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Dr. Tulus Ikhsan Nasution, S.Si., M.Sc. born in P. Brandan on July 16, 1974, is a Physics lecturer at the Universitas Sumatera Utara. He completed his doctoral degree in Electronic Materials at USM in 2013.

Publications

2024

Prosiding seminar internasional

Synthesis and Characterization of Indigofera Zollingeriana Plant-Based Ruminant Feed Using EM 4 Fermentation Method

Isnaeni , MUHAMMADIN HAMID , TULUS IKHSAN NASUTION

2024

Prosiding seminar internasional

Synthesis and Characterization of Ruminant Feed Based on Palm Kernel Cake Using EM4 Fermentation Method

Isnaeni , MUHAMMADIN HAMID , TULUS IKHSAN NASUTION

2024

Jurnal internasional bereputasi

Reducing Ammonia (NH₃) Levels in Fish Cage Water Using Activated Carbon Adsorbent Derived from Purple Corn Cob

Isnaeni , MUHAMMADIN HAMID , TULUS IKHSAN NASUTION

2024

Jurnal nasional terakreditasi

Characteristics of Extreme Rainfall Events in North Sumatra

MARZUKI SINAMBELA , TULUS IKHSAN NASUTION

2024

Jurnal nasional terakreditasi

Analysis of Interaction Between Atmosphere and Sea Using The Delft3D Hydrodynamics Model for Mapping Coastal Flood Zone at Belawan Port and Coastal

RIZKI FADHILLAH PRATAMA PUTRA , YAHYA DARMAWAN , SYAHRUL HUMAIDI , TULUS IKHSAN NASUTION

2023

Jurnal nasional terakreditasi

Design and Development of A Digital Soil Temperature Monitoring System Based on The Internet of Things at North Sumatra Climatological Station

KHINDI AUFA HIBATULLAH , IMMANUEL JHONSON ARIZONA SARAGIH , ROYSTON MANURUNG , SYAHRUL HUMAIDI , TULUS IKHSAN NASUTION , MARHAPOSAN SITUMORANG , YAHYA DARMAWAN

2023

Jurnal nasional terakreditasi

Analysis of Spearman Rank Correlation & Linear Regression of Atmospheric Stability And Cloud Tops Temperature Of Himawari-8 IR Satellite Images (Case Study Of Hail On May 22, 2022)

2023

Jurnal nasional terakreditasi

Accuracy of Weather Radar Products for Rainfall Estimation in North Sumatra Region

MARHAPOSAN SITUMORANG , YOLANDA MUTIARA TONDANG , TULUS IKHSAN NASUTION , YAHYA DARMAWAN

2023

Prosiding seminar internasional

Design and regression analysis of solar tracker through system sun tracker

TULUS IKHSAN NASUTION , LUKMAN HAKIM

2022

Jurnal nasional terakreditasi

Waste Processing as Organic Compost Fertilizer Using Smart Composter in Sei Ular Village, Secanggang District, Langkat Regency

TULUS IKHSAN NASUTION , ACHMAD SADELI

2021

Prosiding seminar internasional

Tradition lubuk larangan as a local wisdom for ecocultural tourism river management through landscape anthropolinguistic approach in Mandailingnese

TULUS IKHSAN NASUTION

2021

Prosiding seminar nasional

Pemanfaatan Penggunaan Maggot Lalat Tentara Hitam sebagai Pakan Ternak Alternatif Tinggi Protein di Desa Sayur Matua

TULUS IKHSAN NASUTION

2021

Jurnal nasional terakreditasi

PENGEMBANGAN UNIT PENGELOLAAN LIMBAH SISTEM MANAJEMEN LIMBAH (SIMALIM) DENGAN SMART URBAN FARMING DALAM MENGELOLA LIMBAH ORGANIK DI KAMPUS USU

TULUS IKHSAN NASUTION

2021

Prosiding seminar internasional

The role of environment restoration on microclimate sustainability in Perumahan Cemara Asri Medan

TULUS IKHSAN NASUTION

2021

Prosiding seminar internasional

The use of BSF (Black Soldier Fly) maggot in mini biopond as a solution for organic waste management on a household scale

TULUS IKHSAN NASUTION

2021

Prosiding seminar internasional

Cyclist test on particleboards and utilization of their liquid disposal for fertilizer

TULUS IKHSAN NASUTION

2021

Jurnal nasional

Pembuatan Pupuk Organik Menggunakan Komposter Pintar Untuk Mendukung Kemandirian Petani Di Desa Sayur Matua Kecamatan Aek Nabara Barumon Kabupaten Padang Lawas

