa dan warna

TULUS , AMELIA ZULIYANTI SIREGAR , ELISA JULIANTI

2024

Prosiding seminar nasional

Edukasi Urban Farming Melalui Implementasi Hidroponik dan Budi kembar Meningkatkan Ketahanan Pangan dan Kesejahteraan Masyarakat di Medan Tuntungan, Sumatera Utara

NISMAH PANJAITAN , AMELIA ZULIYANTI SIREGAR , TULUS , ZULKIFLI

2023

Prosiding seminar internasional

A constrained based approach for solving the multi-period single sourcing problem

HERMAN MAWENKANG , TULUS , OPIM SALIM SITOMPUL

2024

Jurnal internasional bereputasi

Hidden Markov Model to Optimize Coordination Relationship for Learning Behaviour

TULUS

2022

Jurnal nasional terakreditasi

IMPLEMENTATION OF EXTENDED FINITE ELEMENT METHOD IN CRACK PROPAGATION OF CONCRETE

TULUS , MUHAMMAD ROMI SYAHPUTRA

2025

Jurnal internasional bereputasi

An Optimization Model for Integrated Warehouse-Inventory-Transportation of a Multi-Echelon Supply Chain

HERMAN MAWENKANG , MUHAMMAD ZARLIS , TULUS , ANIL HAKIM SYOFRA

2022

Jurnal nasional terakreditasi

IMPROVED SUPPORT VECTOR MACHINE PERFORMANCE USING PARTICLE SWARM OPTIMIZATION IN CREDIT RISK CLASSIFICATION

ERNA BUDHIARTI NABABAN , TULUS

2022

Book chapter nasional

STRATEGI PENINGKATAN PEMERINGKATAN UNIVERSITAS SUMATERA UTARA

RAHMAWATY , TULUS , TAMRIN

2022

Prosiding seminar internasional

Training for Making a Portable Gas Container in Taduken Raga Biogas Group Sinembah Tanjung Gilir Subdistrict Deli Serdang Regency

NURZAINAH GINTING , TULUS , ZUHRINA MASYITHAH

2025

Jurnal nasional terakreditasi

Copula-Based Blind Detection of Copy-Move Image Forgery: A Robust Mutual Information Approach

FIVI RAHMATUS SOFIYAH , TULUS , TULUS JOSEPH HERIANTO

2024

Jurnal nasional terakreditasi

Urban Farming Deteksi Keberadaan Serangga Rayap, Budikembar dan Hidroponik di Kota Medan-Sumut, Indonesia dan Penang, Malaysia

AMEILIA ZULIYANTI SIREGAR , TULUS , ZULKIFLI , NISMAH PANJAITAN

2023

Jurnal internasional

Optimization Model of Integrated Sustainable Forest Management Planning for Hydropower Power Plant

TULUS

2021

Jurnal nasional terakreditasi

Structuring the Greening of Tourism Areas Developing the" Sweembath" Naga Sopa Tourism Village Realizes Community Welfare

AMLYS SYAHPUTRA SILALAH , HARIADI SUSILO , DARDANILA , SAIB SUWILO , TULUS , MARUF TAFSIN , PENI PATRIANI , FARIDA ARIANI

2023

Prosiding seminar internasional

A sustainable forest planning model with water allocation optimization for power plant

TULUS

2024

Jurnal internasional bereputasi

Fibonacci Noise Modification on Data Encryption

Kiki Ariyanti , SYAFRIZAL SY , RINOVIA MERY GARNIERITA S. , TULUS

2025

Jurnal internasional bereputasi

Discrete optimization model for multi-product multi-supplier vehicle routing problem with relaxed time window

MULIAWAN FIRDAUS , HERMAN MAWENGGANG , TULUS

2017

Jurnal nasional

Penerapan Metode Entropy dan Metode Promethee dalam Merangking Kualitas Getah Karet

