

**Title: Critical appraisals on Neuron-Glia interactions in Neurological Disorders**

**Guest Editors:**

**Dr Faheem Hyder Potttoo<sup>1</sup>, Prof. Bairong Shen<sup>2</sup> and Prof. Mohammad Amjad Kamal<sup>3,4\*</sup>**

1. *Department of Pharmacology, College of Clinical Pharmacy, Imam Abdulrahman Bin Faisal University, P. O. Box 1982, Dammam 31441, Saudi Arabia*

E-Mail: [fahihyder@gmail.com](mailto:fahihyder@gmail.com); [fhpotttoo@iau.edu.sa](mailto:fhpotttoo@iau.edu.sa)

[https://www.researchgate.net/profile/Faheem\\_Potttoo](https://www.researchgate.net/profile/Faheem_Potttoo)

2. *Institutes for Systems Genetics, West China Hospital, Sichuan University, Chengdu 610041, China*

E-Mail: [bairong.shen@scu.edu.cn](mailto:bairong.shen@scu.edu.cn)

<https://www.scopus.com/authid/detail.uri?authorId=7401580760>

3. *King Fahd Medical Research Center, King Abdulaziz University, Jeddah, Saudi Arabi*

4. *Enzymoics, 7 Peterlee Place, Hebersham, NSW 2770; Novel Global Community Educational Foundation, Australia*

E-Mail: [prof.ma.kamal@gmail.com](mailto:prof.ma.kamal@gmail.com)

<https://www.scopus.com/authid/detail.uri?authorId=56340070000>

• **Scope of the Thematic Issue:**

Neurological disorders (epilepsy, Alzheimer disease and other dementias, cerebrovascular diseases including stroke, multiple sclerosis, Parkinson's disease, neuro-infections, brain tumours, traumatic disorders of the nervous system) are conceded as a prime source of death and disability globally. As per GBD, 2016 data the neurological disorders were the foremost cause of DALYs (276 million [95% UI 247–308]) and the second leading cause of deaths (~9 million). Despite improvements in the knowledge of the pathogenesis of neurological disorders, there had been insignificant progress in amelioration of neurological disorders, as treatment is largely symptomatic. Contemporary literature braces the role of glial cells as active players in the neurodegenerative cascades. The neurons rely on glial cells to suffice their energy demands. But when activated the microglia, release proinflammatory cytokines, such as tumour necrosis factor- $\alpha$  (TNF- $\alpha$ ) and interleukin-1 $\beta$  (IL-1 $\beta$ ), along with a reduction in the release of anti-inflammatory cytokines such as IL-4, IL-13, IL-10, and tumour growth factor- $\beta$  (TGF- $\beta$ ). Persistent exposure to high concentrations of the proinflammatory cytokines threatens the viability of neurons, which leads to neurodegenerative cascades. Genetic, molecular and epidemiologic studies have reported the marked roles of these cells in the pathogenesis of many common neurodegenerative and neurodevelopmental disorders. This thematic issue would host the recent unfolding's that targets the glial phenotypic changes and its ramification on neuron-glia interactions in neurological disorders. It would unleash a new era of therapeutics.

**Keywords:** Neuroscience; Neuropharmacology; Computational; Bibliometric; Artificial Intelligence; Deep Machine Learning; Neuron; Glia; Interactions; Neurological; Disorders

Sub-topics to be covered within the issue:

- Synopsis on Neuron-Glia interactions in Neurological Disorders

- Computational approaches such as artificial intelligence, deep machine learning and bibliometric analysis of neurological disorders
- Clinical updates in neurological disorders and strategic management approaches
- Genome analysis based on Mathematical Modelling
- Global issues related to drug discovery and vaccine development for neurological disorders
- Synopsis on management strategies of complex issues of neurological disorders linked with COVID-19



Tentative titles of the articles and list of contributors with their names, designations, addresses and email addresses:

#### **Manuscript #1**

**The role of oxidative stress-induced mitochondrial DNA overproliferation & deletion in the context of neuro-glia interaction and neurological disorders**

**Prof. Gjumrakch Aliev**

*GALLY International Research Institute USA*

[aliev03@gmail.com](mailto:aliev03@gmail.com), [cobalt55@gallyinternational.com](mailto:cobalt55@gallyinternational.com)

