The IMPULSE Journal: A Practical Teaching Tool for a Neuroscience Minor
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Introduction

While undergraduate journals are a relatively recent phenomenon, their popularity has grown significantly since the founding of IMPULSE in 2003. The Council on Undergraduate Research (CUR) maintains an online database of most undergraduate journals, and currently they have over 200 listed; 32 focus specifically on natural or health sciences. However, the majority of undergraduate journals limit their submissions to students at their journal’s host university, and reviewing is rarely by undergraduates. These university-specific journals serve as a library database for reviewed research across all disciplines for that particular university. IMPULSE, however, is limited to neurosciences work, and open to submissions from all undergraduate worldwide. An important and unique feature of IMPULSE is that the reviewers are also all undergraduate students. This student-reviewer process is overseen by faculty at Reviewer Training Sites (RTS) (open to others), and they provide reviewer and editor training that is centered on an authentic process of submission review. With the increase in undergraduate neurosciences minors, there has been growing interest in integrating the IMPULSE opportunities into the curriculum of those minors, and tailoring its use to meet the research and curricular needs of each school. In addition, IMPULSE’s function as both an academic journal and teaching tool has been shown to benefit students’ writing, editing, and leadership skills regardless of disciplines. Thus, the model can be extended to other fields to provide the broader experience of reviewing, editing, and publishing articles that go far beyond merely publishing a student’s work.

The journal IMPULSE was started in the spring of 2003, with the first issue posted in 2004. A total of twelve issues have been archived, one per year. The current, 2016 issue is the thirteenth. The journal has evolved from a once-per-year posting reviewed by students at a single institution, to rolling review and posting by students worldwide representing fourteen institutions. The first issue was reviewed by 14 students from three countries and two continents, with a single Faculty Advisor and Reviewer Training Site (RTS). The 2015 issue posted with over 100 student reviewers representing over 30 institutions in six countries and four continents. Many of these students were members of the 14 RTS, one of which is in South Africa. The rest of the reviewers were individuals who simply wanted to have the experience and applied to join as independent reviewers. They were assigned to an RTS team and had a unique online review system to review the journals.

Creating a Reviewer Training Site at any institution is easy and does not require any special application steps. There are no costs, and the manner of involvement is flexible and up to each Faculty Advisor at each RTS. Some choose to offer a course for new Reviewers, some work with a campus office or society, and others just focus on a group of students doing research in their laboratory. All that is needed to start an RTS at an institution is a faculty member willing to take on the role of the Faculty Advisor (see list of current FAs), and a few students willing to review, one of whom will become the Associate Editor for that RTS. The process works very well, with submissions being forwarded by the Executive Associate Editor to all the RTS Associate Editors, who then distribute the manuscript to their RTS Reviewer Team for review. A blinded, single review from each RTS is returned to the EAE, and a final, united compilation is created by the Executive Editor for return to the authors, usually within 4-5 weeks. The first page of two articles on how IMPULSE can be used in classes and teaching are shown below in the Online Journal of Undergraduate Neurosciences Education.

History of IMPULSE

2004: First issue posted online. IMPULSE, Vol 1, No. 1, April 30, 2004, Washington, D.C.
2005: Journal is held publically. Issue II of IMPULSE, Vol 2, No. 1, May 1, 2005, Atlanta, Publicity Editors.

Review Board (cont')

2016: IMPULSE presented at 12th SYNAPSE (Presbyterian College) and 10th FENS Forum in Copenhagen, Denmark; Rachel Sledge takes over as 10th EiC. After 13 years, Founding Faculty Advisor Leslie Sargent Jones retires, but continues contribution as Faculty Advisor Emeritus.

2011: IMPULSE presented at 7th SYNAPSE (Wake Forest U) and 8th IBRO World Congress of Neuroscience in Florence, Italy, and SfN 39:22.08SA (San Diego).

Prepared for review by Rachel Sledge, Appalachian State University; M. Zrull, Appalachian State University; Leslie Sargent Jones, Appalachian State University; L. Sargent, Appalachian State University; and D. Sargent, Appalachian State University.

![ IMPULSE Reviewer Training Sites:](image-url)