

# INTERNATIONAL JOURNAL OF

# NEUTROSOPHIC SCIENCE

**Volume 0, 2019** 

Editor in Chief: Broumi Said & Florentin Smarandache

ISSN: 2690-6805



# **Table of Content**

## **International Journal of Neutrosophic Science (IJNS)**

Items	Page Number
Table of Contents	2
Editorial Board	4
Aim and Scope	6
Topics of Interest	6
ISSUE 1	
Homomorphism and Isomorphism in strong neutrosophic graphs	8-20
M. Mullai, Said Broumi, R.Jeyabalan	21.26
A short remark on Gödel incompleteness theorem and its self-referential paradox from Neutrosophic Logic perspective V. Christianto & F. Smarandache	21-26
n-Refined Neutrosophic Groups I	27-34
Mohammad Abobala	
On Neutrosophic Crisp Relations	35-46
A.A.Salama, Hewayda ElGhawalby, A.M.Nasr	
n-Refined Neutrosophic Groups II	47-56
Mohammad Abobala	
ISSUE 2	
Generalized Weighted Exponential Similarity Measures of Single Valued Neutrosophic Sets  Abhijit Saha and Arnab Paul	57-66
A Contribution to Neutrosophic Groups  Mohammad Abobala, Ahmed Hatip, Riad K. Alhamid	67-76
Star Neutrosophic Fuzzy Topological Space A.A.Salama, Hewayda ElGhawalby, A.M.Nasr	77-82
Neutrosophic Quotient Algebra Binu R	83-89
Neutrosophic Crisp $\beta$ - Functions A. A. Salama	90-99

**Published and typeset in American Scientific Publishing Group (ASPG)** is a USA academic publisher, established as LLC company on 2019 at New Orleans, Louisiana, USA. ASPG publishes online scholarly journals that are free of submission charges.

Copyright © 2020 American Scientific Publishing Group (ASPG)

American Scientific Publishing Group (ASPG) LLC,

New Orleans, USA

Mailing Address: 625 Wright Ave, Gretna, LA 70056, USA

Phone: +1(504) 336-3385 Fax: +1-888-417-7465

e-mail: manager@americaspg.com

www.americaspg.com



### **Editorial Board**

#### **Editor in Chief**

**Dr. Broumi Said** Laboratory of Information Processing, Faculty of Science Ben M'Sik, University Hassan II, Casablanca, Morocco

**Prof. Dr. Florentin Smarandache** Departement of Mathematics, University of New Mexico, 705 Gurley Avenue, Gallup, NM, 87301, United States

#### **Editorial Board Members:**

- Prof. Cengiz Kahraman, Istanbul Technical University, Department of Industrial Engineering 34367 Macka/Istanbul/Turkey (kahramanc@itu.edu.tr)
- -Selçuk Topal, Department of Mathematics, Bitlis Eren University, Turkey (s.topal@beu.edu.tr)
- Prof. Dr. Muhammad Aslam, Department of Statistics, Faculty of Science, King Abdulaziz University, Jeddah 21551, Saudi Arabia (aslam\_ravian@hotmail.com; magmuhammad@kau.edu.sa)
- Dr. Philippe Schweizer, Independent researcher, Av. de Lonay 11, 1110 Morges, Switzerland (flippe2@gmail.com)
- Assistant Prof. Amira Salah Ahmed Ashour (Amira S. Ashour) and head of the Electronics and Electrical Communications Engineering, Faculty of Engineering, Tanta University, Tanta, Egypt (amirasashour@yahoo.com \_\_amira.salah@f-eng.tanta.edu.eg)
- Prof. Peide Liu, School of Management Science and Engineering, Shandong University of Finance and Economics, China (peide.liu@gmail.com)
- Prof. Jun Ye, Institute of Rock Mechanics, Ningbo University, Ningbo, P. R, China (yehjun@aliyun.com; yejun1@nbu.edu.cn)
- Prof. Yanhui Guo, Department of Computer Science, University of Illinois at Springfield, USA( yguo56@uis.edu guoyanhui@gmail.com)

