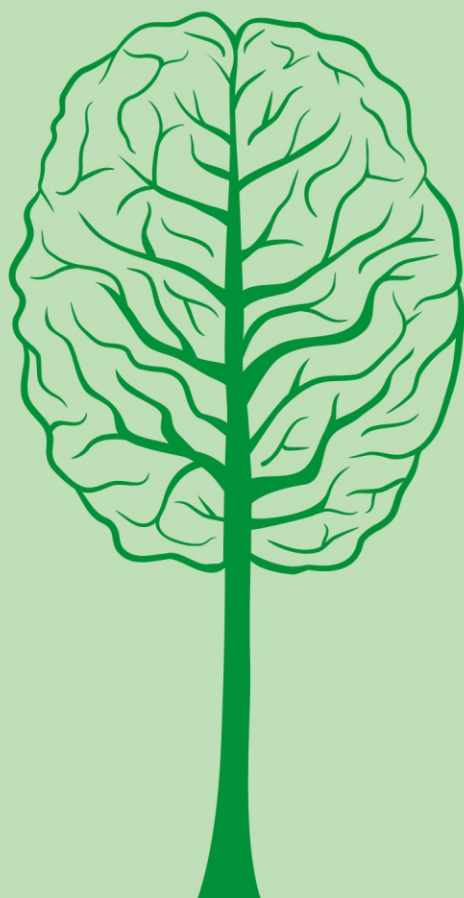


# Natural Science



ISSN: 2150-4091



# Journal Editorial Board

ISSN: 2150-4091 (Print) ISSN: 2150-4105 (Online)

<https://www.scirp.org/journal/ns>

---

## Associate Editor

**Prof. Sheng-Xiang Lin**

Laval University Medical Center, Quebec, Canada

## Editorial Board

**Prof. Tarek Aboul-Fadl**

Assiut University, Egypt

**Prof. Fridoon Jawad Ahmad**

King Edward Medical University, Pakistan

**Prof. Hakan Arslan**

Mersin University, Turkey

**Dr. Lincoln Lima Corrêa**

Para West Federal University, Brazil

**Prof. Khalil El-Hami**

Kyoto University, Japan

**Dr. Marina Frontasyeva**

Joint Institute for Nuclear Research, Russia

**Prof. Reba Goodman**

Columbia University Health Sciences, USA

**Dr. Zufeng Guo**

Johns Hopkins University School of Medicine, USA

**Prof. Tai-Yin Huang**

Pennsylvania State University-Lehigh Valley, USA

**Prof. Syed Kamrul Islam**

University of Tennessee, USA

**Prof. Robert H. Kretsinger**

University of Virginia, USA

**Prof. Peng Li**

University of California, USA

**Prof. Giulio Lorenzini**

University of Parma, Italy

**Prof. Mark Lee Morrissey**

University of Oklahoma, USA

**Prof. Sunil Nautiyal**

Institute for Social and Economic Change, India

**Dr. Edward Lee Nelson**

University of California, USA

**Prof. Dimitrios P. Nikolelis**

University of Athens, Greece

**Dr. Dongfeng Pan**

University of Virginia, USA

**Prof. Caesar Saloma**

University of the Philippines Diliman, The Philippines

**Dr. Victor B. Semikoz**

Russian Academy of Sciences, Russia

**Dr. Mohammad Reza Shadnam**

KPMG LLP, Canada

**Prof. Joseph J. Smulsky**

Institute of Earth's Cryosphere, Tyumen Scientific Centre, SB RAS, Federal  
Research Center, Russia

**Prof. Kenji Sorimachi**

Dokkyo Medical University, Japan

**Dr. Marco Taddia**

University of Bologna, Italy

**Dr. Likun Tan**

Scientific Forming Technologies Corporation, USA

**Prof. Chao-Fu Wang**

National University of Singapore, Singapore

**Prof. Xin Wang**

Nanjing Institute of Geology and Palaeontology, China

**Dr. Sharif H. Zein**

University of Hull, UK

**Dr. Li-Ru Zhao**

SUNY Upstate Medical University, USA

**Dr. Weizhu Zhong**

Pfizer Global Research and Development, USA

# Table of Contents

**Volume 13    Number 11**

**November 2021**

**Antlers Are Shaped as Elements of Concave Surfaces that Reflect and Concentrate  
Incoming Sounds**

M. Rossetto.....469

## Natural Science (NS) Journal Information

### SUBSCRIPTIONS

The *Natural Science* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published monthly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$89 per copy.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### SERVICES

#### **Advertisements**

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

#### **Reprints (minimum quantity 100 copies)**

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### COPYRIGHT

#### **Copyright and reuse rights for the front matter of the journal:**

Copyright © 2021 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

#### **Copyright for individual papers of the journal:**

Copyright © 2021 by author(s) and Scientific Research Publishing Inc.