<http://www.researcherid.com/rid/K-7302-2017>

#### **Manuscript #2:**

**Translational Informatics for Natural Products as Anti-depressant Agents**

**Rajeev K Singla, Li Shen, Bairong Shen\***

[Bairong.shen@scu.edu.cn](mailto:Bairong.shen@scu.edu.cn)

*Bairong Shen, PhD, Professor & Executive Director-General*

*Institutes for Systems Genetics, West China Hospital, Sichuan University, China*

<https://www.scopus.com/authid/detail.uri?authorId=7401580760>

#### **Manuscript #3**

**The role of the signalling pathways in neuron-glia interaction in Alzheimer's disease**

**Minnatallah Al-yozbaki<sup>a</sup>, Faraj Terro<sup>b</sup> and Cornelia M. Wilson<sup>a,c,d</sup>**

<sup>a</sup> *Canterbury Christ Church University, School of Human and Life Sciences, Life Sciences Industry Liaison Lab, Sandwich, UK.* <sup>b</sup> *Groupe de Neurobiologie Cellulaire- EA3842 Homéostasie Cellulaire et pathologies, Université de Limoges, Faculté de Médecine, Limoges, France.* <sup>c</sup> *University of Liverpool, Institute of Translational Medicine, University of Liverpool, UK.* <sup>d</sup> *Novel Global Community Educational Foundation, Australia.*

Faraj Terro (<https://orcid.org/0000-0002-3655-3964>)

Cornelia M. Wilson (<https://orcid.org/0000-0001-6584-6179>)

#### **Manuscript #4**

**The Top 100 Articles Related to Neuropharmacology: A Bibliometric Analysis**

**Waseem Hassan <sup>a,\*</sup>, Mehreen Zafar <sup>a</sup>, Jean Paul Kamdem <sup>b,c</sup>, Antonia Eliene Duarte <sup>b</sup>,**

**Joao Batista Teixeira da Rocha <sup>c</sup> and Mohammad Amjad Kamal <sup>d,e</sup>**

<sup>a</sup> *Institute of Chemical Sciences, University of Peshawar, Peshawar 25120, Khyber Pakhtunkhwa, Pakistan*

<sup>b</sup> *Department of Biological Sciences, Regional University of Cariri, CEP 63105-000, Crato, Ceara, Campus Pimenta,*

*Brazil;* <sup>c</sup> *Departamento de Bioquímica e Biologia Molecular, Programa de Pós-Graduação em Bioquímica*

*Toxicológica, Universidade Federal de Santa Maria, Santa Maria, RS 97105-900, Brazil;* <sup>d</sup> *King Fahd Medical*

*Research Center, King Abdulaziz University, P. O. Box 80216, Jeddah 21589, Saudi Arabia;* <sup>e</sup> *Enzymoics, 7*

*Peterlee Place, Hebersham, NSW 2770; Novel Global Community Educational Foundation, Australia*

\* [https://www.scopus.com/authid/detail.uri?authorId=7202074230;](https://www.scopus.com/authid/detail.uri?authorId=7202074230)

<https://www.scopus.com/authid/detail.uri?authorId=25651506900>

**Manuscript #5:**

**Exploring the Role of Glial Cells in the Pathogenesis of Alzheimer's Disease**

Md. Sahab Uddin<sup>1,2\*</sup>, Abdullah Al Mamun<sup>1,2</sup>, Ghulam Md Ashraf<sup>3,4,\*</sup>

<sup>1</sup>*Department of Pharmacy, Southeast University, Dhaka, Bangladesh*

<sup>2</sup>*Pharmakon Neuroscience Research Network, Dhaka, Bangladesh*

<sup>3</sup>*King Fahd Medical Research Center, King Abdulaziz University, Jeddah, Saudi Arabia*

<sup>4</sup>*Department of Medical Laboratory Technology, Faculty of Applied Medical Sciences, King Abdulaziz University,*

*Jeddah, Saudi Arabia*

\*MSU: [msu-neuropharma@hotmail.com](mailto:msu-neuropharma@hotmail.com)

\*GMA: [ashraf.gm@gmail.com](mailto:ashraf.gm@gmail.com)

✧ Thematic issue submission deadline:

Title page information and abstract submission: 29 September 2020

Manuscript Submission: From 23<sup>rd</sup> September to 15<sup>th</sup> December 2020