- Prof. İrfan DELİ, Kilis 7 Aralık University, Turkey(<u>irfandeli20@gmail.com</u>)
- Prof. Vakkas Uluçay, Gaziantep University, Turkey( <u>vulucay27@gmail.com</u>)
- Prof. Chao Zhang, Key Laboratory of Computational Intelligence and Chinese Information Processing of Ministry of Education, School of Computer and Information Technology, Shanxi University.China (czhang@sxu.edu.cn)
- Dr. Xindong Peng, Shaoguan University, China(952518336@qq.com)
- Dr. Surapati Pramanik, Department of Mathematics, Nandalal Ghosh B.T. College, Panpur, P.O.-Narayanpur, Dist-North 24 Parganas, West Bengal, PIN-743126, India (<a href="mailto:surapati.math@gmail.com">surapati.math@gmail.com</a>)
- -Dr. M. Lathamaheswari, Department of Mathematics Hindustan Institute of Technology and Science, Chennai-603203, India (lathamax@gmail.com, mlatham@hindustanuniv.ac.in)
- Prof. Lemnaouar Zedam, Department of Mathematics, University of M'sila, Algeria.

#### (lemnaouar.zedam@univ-msila.dz)

- S. A. Edalatpanah, Department of Applied Mathematics, Ayandegan Institute of Higher Education, Tonekabon, Iran(saedalatpanah@gmail.com)

- Liu Chun Feng, Shenyang Aerospace University, China (liuchunfang1112@163.com)
- Prof. Wadei faris Mohammed Alomeri, Mathematics Department, Faculty of Science, Al-Balqa Applied University, Salt 19117, Jordan (wadeimoon1@hotmail.com, wadeialomeri@bau.edu.jo)
- -Dr. Abhijit Saha, Department of Mathematics, Techno College of Engineering Agartala Maheshkhola-799004, Tripura, India ( abhijit84.math@gmail.com)
- -Prof. D.Nagarajan, Department of Mathematics, Hindustan Institute of Technology & Science, India(dnagarajan@hindustanuniv.ac.in)
- -Dr. Prem Kumar Singh, Amity Institute of Information Technology, Amity University-Sector 125 Noida-201313, Uttar Pradesh-India(premsingh.csjm@gmail.com)
- Dr.Avishek Chakraborty, Department of Basic Science, University/College- Narula Institute of Technology Under MAKAUT, India (tirtha.avishek93@gmail.com)
- Dr. Arindam Dey, Department of Computer Science and Engineering, Saroj Mohan Institute of Technology, Hooghly 712512, West Bengal, India(arindam84nit@gmail.com)
- -Dr. Muhammad Gulistan, Department of Mathematics & Statistics, Hazara University Mansehra, Khyber Pakhtunkhwa, Pakistan(gulistanmath@hu.edu.pk)
- Mohsin Khalid, The University of Lahore, Pakistan (mk4605107@gmail.com)
- Dr. Hoang Viet Long, Faculty of Information Technology, People's Police University of Technology and Logistics, Bac Ninh, Viet Nam.(longhv08@gmail.com)

Faculty of Mathematics and Statistics, Ton Duc Thang University, Ho Chi Minh City, Vietnam (hoangvietlong@tdtu.edu.vn)

-Dr. Kishore Kumar P.K, Department of Information Technology, Al Musanna College of Technology, Sultanate of Oman (kishore2982@gmail.com, kishorePK@act.edu.om)