#### **Reuse rights for individual papers:**

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

#### **Disclaimer of liability**

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

### PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: [ns@scirp.org](mailto:ns@scirp.org)

## Call for Papers

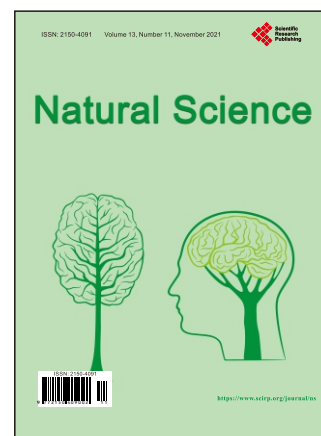
# Natural Science

A Journal Published by Scientific Research Publishing, USA  
<https://www.scirp.org/journal/ns>

## Associate Editor

Prof. Sheng-Xiang Lin

Laval University Medical Center, Quebec, Canada



## Editorial Board

Prof. Tarek Aboul-Fadl  
Prof. Fridoon Jawad Ahmad  
Prof. Hakan Arslan  
Dr. Lincoln Lima Corrêa  
Prof. Khalil El-Hami  
Dr. Marina Frontasyeva  
Prof. Reda Goodman  
Dr. Zufeng Guo  
Prof. Tai-Yin Huang  
Prof. Syed Kamrul Islam

Prof. Robert H. Kretsinger  
Prof. Peng Li  
Prof. Giulio Lorenzini  
Prof. Mark Lee Morrissey  
Prof. Sunil Nautiyal  
Dr. Edward Lee Nelson  
Prof. Dimitrios P. Nikolelis  
Dr. Dongfeng Pan  
Prof. Caesar Saloma  
Dr. Victor B. Semikoz

Dr. Mohammad Reza Shadnam  
Prof. Joseph J. Smulsky  
Prof. Kenji Sorimachi  
Dr. Marco Taddia  
Dr. Likun Tan  
Prof. Chao-Fu Wang  
Prof. Xin Wang  
Dr. Sharif H. Zein  
Dr. Li-Ru Zhao  
Dr. Weizhu Zhong

Natural Science is an international journal dedicated to the latest advancement of natural sciences. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of natural sciences. All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

### ● Astronomy & Space Sciences

- ◆ Astronomy
- ◆ Astrophysics
- ◆ Atmospheric Science
- ◆ Space Physics

### ● Earth Science

- ◆ Geography
- ◆ Geology
- ◆ Geophysics/Geochemistry
- ◆ Oceanography

### ● Chemistry

- ◆ Analytical Chemistry
- ◆ Biochemistry
- ◆ Computational Chemistry
- ◆ Inorganic Chemistry
- ◆ Organic Chemistry
- ◆ Physical Chemistry

### ● Life Science

- ◆ Cell Biology
- ◆ Computational Biology

### ◆ Genetics

- ◆ Immunology
- ◆ Medicine/Diseases
- ◆ Microbiology
- ◆ Molecular Biology
- ◆ Neuroscience
- ◆ Pharmacology/Toxicology
- ◆ Physiology
- ◆ Psychology
- ◆ Virology

### ● Physics

- ◆ Applied Physics
- ◆ Atomic, Molecular, and Optical Physics
- ◆ Biophysics
- ◆ High Energy/Particle Physics
- ◆ Material Science
- ◆ Plasma Physics

### ● Others

- ◆ Education
- ◆ History of Science
- ◆ Science and Innovations

We are also interested in: 1) Short Reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews—Comments and critiques.

## ➤ Notes for Intending Authors

Submitted papers should not be previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. For more details, please access the website.

## ➤ Website and E-Mail

<https://www.scirp.org/journal/ns>

E-mail: [ns@scirp.org](mailto:ns@scirp.org)