

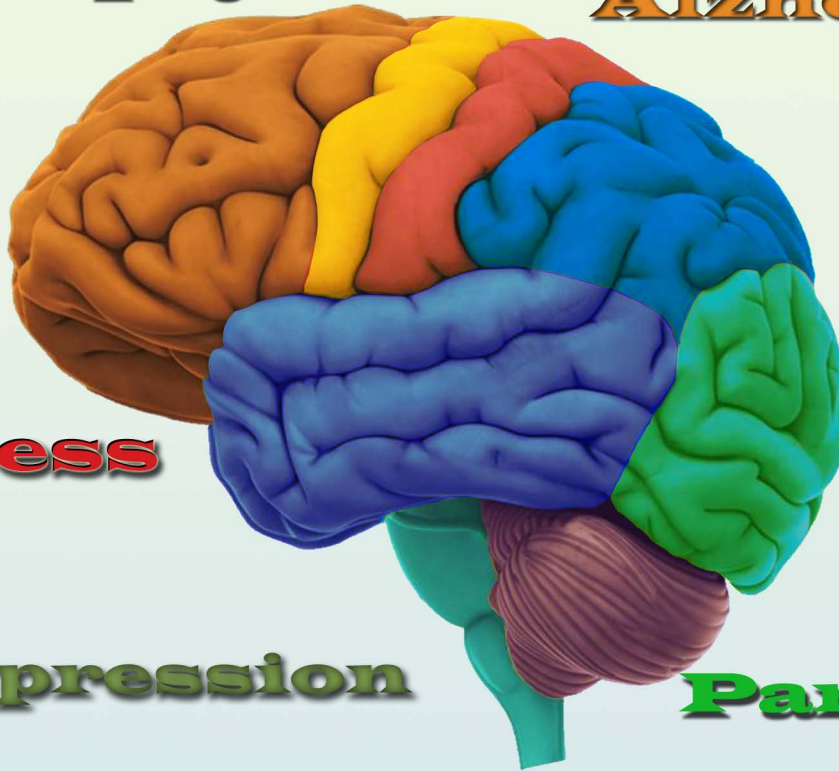
# Journal Cellular Neuroscience and Oxidative Stress

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Former name; Cell Membranes and Free Radical Research

**Epilepsy**

**Alzheimer**



**Pain**

**Stress**

**Depression**

**Paralysis**

**Brain Research School**

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Supp 1 Volume, 2019

# 4<sup>th</sup> International Brain Research School

24-30 June 2019 Isparta /TURKEY  
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# Journal of Cellular Neuroscience and Oxidative Stress

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Supp 1 Volume, 2019

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#### AIM AND SCOPES

Journal of Cellular Neuroscience and Oxidative Stress is an online journal that publishes original research articles, reviews and short reviews on the molecular basis of biophysical, physiological and pharmacological processes that regulate cellular function, and the control or alteration of these processes by the action of receptors, neurotransmitters, second messengers, cation, anions, drugs or disease.

Areas of particular interest are four topics. They are;

**A- Ion Channels** (Na<sup>+</sup>- K<sup>+</sup> Channels, Cl<sup>-</sup> channels, Ca<sup>2+</sup> channels, ADP-Ribose and metabolism of NAD<sup>+</sup>, Patch-Clamp applications)

**B- Oxidative Stress** (Antioxidant vitamins, antioxidant enzymes, metabolism of nitric oxide, oxidative stress, biophysics, biochemistry and physiology of free oxygen radicals)

##### C- Interaction Between Oxidative Stress and Ion Channels in Neuroscience

(Effects of the oxidative stress on the activation of the voltage sensitive cation channels, effect of ADP-Ribose and NAD<sup>+</sup> on activation of the cation channels which are sensitive to voltage, effect of the oxidative stress on activation of the TRP channels in neurodegenerative diseases such Parkinson's and Alzheimer's diseases)

##### D- Gene and Oxidative Stress

(Gene abnormalities. Interaction between gene and free radicals. Gene anomalies and iron. Role of radiation and cancer on gene polymorphism)

#### READERSHIP

Biophysics	Biochemistry
Biology	Biomedical Engineering
Pharmacology	PhysiologyGenetics
Cardiology	Neurology
Oncology	Psychiatry
Neuroscience	Neuropharmacology

#### Keywords

Ion channels, cell biochemistry, biophysics, calcium signaling, cellular function, cellular physiology, metabolism, apoptosis, lipid peroxidation, nitric oxide, ageing, antioxidants, neuropathy, traumatic brain injury, pain, spinal cord injury, Alzheimer's Disease, Parkinson's Disease.

# 4<sup>th</sup> International Brain Research School

## Abstract Book

of

4<sup>th</sup> International Brain  
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# SPEAKERS

## ▶ Speak No. 6

### Alzheimer's disease, the road ahead

**Stefano L. SENSI<sup>1,2</sup>**

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The failure of all the clinical trials focused on the treatment of Alzheimer's disease (AD), including the Phase 3 aducanumab trial, is another warning that the field must take a different approach. Some authors have already called for a rejection of the amyloid hypothesis, new and old players like tau-related pathology microglia activation and neuroinflammation are now looming on the horizon, but the core of the issue is that the reductionist approach that has dominated modern medicine should be abandoned. We need an epistemological leap forward, a change in paradigm, and an embrace of a complex view of the disease as a condition resulting from the converging failure of many health-controlling systems and networks, a condition that is shaped, in each subject, by the combination of the individual “omic” lookout and its modulation by the environment. Moreover, we need to leave behind the illusion that a single bullet/intervention can be the cure and adopt a systems-biology approach (Greene and Loscalzo, 2017). The talks will discuss the multifactorial nature of AD, a condition in which, along with A $\beta$  accumulation, the convergence of many genetic, environmental, vascular, metabolic, and inflammatory factors promotes the neurodegenerative process. All these conditions find fertile ground, inside and outside of the central nervous system, provided by the aging process. In that respect, converging

approaches targeting co-morbidity factors represent one of the more promising areas of intervention as, at least, we need to remind ourselves that a third of AD cases are strongly dependent on the concerted activity of modifiable factors like low education, midlife hypertension, midlife obesity, diabetes, physical inactivity, smoking, and depression (Brem and Sensi 2018). Thus, in line with a more modern, we need to reconcile ourselves to the fact that complex, non-transmissible chronic conditions must be treated with a multifaceted approach.

**Keywords:** Alzheimer's disease; neuroinflammation

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