Scientific publishing and IMPULSE: an integral part of a complete neuroscience undergraduate education.


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Introduction

Undergraduate education in North America has been changing to include the expectation of an authentic research experience. However, while students increasingly participate in primary research, they rarely have the follow-up experience of writing, submitting, and then publishing their findings. Writing and reviewing manuscripts provides more complete and authentic research training. The journal IMPULSE (http://www.impact.appstate.edu) was created to fill this need.

IMPULSE is an online, international journal for research reports and reviews from student neuroscientists, typically 17-23 yrs old. Started in 2003 (Soc. Neuro. Abs. 25-23; first issue 2004, Soc. Neuro Abs. 20:28-6); it shifted to rolling submission and annual archiving in 2005 (Soc. Neuro Abs. 31:20.19), and since 2006 (2007 Soc. Neuro Abs. 32:26-13, 33:26-13). The IMPULSE review team members are from around the world, helping promote student appreciation for scientific translationalism and global communication skills. All submissions are written by postsecondary (but not graduate) students; peer review is by an international review team made up of “undergraduate” students from over 15 institutions overseen by the Faculty Advisors.

Neuroscience faculty may find the journal a useful mechanism to mentor undergraduate students through an authentic publishing experience of writing, submitting, and revising. Further, faculty can use the manuscript reviewing process and work with IMPULSE review-team students at their institution as a method to teach experimental design, scientific writing, ethics in communications, etc. (see course suggestions in JUNE 2006 Vol.4:2 http://www.fungjournal.org/results.asp ?june=159). Since successful publishing is a critical component of a scientific career, it should also be a part of a complete science education. Current anecdotal evidence from student reviewers suggests that refereeing manuscripts is valuable in career choices and success; comments from faculty overseeing the preparation of submissions indicates an increased quality in manuscripts in anticipation of external review. This collaboration between students and faculty to produce a manuscript promotes enhanced commitment to the process on both sides.

Recent growth for the journal has included listing with the Directory of Open Access Journals, addition of new Reviewer Training Sites at Middlebury College (Kim Cronise, Faculty Advisor) and Appalachian State University, and initiation of website use assessment with Google Analytics. Also, the primary website has been moved to Appalachian State University (http://www.impact.appstate.edu) where it will be secondarily archived to allow for rapid reconstruction in the case of a server failure or site attack.

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January 2003
- M. Wilkinson recruited to found the new journal along with A. Autry, L. Helmsick, and S. Roudsari. Peer reviewers recruited; IMPULSE logo and website created; IMPULSE presented at 1st SYNAPSE meeting.

July 2003
- Website opened for submissions for first issue.

Fall 2003
- IMPULSE debuted at SNF (Soc. Neuro Abs. 29:25-3).

July 1, 2004
- First issue posted online.

Fall 2004
- IMPULSE presented at SNF (Soc. Neuro Abs. 30:28-6).

Spring 2005
- First editorial team transition; C. Warren 2nd EIC.

Fall 2005

Spring 2006
- Redesign of IMPULSE website for rolling publication; IMPULSE presented at 2nd SYNAPSE meeting.

Fall 2006
- Publicity Editors created; ISSN # request completed. 2006 issue presented at SNF (Soc. Neuro Abs. 32:26-13).

Spring 2007
- IMPULSE presented at 3rd SYNAPSE meeting; second editorial team transition completed, B. Goodlett 3rd EIC.

Summer 2007
- IMPULSE presented at 7th IBRO World Congress of Neuroscience in Melbourne, Australia, by B. Goodlett.

Fall 2007

Winter 2007
- IMPULSE invited to join Directory of Open Access Journals; second Reviewer Training Site opened at Middlebury College with Dr. Kim Cronise.

Spring 2008
- IMPULSE presented at 4th SYNAPSE meeting.

Summer 2008
- A. Walton becomes 4th EIC. Third Reviewer Training Site opened at Appalachian State Univ. Heltzer Honors Program (backup website created); IMPULSE presented at 6th FENS Forum in Geneva, Switzerland by A. Walton.

Fall 2008

Spring 2009
- IMPULSE presented at 5th SYNAPSE meeting. Website moved to www.impulse.appstate.edu.

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