



Information Packet



An Introduction to JYI

The Journal of Young Investigators (JYI) is an organization committed to increasing active undergraduate involvement in the sciences. By publishing a variety of articles both written and edited by undergraduates, JYI encourages students to take a more active role in their science education. In addition to giving the over hundred-member student staff the opportunity to utilize their scientific knowledge toward writing publishable articles, the Journal of Young Investigators also allows undergraduates to perform a variety of other roles within scientific publishing. Undergraduates are not only the editors of JYI, they also make up its executive board and are in charge of running the entire journal.

The Journal of Young Investigators was founded on an idea. While doing laboratory research, five undergraduate students became concerned by the invisibility of undergraduate research. The founders of JYI realized that while undergraduates often had the opportunity to engage in all other aspects of research, they rarely had the opportunity to see their research come to a culmination – by publishing it in a scientific journal. The lack of publishing opportunities for undergraduates meant not only that their work went un-recognized, but also that these possible future scientists were prevented from experiencing the scientific process in full.

The Journal of Young Investigator's was founded in 1997 to provide undergraduates with the opportunity to take the ultimate step in their research – to go through the publication process. In 1998, JYI launched its website, <http://www.jyi.org>, where each issues of the journal is published.

In the seven years since it was launched, the Journal of Young Investigators has published countless articles in eleven issues. The Journal has also held three conferences and allowed a multitude of undergraduates from around the world to actively participate in science journalism.

Today, the Journal is expanding the way it serves the undergraduate science community. In 2005, JYI will launch its Career Development Network, to help undergraduates gain a better perspective on the opportunities available for them in science. JYI is also looking to partner with the National Science Foundation's Research Experience for Undergraduates in an effort to actively reach a broader range of undergraduates about science journalism.



JYI Articles

The Journal of Young Investigators is designed for the undergraduate science community. JYI articles report undergraduate research from all over the world, ideas of interest to undergraduate scientists, and science and policy news that affects the undergraduate community. To interest the greatest number of undergraduate scientists, JYI publishes four types of articles each month: Research, Features, News Briefs, and Media Reviews.

Research Articles

The Journal of Young Investigator's flagship program is its peer-reviewed research publication. Undergraduate scientists from all over the world conduct research, write manuscripts, and submit them for review at JYI. JYI's reviewers read the manuscripts and JYI's editors work with authors of accepted manuscripts to improve their work before publication. Every month, JYI publishes the accepted papers online, showcasing high-quality undergraduate research and bringing together readers and researchers the world over.

Feature Articles

In addition to research manuscripts, JYI publishes *Scientific American*-style articles written for an undergraduate audience. These monthly feature articles explore the ideas, issues, developments, and personalities that shape science. Written and edited by JYI's team of undergraduate science journalists, feature articles are easy, fun-to-read pieces designed to spark the public's interest in science and bring fascinating topics to the attention of the undergraduate community.

News Briefs

In October 2004, JYI began publishing weekly News Briefs. These articles are short news items on current events in science and science policy. The News Briefs, written by JYI's team of science journalists, bring together the latest news in the science community in one convenient place for undergraduates and non-undergraduates alike.

Media Reviews

A major part of undergraduate science education is media – books, magazines, journals, websites, and software. JYI's Media Review section publishes reviews and recommendations of both new and classic science media for undergraduates. The reviews, written by JYI staff members, are designed to highlight great books and media that might interest undergraduate scientists.



The JYI “Education”

JYI’s mission is to fill a major gap in undergraduate science education by allowing undergraduates the opportunity to publish. However, through JYI’s unique structure, we do more than that. We teach undergraduates how to write, review, edit, and revise research manuscripts, how to condense data and numbers into coherent thoughts for others to read, how to spin a science story for a non-science audience, how to manage writers and staff, how to manage money, how to run a publication, and how to run a business. Every undergraduate who works with us gains unique experience and knowledge – whether they only published one article, wrote Features for a semester, or managed JYI’s finances and public relations.

Training at JYI

Each JYI staff member goes through a rigorous training program, where they learn the importance of communication to the science community and how they will contribute to it. The training process teaches many important skills. Science Journalists learn how to tell a science “story,” how to write well and structure articles cohesively, and how to read and edit their peer’s work. Associate Editors learn how to structure a scientific manuscript, how to analyze data and theories for weaknesses, and how to seriously think about and improve scientific papers. JYI’s editors learn how to manage a large staff, how to thoroughly edit writing, and how to work with authors to improve their work. JYI’s public relations officers, financial officers, copyeditors, managing editors, and human resource officers learn how to run a business and market that business to the science community.

Mentoring at JYI

Many professionals volunteer their time to mentor JYI’s staff members. Professional scientists and faculty members work with JYI’s Associate Editors to review every manuscript submitted to JYI. Professional science journalists work with JYI’s science journalists to review and edit every Feature and News Brief. Professional scientists, editors, and deans also advise JYI’s Board of Directors on policy and operation issues. By working with professionals, each member of JYI’s staff gains valuable insight into how the world of science operates.

Educating Authors: The JYI Review Process

The review process is a major part of the JYI education. Each research manuscript submitted to JYI is put through a rigorous peer-review process designed to evaluate the quality of the science being presented, the writing style, and the manuscript structure. Two JYI Associate Editors review each manuscript, working with their Professional Mentors to identify weaknesses and suggest solutions. Based on reviewer recommendations, JYI’s Research Editors decide to accept or reject the manuscript. Accepted manuscripts are put through a thorough revision process: the Research Editor thoroughly edits the manuscript based on Associate Editor reviews, and the undergraduate author revises the manuscript until it is ready for publication. By going through the entire review – edit – revise process themselves, the undergraduate authors learn how scientific manuscripts are judged, what makes a good manuscript, and how to write and revise for publication.