ANGGI SYAHADAT HARAHAH , ERNA BUDHIARTI NABABAN , TULUS

2019

Jurnal nasional terakreditasi

Developing Red Chilli Downstream Business in Simalungun District

HARIADI SUSILO , EVA SARTINI BAYU , MARUF TAFSIN , TULUS , FARIDA ARIANI , TUGIMAN

2020

Jurnal internasional bereputasi

Analysis Optimization K-Nearest Neighbor Algorithm with Certainty Factor in Determining Student Career

NUNSINA , TULUS

2023

Jurnal nasional terakreditasi

Realizing Inclusive Education in the Era of Industry 4.0: The Role of the PTPN IV Dolok Ilir School Website

TULUS , SURIATI , TULUS JOSEPH HERIAN TO

2023

Prosiding seminar internasional

A binary programming model for logistics problems with multi-suppliers and relaxed time windows

MULIAWAN FIRDAUS , TULUS

2024

Jurnal internasional bereputasi

Optimization Model for Outpatient Services Capacity Management in Different Patient Conditions and Diseases

TULUS

2025

Jurnal internasional bereputasi

Ambulance integration model in smart city for health services

RAFIQA DEWI , TULUS , Muhammad Zarlis

2019

Jurnal nasional terakreditasi

Application of Cassava Slicer Machine and Oil Dryer Machine in Micro Enterprises at Simalungun District

TULUS , FARIDA ARIANI , HARIADI SUSILO , MARUF TAFSIN , TUGIMAN , EVA SARTINI BAYU

2021

Prosiding seminar internasional

The Opportunity of lemongrass, zinger and turmeric supported development of export products in North of Sumatera, Indonesia

TULUS , KEMALA SARI LUBIS , HIMMA DEWIYANA LUBIS , AMEILIA ZULIYANTI SIREGAR

2024

Prosiding seminar internasional

The analysis of rock armor's resistance to sea waves using finite element

TULUS

2025

Prosiding seminar internasional

Development of Distance Measurement Estimation Model for Specific Objects

FAHMI , POLTAK SIHOMBING , HERDIANTO , TULUS

2024

Jurnal internasional

Biomedical Simulation of Non-Newtonian Fluid Dynamics in Cardiovascular Systems: A Finite Volume Method Approach to Pulsatile Flow and Atherosclerosis Analysis

SURIATI , TULUS

2023

Prosiding seminar internasional

Computational analysis dynamics fluid of flow in dam using COMSOL Multiphysics

2024

Jurnal nasional

Community service supports coffee cultivation and post-harvest in Hutabaringin Village, Sorik Marapi District, Madina

PUTRI CHANDRA AYU , AMELIA ZULIYANTI SIREGAR , TULUS , FATIMAH

2020

Jurnal nasional

Pemberdayaan petani dalam meningkatkan produktivitas beras merah silotik di DesaTanjung Dolok, Tapanuli Selatan, Sumatera Utara

KEMALA SARI LUBIS , TULUS , AMELIA ZULIYANTI SIREGAR , HARYATI

2021

Prosiding seminar nasional

Pengolahan Soja sp. "Rumah Tempe USU" tepat guna mendukung ketahanan pangan di Sumatera Utara

AMEILIA ZULIYANTI SIREGAR , TULUS

2023

Jurnal nasional terakreditasi

Realizing Inclusive Education in the Era of Industry 4.0: The Role of the PTPN IV Dolok Ilir School Website

SURIATI , TULUS , TULUS JOSEPH HERIANTO

2025

Jurnal internasional

Secure Data Encryption in Energy Production and Management Systems: Integrating Chaos Bifurcation and Polynomial High Order Fibonacci for Enhanced Cybersecurity

Kiki Ariyanti , TULUS , SYAFRIZAL SY , RINOVIA MERY GARNIERITA S.