ACHMAD SADELI , EMMA ZAIDAR , RAHMADHANI BANUREA , TULUS IKHSAN NASUTION , ADRIAN HILMAN

2021

Jurnal nasional

Pemanfaatan Penggunaan Maggot Lalat Tentara Hitam sebagai Pakan Ternak Alternatif Tinggi Protein di Desa Sayur Matua

ACHMAD SADELI , ZULHAM APANDY HARAHAAP , ADRIAN HILMAN , LUKMAN HAKIM , TULUS IKHSAN NASUTION , RAHMADHANI BANUREA , TETTY YULIATY

2020

Prosiding seminar internasional

Properties of fibreboard (FBs) and recycle fibreboard (rFBs) and analysis of their wastage after recycling

TULUS IKHSAN NASUTION

2020

Jurnal internasional bereputasi

Properties of fibreboard (FBs) and recycle fibreboard (rFBs) and analysis of their wastage after recycling

KANSIH SRI HARTINI , IWAN RISNASARI , RAHMADHANI BANUREA , ARIF NURYAWAN , TULUS IKHSAN NASUTION

2020

Prosiding seminar internasional

Teacher performance toward students's mathematical literacy in teaching linear program mathematical models

TULUS IKHSAN NASUTION

2020

Tulisan ilmiah

Thermal Properties of Chitosan-roselle Films

TULUS IKHSAN NASUTION

2020

Artikel ilmiah

Formaldehyde Detection using Thin Film Sensor based on Chitosan Crosslinked with Glutaraldehyde

TULUS IKHSAN NASUTION

2020

Prosiding seminar internasional

Preface: The 1st International Conference on Physics and Applied Physics (the 1st ICP&AP) 2019

TULUS IKHSAN NASUTION

2020

Artikel ilmiah

The Effects of Exfoliated Graphite Concentration on Sensing Properties of Chitosan/Exfoliated Graphite Film Crosslinked with Glutaraldehyde

TULUS IKHSAN NASUTION

2020

Tulisan ilmiah

Peningkatan Sifat Elektrik dan Penginderaan Film Kitosan dengan Penambahan LiCl (Litium Klorida) Sebagai Sensor Kelembaban Udara

TULUS IKHSAN NASUTION

2020

Jurnal internasional bereputasi

The improvement of mechanical properties of hydrogen filter based on natural zeolite from paha and clay addition

TULUS IKHSAN NASUTION

2020

Prosiding seminar internasional

A real-time phytoplankton growth monitoring using TCS-3200 color sensor

TULUS IKHSAN NASUTION

2020

Prosiding seminar internasional

An automatic stirring system based on temperature control on composter for

the production of organic liquid fertilizer

TULUS IKHSAN NASUTION

2020

Prosiding seminar internasional

Utilization of sensor TGS 821 as hydrogen detection of result water electrolysis process in real time with DAQ on PC

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2020

Prosiding seminar internasional

An Automatic and Realtime Control of Ammonia Concentration in Catfish Pond Water Based on MQ137 Sensor

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2020

Prosiding seminar internasional

Automatic and Realtime Control of pH Level in Water Catfish Cultivation

TULUS IKHSAN NASUTION

2020

Prosiding seminar internasional

Effect band gap of chitosan film in converting water vapour into electrical current

TULUS IKHSAN NASUTION

2019

Jurnal nasional terakreditasi

Environtmentally healthy sleep light

TULUS IKHSAN NASUTION , SUSILAWATI

2019

Jurnal internasional bereputasi

Energy harvesting properties of chitosan film in harvesting water vapour into electrical energy

TULUS IKHSAN NASUTION

2019

Jurnal nasional terakreditasi

Environtmentally healthy sleep light

TULUS IKHSAN NASUTION

2019

Jurnal internasional

The Effectiveness of Acetone Breath Content Using Chitosan Based Sensor in Patients Diabetes Mellitus. Open Access Maced J Med Sci. 2019 Oct 30; 7 (20): 3391-3394

TULUS IKHSAN NASUTION

2019

Prosiding seminar internasional

Improving zeolite power of pahae natural adsorption as the hydrogen filter with the addition of blood clams (Anadara Granosa) as the filler

TULUS IKHSAN NASUTION

2019

Jurnal internasional

The effectiveness of acetone breath content using chitosan based sensor in patients diabetes mellitus

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Testing of the charging and discharging characteristic of chitosan thick film as a capacitor dielectric

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Milk powder quality degradation detection using chitosan film based sensor

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

The effect of ferredoxin in enhancing the sensing properties of chitosan based acetone sensors