- -Dr. Tahir Mahmood, Department of Mathematics and Statistics, International Islamic University Islamabad, Pakistan (tahirbakhat@iiu.edu.pk)
- Dr. Mohamed Abdel-Basset, Department of Computer Science, Zagazig University, Egypt (analyst mohamed@yahoo.com, analyst mohamed@zu.edu.eg)
- Dr. Riad Khider AlHamido, Department of mathematics Faculty of Sciences - Al- Furat University, Syria (<u>riad-hamido1983@hotmail.com</u>)
- Dr. Fahad Mohammed Alsharari, Mathematics Department, College of Science and Human Studies at Hotat Sudair, Majmaah University, Saudi Arabia (f.alsharari@mu.edu.sa)
- Dr. Maikel Leyva Vázquez, Universidad Politécnica Salesiana, Ecuador (mleyvaz@gmail.com)
- -Ir. Victor Christianto, DDiv. (associate of NSIA), Satyabhakti Advanced School of Theology Jakarta Chapter, Indonesia(victorchristianto@gmail.com)
- Xiaohong Zhang, Professor, Shaanxi University of Science and Technology, China (<u>zhangxiaohong@sust.edu.cn</u>, <u>zxhonghz@26</u> 3.net)
- -Prof. Dr. Huda E. Khalid, Head of the Scientific Affairs and Cultural Relations, Presidency of Telafer University ,Iraq( hodaesmail@yahoo.com, dr.hudaismael@uotelafer.edu.iq)
- Ranjan Kumar, Department of Mathematics, National Institute of Technology, Adityapur, Jamshedpur, 831014, India. (ranjank.nit52@gmail.com)
- -Prof. Choonkil Park, Dept. of Mathematics, Hanyang University, Republic of Korea (baak@hanyang.ac.kr)



# **Aim and Scope**

International Journal of Neutrosophic Science (IJNS) is a peer-review journal publishing high quality experimental and theoretical research in all areas of Neutrosophic and its Applications. IJNS is published quarterly. IJNS is devoted to the publication of peer-reviewed original research papers lying in the domain of neutrosophic sets and systems. Papers submitted for possible publication may concern with foundations, neutrosophic logic and mathematical structures in the neutrosophic setting. Besides providing emphasis on topics like artificial intelligence, pattern recognition, image processing, robotics, decision making, data analysis, data mining, applications of neutrosophic mathematical theories contributing to economics, finance, management, industries, electronics, and communications are promoted. Variants of neutrosophic sets including refined neutrosophic set (RNS). Articles evolving algorithms making computational work handy are welcome.

## **Topics of Interest**

IJNS promotes research and reflects the most recent advances of neutrosophic Sciences in diverse disciplines, with emphasis on the following aspects, but certainly not limited to:

☐ Neutrosophic sets	☐ Neutrosophic algebra
□ Neutrosophic topolog	☐ Neutrosophic graphs
☐ Neutrosophic probabilities	☐ Neutrosophic tools for decision making
☐ Neutrosophic theory for machine learning	☐ Neutrosophic statistics
☐ Neutrosophic numerical measures	☐ Classical neutrosophic numbers
☐ A neutrosophic hypothesis	☐ The neutrosophic level of significance
$\ \square$ The neutrosophic confidence interval	☐ The neutrosophic central limit theorem
☐ Neutrosophic theory in bioinformatics	
□ and medical analytics	☐ Neutrosophic tools for big data analytics
☐ Neutrosophic tools for deep learning	☐ Neutrosophic tools for data visualization
☐ Quadripartitioned single-valued	
□ neutrosophic sets	☐ Refined single-valued neutrosophic sets

Applications of neutrosophic logic in image processing
Neutrosophic logic for feature learning, classification, regression, and clustering
Neutrosophic knowledge retrieval of medical images
Neutrosophic set theory for large-scale image and multimedia processing
Neutrosophic set theory for brain-machine interfaces and medical signal analysis
Applications of neutrosophic theory in large-scale healthcare data
Neutrosophic set-based multimodal sensor data
Neutrosophic set-based array processing and analysis
Wireless sensor networks Neutrosophic set-based Crowd-sourcing
Neutrosophic set-based heterogeneous data mining
Neutrosophic in Virtual Reality
Neutrosophic and Plithogenic theories in Humanities and Social Sciences
Neutrosophic and Plithogenic theories in decision making
Neutrosophic in Astronomy and Space Sciences