2023

Jurnal nasional terakreditasi

Utilization of Cow Rumen into Biogas Using a Fixed Dome Reactor as an Alternative Energy in Deli Serdang Regency

IRVAN , TULUS , BAMBANG TRISAKTI , MEUTIA NAULY , RIVALDI SIDABUTAR , DESTANUL AULIA , NURZAINAH GINTING

2023

Jurnal nasional terakreditasi

Empowerment of Groups of Society Through Creative Economy Production Convection and Sablon in SMPS PTPN 4 Dolok Ilir Simalungun

TULUS JOSEPH HERIANTO , SURATI , TULUS , Rony Genevent Marpaung , Jonathan Liviera Marpaung

2019

Jurnal nasional

Aneka keripik tempe bergizi dan tepat guna mendukung kedaulatan pangan

AMEILIA ZULIYANTI SIREGAR , TULUS

2024

Jurnal internasional

Mathematical Study Simulating Hydroelectric Power as a Renewable Green Energy Alternative

MUHAMMAD ROMI SYAHPUTRA , TULUS , TULUS JOSEPH HERIANTO

2018

Prosiding seminar internasional

Three dimensional model of Snake-Type wavemakers using linear wave theory

MARDININGSIH , TULUS

2018

Jurnal nasional

Pemanfaatan tanaman atraktan mengendalikan hama keong mas padi

TULUS , KEMALA SARI LUBIS , AMELIA ZULIYANTI SIREGAR

2021
Jurnal nasional

Penggunaan pestisida nabati mengendalikan hama-hama padi merah (*Oryza nivara* L.) di Dusun Soporaru, Tapanuli Utara, Sumatera Utara

AMEILIA ZULIYANTI SIREGAR , KEMALA SARI LUBIS , TULUS

2020
Jurnal nasional terakreditasi

Paving Block and Canopy Development of "Sweembath" Tourism Village Realizing Community Welfare

AMLYS SYAHPUTRA SILALAH , FARIDA ARIANI , HARIADI SUSILO , DARDANILA , SAIB SUWILO , TULUS , MARUF TAFSIN , PENI PATRIANI

Researches

2013
Penelitian Hibah Bersaing

Pemodelan dan simulasi pemisahan lumpur keluaran fermentor pada pembuatan biogas

SUYANTO , ROSDANELLI HASIBUAN , TULUS

2022
Ipteks Bagi Wilayah Antara PT-CSR / PT-PEMDA-CSR

Kajian Ilmiah Studi Penguatan Kawasan Resapan Air di Desa Rumah Sumbul Kecamatan Sibolangit

ZAID PERDANA NASUTION , TULUS

Pengamanan Data Dengan Pewarnaan Graf

SYAFRIZAL SY , Kiki Ariyanti , TULUS

2023
Ipteks

Klasifikasi Hyperspectral Untuk Deteksi Pemalsuan Fotografi Berbasis Copula

TULUS JOSEPH HERIANTO , FIVI RAHMATUS SOFIYAH , TULUS

2023
Ipteks Bagi Wilayah Antara PT-CSR / PT-PEMDA-CSR

Kajian Ilmiah Studi Penguatan Kawasan Resapan Air di Desa Rumah Sumbul Kecamatan Sibolangit

SRI FAJAR AYU, SP, MM, DBA , DESTANUL AULIA , TULUS , MEUTIA NAULY

2021
Penelitian Dana Lokal Perguruan Tinggi

Pengendalian Hama Terpadu Hama Sorgum (*Sorghum bicolor*) Mendukung Ketahanan Pangan Masa Pandemi di Sumatera Utara

AMEILIA ZULIYANTI SIREGAR , TULUS

2020
Penelitian Dana Lokal Perguruan Tinggi

Pemanfaatan Biopestisida Kontrol Hama Padi Mengurangi Stunting Di Dusun Soporaru, Tapanuli Utara

KEMALA SARI LUBIS , AMEILIA ZULIYANTI SIREGAR , TULUS

2022
Penelitian Dana Lokal Perguruan Tinggi

Kajian Ilmiah Studi Penguatan Kawasan Resapan Air di Desa Rumah Sumbul Kecamatan Sibolangit