TULUS IKHSAN NASUTION

2018

Jurnal internasional

Application of MQ-138 Semiconductor Sensor for Breath Acetone Detection

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Fabrication of Ceramic Composites Based on CuO-ZnO

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Compatibilisation of cyclic natural rubber (resiprene-35) with polypropylene in the presence of oleic acid and benzoyl peroxide

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Talenta

TULUS IKHSAN NASUTION

2018

Jurnal nasional terakreditasi

ALAT PENJERNIH AIR YANG DIINTEGRASIKAN DENGAN POMPA AIR TENAGA SURYA

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Improved Electrical Power of Chitosan Film in Converting Water Vapour to Electrical Power by Adding Lithium Chloride

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Improved lifetime of chitosan film in converting water vapor to electrical power by adding carboxymethyl cellulose

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Sodium tripolyphosphate cross-linked chitosan based sensor for enhancing sensing properties towards acetone

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Humidity detection using chitosan film based sensor

TULUS IKHSAN NASUTION

2018

Prosiding seminar internasional

Study on chitosan film properties as a green dielectric

TULUS IKHSAN NASUTION

2017
Prosiding seminar internasional

Optimizing Robinson Operator with Ant Colony Optimization As a Digital Image Edge Detection Method

TULUS IKHSAN NASUTION

2017
Jurnal internasional

Improvement on alcohol Breath-Analyzer ethanol biosensor based on roselle-chitosan blend

TULUS IKHSAN NASUTION

2017
Prosiding seminar internasional

Improved electrical properties of chitosan based acetone sensor by adding carboxymethylcellulose (CMC)

TULUS IKHSAN NASUTION

2017
Prosiding seminar internasional

New application of chitosan film as a water vapor cell

TULUS IKHSAN NASUTION

2017
Prosiding seminar internasional

Fabrication of chitosan-polyethylene oxide polymeric thin film using electrochemical deposition for detection of volatile organic compounds

TULUS IKHSAN NASUTION

2017
Jurnal internasional

Hydrogen purification using natural paha zeolit and cocoa rind based filter

TULUS IKHSAN NASUTION

2016
Prosiding seminar internasional

Highly Response and Sensitivity Chitosan-Polyvinyl alcohol Based Hexanal Sensors

TULUS IKHSAN NASUTION

2016
Prosiding seminar internasional

Design of Edible Oil Degradation Tool by Using Electromagnetic Field Absorbtion Principle which was Characterized to Peroxide Number

TULUS IKHSAN NASUTION

2016
Artikel ilmiah

Pendeteksi Suhu Tanah Kompos Menggunakan Sensor Ds18b20 Berbasis Mikrokontroler Atmega328

TULUS IKHSAN NASUTION

2016
Jurnal internasional bereputasi

Hexanal Gas Detection Using Chitosan Biopolymer as Sensing Material at Room Temperature

TULUS IKHSAN NASUTION

2015
Prosiding seminar internasional

Electronic identification system of volatile organic compound gases using roselle-chitosan blend

TULUS IKHSAN NASUTION

2015
Jurnal internasional

Electronic Identification System of Hazardous Volatile Organic Compound Gases using Roselle-Chitosan Blend

TULUS IKHSAN NASUTION

2015

Prosiding seminar internasional

Highly Response and Sensitive Copper Sensors Based on Chitosan Films

TULUS IKHSAN NASUTION

2015

Prosiding seminar internasional

The Influence of Sintering Temperature and Mn-Ti Doped BaFe₁₂O₁₉ on The Microwave Absorbing Properties

TULUS IKHSAN NASUTION

2015

Prosiding seminar internasional

Spinach ferredoxin (Fdx) as an organic material to improve optical band gap of chitosan (Cs) biofilm

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2015

Prosiding seminar internasional

Manufacture of Water Vapour Filter Based on Natural Pahae Zeolite Used for Hydrogen Fueled Motor Cycle

TULUS IKHSAN NASUTION

2015

Prosiding seminar internasional

Roselle Blend Film Sensor (RBFS) for Detecting Fertilizer Concentration of Grape Tree

TULUS IKHSAN NASUTION

2015

Jurnal internasional bereputasi

Role of metals content in Spinach in enhancing the conductivity and optical band gap of chitosan films

TULUS IKHSAN NASUTION

2015

Prosiding seminar internasional

Ammonia gas sensor based on chitosan biopolymer

TULUS IKHSAN NASUTION

2014

Prosiding seminar internasional

Chitosan film sensor (CFS) for detecting fertilizer concentration of grape tree

TULUS IKHSAN NASUTION

2014

Prosiding seminar internasional

Chloroform gas sensor based on chitosan biopolymer

TULUS IKHSAN NASUTION

2013

Jurnal internasional

Water status detection by free-dipping method using chitosan based sensor

TULUS IKHSAN NASUTION

2013

Prosiding seminar internasional

Electrical properties of chitosan-ferredoxin film

TULUS IKHSAN NASUTION

2013

Tulisan ilmiah

Chitosan Based Acetone Sensor For Detecting Low Concentration Acetone

TULUS IKHSAN NASUTION

2013

Jurnal internasional bereputasi

The sensing mechanism and detection of low concentration acetone using chitosan-based sensors

TULUS IKHSAN NASUTION

2026

Artikel ilmiah

PERANCANGAN VISKOSIMETER DIGITAL UNTUK MENGUKUR VISKOSITAS MINYAK BERBASIS MIKROKONTROLER AT8535 DENGAN TAMPILAN PC NURJANNAH1

TULUS IKHSAN NASUTION

2026

Artikel ilmiah

River Water Purifier as an Alternative for Clean Water Supply in Sei Siarti Village, Panai Tengah District, Labuhanbatu Regency

TULUS IKHSAN NASUTION

Researches

2024

Ipteks Bagi Masyarakat

PENERAPAN SISTEM KONTROL KUALITAS AIR OTOMATIS PADA SAWAH SISTEM MINA PADI UNTUK MENINGKATKAN JUMLAH DAN JENIS PRODUK PERTANIAN

TULUS IKHSAN NASUTION , KURNIA BRAHMANA

2021

Penelitian Unggulan Perguruan Tinggi

PENGUNAAN SENSOR SUHU, KELEMBABAN DAN KARBON DIOKSIDA (CO₂) SEBAGAI INDIKATOR TINGKAT KEMATANGAN FERMENTASI TERHADAP PUPUK ORGANIK CAIR

TULUS IKHSAN NASUTION , RAJU

2021

Penelitian Unggulan Perguruan Tinggi

KOMPOSTER 4.0 BERBASIS INTERNET OF THINGS DAN TENAGA SURYA

MARIANI BR SEMBIRING , TULUS IKHSAN NASUTION

2020

KOMPOSTER 4.0 BERBASIS INTERNET OF THINGS DAN TENAGA SURYA

MARIANI BR SEMBIRING , TULUS IKHSAN NASUTION

2020

Penelitian Unggulan Perguruan Tinggi

Penggunaan Membran Separator dari Serat Serabut Kelapa-Fiber Glass untuk Pemisahan Hidrogen dan Oksigen pada Elektrolizer Air

TULUS IKHSAN NASUTION

Community Services

2025

Dewan Pakar PUI Pengendalian Emisi Gas Rumah Kaca

TULUS IKHSAN NASUTION , YENI ABSAH

2023

PENGUATAN ORGANISASI, MANFAAT EKONOMI DAN TEKNOLOGI DALAM PENERAPAN PERTANIAN CERDAS DI NAGARI BATU BUSUK

TULUS IKHSAN NASUTION , SRI FAJAR AYU, SP, MM, DBA , MEUTIA NAULY

2023

Ipteks Bagi Masyarakat

Pemetaan Hutan Mangrove Menggunakan Teknologi Drone untuk Pengembangan Ekowisata di Desa Lubuk Kasih Kecamatan Brandan Barat Kabupaten Langkat

TULUS IKHSAN NASUTION , ACHMAD SIDDIK THOHA , ORANG KAYA HASNANDA SYAHPUTRA , SHIVA KARILLA UTIYA , SHOFIA PUTRI NASIBAH , MIRANDA ANGGRAINI , IRWAN SARAGIH , CHRISTINE PATRESYA A.M.

2022

Ipteks Bagi Masyarakat

Program Desa Binaan Tahun 2022 di Desa Sayur Matua Kecamatan Aek Nabara Barumon Kabupaten Padang Lawas Sumatera Utara

ZIKRI NOER , RAHMADHANI BANUREA , TULUS IKHSAN NASUTION

2021

Ipteks Bagi Masyarakat

PENGOLAHAN LIMBAH SEBAGAI PUPUK KOMPOS ORGANIK DENGAN MENGGUNAKAN KOMPOSTER PINTAR DI DESA SEI ULAR KECAMATAN SECANGGANG KABUPATEN LANGKAT