ZAID PERDANA NASUTION , BEJO SLAMET , DESTANUL AULIA , TULUS , ODING AFFANDI

2023
Riset Andalan Perguruan Tinggi dan Industri

Kajian Ilmiah Studi Penguatan Kawasan Resapan Air di Desa Rumah Sumbul Kecamatan Sibolangit

Community Services

2020

Ipteks Bagi Masyarakat

Pemanfaatan Teknologi Informasi Dalam Pelaksanaan Pembelajaran Aktif di Sekolah SMP Swasta Muhammadiyah-21 Dolok Batu Nanggar Secara Daring

TULUS JOSEPH HERIANTO , SAIB SUWILO , ELVIWANI , TULUS

2025

Implementation of Hydroponics and Fish Cultivation in The Bucket (BUDIKEMBER) for Detecting Insect Biodiversity in Medan City, North Sumatra

NISMAH PANJAITAN , AMEILIA ZULIYANTI SIREGAR , ZULKIFLI , TULUS

2019

Ipteks

Model Edukasi Petani Padi Beras Merah Tapanuli Selatan Mendukung Ketahanan Pangan Di Sumatera Utara

KEMALA SARI LUBIS , AMEILIA ZULIYANTI SIREGAR , HARYATI , TULUS

2019

Ipteks

Pemanfaatan Teknologi Informasi Dalam Pelaksanaan Pembelajaran Aktif Di Sekolah SMP Swasta PTPN4 Dolok Ilir Dalam Menghadapi Era Revolusi Industri 4.0

MUHAMMAD ZARLIS , SAWALUDDIN , TULUS , MUHAMMAD ROMI SYAHPUTRA , DENNY SETIAWAN , JONATHAN LIVIERA MARPAUNG , HUSEIN AZIZ ARROYHAN , TULUS JOSEPH H

2020

Ipteks Bagi Masyarakat

Model Desa Mitra Petani Padi Beras Merah dan Peternak Lembu Mendukung Ketahanan Pangan Di Sumatera Utara

AMEILIA ZULIYANTI SIREGAR , YUNILAS , TULUS

2013

Penelitian Tim Pasca Sarjana

EKSPONEN LOKAL MASUK DAN SCRAMBLING INDEX DARI DIGRAF DWIWARNA

2021

Ipteks

Pengendalian Hama Terpadu Tanaman Hortikultura Masa Pandemi Mendukung Ekowisata Kabupaten Mandailing Natal

PUTRI CHANDRA AYU , AMEILIA ZULIYANTI SIREGAR , YUNILAS , TULUS

2014

Penelitian Unggulan Perguruan Tinggi

MODEL DAN OPTIMALISASI PROSES PEMBUATAN BIOGAS DARI FERMENTASI LIMBAH CAIR PAB

2026

DIGITALISASI FORMULASI PAKAN TERNAK BERBASIS MATEMATIKA KOMPUTASI DAN MEKANISASI TEKNOLOGI MIXER UNTUK OPTIMASI AGRIBISNIS DI DESA BANDAR MALELA, KABUPATEN SIMALUNGUN

HELOVA LEONARD PANJAITAN , AMLYS SYAHPUTRA SILALAH , PENI PATRIANI , TULUS , SUPRIANTO

2022

Ipteks Bagi Masyarakat

Pelatihan Penyemaian dan Pemeliharaan Tanaman Ternak dengan Sluri Biogas Kecamatan STM Hilir Kabupaten Deli Serdang

NURZAINAH GINTING , ZUHRINA MASYITHAH , ARMANSYAH GINTING , TULUS

2026

Penelitian Dana Lokal Perguruan Tinggi

FOCUS GROUP DISCUSION : PERUMUSAN STRATEGI DAN KEBERLANJUTAN PROGRAM PENINGKATAN KAPASITAS PERTANIAN TERPADU UNTUK KETAHANAN EKONOMI MASYARAKAT DESA RABUHIT KECAMATAN GUNUNG MALIGAS KABUPATEN SIMALUNGUN