ACHMAD SADELI , TULUS IKHSAN NASUTION

2021

Penelitian Dosen Pemula

Penerapan Sensor Amoniak untuk Menjaga Kualitas Air Kolam Ikan Pintar

TULUS IKHSAN NASUTION , RAJU

2020

Ipteks Bagi Masyarakat

ALAT PENJERNIH AIR SUNGAI SEBAGAI SOLUSI ALTERNATIF KETERSEDIAAN AIR BERSIH DI DESA SEI SIARTI KECAMATAN PANAI TENGAH KABUPATEN LABUHANBATU

KOKO SUJATMOKO , TULUS IKHSAN NASUTION , ASTRID FAUZIA DEWINTA

2020

Ipteks Bagi Produk Ekspor

Program Desa Binaan Tahun 2020 di Desa Sayur Matua Kecamatan Aek Nabara Barumon Kabupaten Padang Lawas Sumatera Utara

RAHMADHANI BANUREA , TULUS IKHSAN NASUTION , DELIMA LAILAN SARI NASUTION

2018

Pemanfaatan Alat Pengering Buah Kemiri Tenaga Surya di Keamatan Pancur Batu Deli Serdang

TULUS IKHSAN NASUTION

2017

Ipteks Bagi Masyarakat

IbM Desa Sei Bilah Pangkalan Berandan yang Mengalami Penurunan Produksi Ikan Asin

SUSILAWATI , TULUS IKHSAN NASUTION , YUAN ALFINSYAH SIHOMBING

Intellectual Property Rights

2025

Paten nasional

Alat Pendeteksi Keseimbangan Massa Tubuh Pada Anak dengan Maloklusi

ERVINA SOFYANTI , VERONICA ANGELIA , MIMI MARINA LUBIS , AMI ANGELA HARAHAP , TULUS IKHSAN NASUTION , AISYAH FATHINAH , Julies Alkins

2024
Hak cipta nasional

Peta Kawasan Ekowisata Mangrove Desa Lubuk Kasih Kecamatan Brandan Barat Kabupaten Langkat

ACHMAD SIDDIK THOHA , TULUS IKHSAN NASUTION , DWI LESTARI NALAI HULU , ORANG KAYA HASNANDA SYAHPUTRA

2023
Paten nasional

BAHAN PENGISI DARI KULIT KERANG DARAH (ANADARA GRANOSA) UNTUK PEMURNIAN GAS HIDROGEN HASIL PEMISAHAN MOLEKUL AIR DENGAN METODE ELEKTROLISA

SUSILAWATI , TULUS IKHSAN NASUTION

2023
Paten nasional

Bahan Pengisi Dari Kulit Kerang Darah (Anadara Granosa) Untuk Pemurnian Gas Hidrogen Hasil Pemisahan Molekul Air dengan Metode Elektrolisa

ADI SYAHPUTRA PURBA , TULUS IKHSAN NASUTION

2023
Paten nasional

Kolam Ikan Pintar berbasis sensor MQ135

TULUS IKHSAN NASUTION

2023
Paten nasional

Kolam Ikan Pintar Berbasis Sensor MQ137 Dan Media Tanam Dari Serat Enceng Gondok-Zeolit

TULUS IKHSAN NASUTION

2021
Paten nasional

ALAT PENDETEKSIAN KEMATANGAN BUAH KELAPA SAWIT BERBASIS SENSOR KONFIGURASI WENNER

TULUS IKHSAN NASUTION

2021
Paten nasional

ALAT PENAMBAHAN NUTRISI SECARA OTOMATIS DENGAN MENGGUNAKAN SENSOR KONDUKTIVITAS

TULUS IKHSAN NASUTION

2021
Paten nasional

ALAT PENAMBAHAN NUTRISI SECARA OTOMATIS DENGAN MENGGUNAKAN SENSOR KONDUKTIVITAS

TULUS IKHSAN NASUTION

2021
Paten nasional

ALAT PENDETEKSIAN KONSENTRASI AMONIA AIR KOLAM IKAN PADA BUDIDAYA IKAN AIR TAWAR DENGAN METODE PENGGELEMBUNGAN

TULUS IKHSAN NASUTION

2020
Paten nasional

PENGGUNAAN CAMPURAN SERAT SELULOSA TANDAN KOSONG KELAPA SAWIT DAN FIBER GLASS SEBAGAI SEPARATOR H₂O PADA ELEKTROLIZER AIR

TULUS IKHSAN NASUTION

2018
Paten nasional

KIT FILTER HIDROGEN YANG MENGANDUNG ZEOLIT UNTUK PEMURNIAN GAS HIDROGEN HASIL PEMISAHAN MOLEKUL AIR DENGAN METODE ELEKTROLISA