MARUF TAFSIN , AMLYS SYAHPUTRA SILALAH , FARIDA ARIANI , PENI PATRIANI , TULUS

2013

Penelitian Hibah Bersaing

Pemodelan dan simulasi pemisahan lumpur keluaran fermentor pada pembuatan biogas

2023

Ipteks Bagi Masyarakat

Pemanfaatan Lahan Pertanian mendukung Bertanam Kopi Tepat Guna di Desa Hutanamale, Kecamatan Sorik Merapi, Kabupaten Madina

PUTRI CHANDRA AYU , AMELIA ZULIYANTI SIREGAR , TULUS

2025

Workshop Hidroponik untuk Mahasiswa School Biologi, Universiti Sains Malaysia, Penang, Malaysia

NISMAH PANJAITAN , AMELIA ZULIYANTI SIREGAR , ZULKIFLI , TULUS

2017

Ipteks Bagi Masyarakat

Pengolahan Keong Mas Sebagai Pupuk Cair Produktif

KEMALA SARI LUBIS , AMELIA ZULIYANTI SIREGAR , TULUS

2026

AKSELERASI EKONOMI SIRKULAR MELALUI HILIRISASI PAKAN TERNAK DAN PUPUK GRANUL BERBASIS PERTANIAN TERPADU DI DESA RABUHIT KECAMATAN GUNUNG MALIGAS KABUPATEN SIMALUNGUN

HELOVA LEONARD PANJAITAN , HENDRIK VOICE SIHOMBING , AMLYS SYAHPUTRA SILALAH , TATI VIDIANA SARI , PENI PATRIANI , TULUS

2014

Penelitian Tim Pasca Sarjana

EKSPONEN LOKAL MASUK DAN SCRAMBLING INDEX DARI DIGRAF DWIWARNA

2024

Kerjasama Luar Negeri dan Publikasi Internasional

Urban Farming: Detection of Beneficial Insects in the City of Medan, Sumatera Utara and Penang, Malaysia

NISMAH PANJAITAN , AMELIA ZULIYANTI SIREGAR , ZULKIFLI , TULUS

2021

Ipteks Bagi Kewirausahaan

Pengolahan Kambing Pentahelik Mendukung Ketahanan Protein Masa Pandemi Di Sumatera Utara

AMELIA ZULIYANTI SIREGAR , YUNILAS , TULUS

Intellectual Property Rights

2020

Hak cipta nasional

Tempe: Makanan Khas Indonesia

AMELIA ZULIYANTI SIREGAR , TULUS

2020

Hak cipta nasional

PENDOKUMENTASIAN PROSES PEMBUATAN DAUN KOPI PANGGANG SEBAGAI WARISAN KEARIFAN LOKAL

RUDY SOFYAN , JUNEDI GINTING , SAMERDANTA SINULINGGA , PINKY MEIDIVA ARDI , TULUS , POPPY ANJELISA ZAITUN
HASIBUAN , MEUTIA NAULY

2020

Hak cipta nasional

PELATIHAN SERTIFIKASI BNSP SKEMA KONTEN KREATOR PARIWISATA DI DESA PARSINGGURAN II

RUDY SOFYAN , SAMERDANTA SINULINGGA , MEUTIA NAULY , AFDILAH YUSTIA , JUNEDI GINTING , TULUS , POPPY
ANJELISA ZAITUN HASIBUAN

2020

Hak cipta nasional

Kuliah Kerja Nyata (KKN) Mahasiswa USU di Desa Timbang Jaya

ZULFAN , SAMERDANTA SINULINGGA , TULUS , RANU PUTRA ARMIDIN , MEUTIA NAULY , ISMAYADI

2020

Hak cipta nasional

Pelatihan Outbond Dan Pembuatan Film Promosi Desa Naga Sopa

SAMERDANTA SINULINGGA , TULUS , HARIADI SUSILO