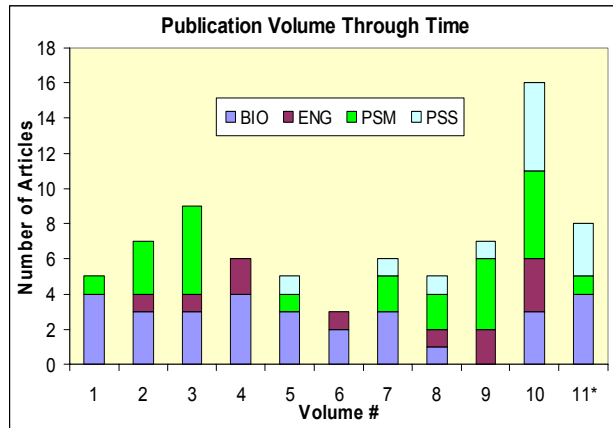


Facts and Figures

Publication Rates

JYI gone through cycles in its publication rates, but, as the following table shows, the number of articles published has increased over time. Moreover, the range of topics covered by JYI has expanded. The following graph and table show the evolution of JYI's publication rates.

Published	Number of Months Needed	Articles per Month
Dec. 1998	-	-
Jun. 1999	6	1.17
Mar. 2001	20	0.45
Jun. 2001	3	2.00
Oct. 2001	3	1.67
Jul. 2002	9	0.33
Mar. 2003	8	0.75
Aug. 2003	5	1.00
Nov. - Dec. 2003	5	1.40
Jan. - Jun. 2004	6	2.67
Jul. - Dec. 2004	3	2.67
Overall Average		1.05



Staff Comments

In 2002, JYI staff and authors filled out a survey about their experiences with the journal. Their comments were incredibly positive:

- ~90% felt that their *scientific communication* skills improved, with over half saying that the improvement was considerable,
- ~Over 60% said that involvement with the journal improved their *academic achievement*,
- ~Nearly 100% of respondents said they would *recommend participation* in JYI to others,
- ~Over 60% say that JYI improved their *team-work skills*.

In open ended questions, respondents also stated that JYI helped prepare them for graduate studies and define their career goals. More complete results on the survey can be found at <http://www.jyi.org/aboutJYI/ImpactSummary02.pdf>



Reach

The online journal format has the distinct advantage of being able to reach a large and diverse audience.

- Currently, JYI gets 11,000 to 15,000 unique visitors each month. This is an increase from 9,000 unique visitors a year ago.
- The average JYI visitor visits the site twice a month and views several pages on each visit.
- Each month, visitors view a total of 40,000 pages, up from 6,000 a year ago. This suggests a growth not just in readership, but in JYI's offerings.

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2004	11668	17491	33380	123235	1.52 GB
Feb 2004	13996	21364	35090	139399	1.87 GB
Mar 2004	19276	26365	51554	203615	2.68 GB
Apr 2004	17543	23835	50722	196635	2.69 GB
May 2004	15331	22516	48464	168997	2.40 GB
Jun 2004	10624	16686	32662	116535	1.51 GB
Jul 2004	8531	14005	30057	100010	1.31 GB
Aug 2004	9306	15688	44753	129534	1.85 GB
Sep 2004	9878	14860	31315	121054	1.62 GB

Note: visits to JYI decreased in the period between June and Sept. This suggests that many visitors use JYI as an education resource – decreasing its use in months when school is not in session.

- JYI uses around 1.7 GB

Diversity

JYI is committed to diversity. 49.5% of JYI's manuscripts are written by women and 15% of JYI's leaders are Hispanic or African American.



Why is JYI Important?

“At JYI, your learning comes as a genuine, “real world,” hands-on learning experience. This is no classroom or homework-type activity. There is nothing mechanical about this; rather, it is a very personal experience in which you learn from others. The most valuable aspect of JYI is that it is entirely student-run. Students are the authors, the reviewers, the journalists, the management, and the support. They run the entire show! There is simply no substitute for such an experience! Where else do students get to write up the entire manuscript as the first author and lead that manuscript through the entire review process, answering reviewers' comments and shaping up their manuscripts? Where else can students learn how to review manuscripts and what the publication process is actually like? And where can students write science feature-type articles and get advice from professional science writers? Very few places, if any. Yet, all along the way quality is maintained by faculty members and professional science journalists who mentor these students as they do all this. I think that the system is certainly ingenious and works quite well!”

~ Courtney Peterson
Georgetown University
Chief Financial Officer, Chief Technical Officer, Editor-in-Chief, Chief Executive Officer

“It has reaffirmed my belief that learning to write well in science is one of the most valuable things a researcher can learn. If you can do the research well, but can't express your ideas to others, why do the research in the first place?”

~ Maureen McColgin
Willamette University
Associate Editor (Biological and Biomedical Sciences), Managing Editor

“JYI was the highlight of my undergraduate career.”

~ Selby Cull
Hampshire College
Editor in Chief

“JYI has given me an opportunity to work with a diverse group of undergraduates. Their energy and devotion to the field of science journalism has catalyzed my pursuit of writing more science and medical interest articles, rather than solely focusing on scientific manuscripts in the years ahead. Writing scientific manuscripts for a niche group of readers is as important as writing general science review articles for the general public.”

~ Randy Wei
University of California at Berkeley
Author

“Publishing a manuscript in JYI helped develop my scientific writing skills. It is definitely a very valuable tool that gives young authors a chance to present their data and go through the review process. There is not enough emphasis put on, or training for, scientific writing at the undergraduate level. Many undergrads miss the chance to contribute to the writing of papers even though they may have had a significant impact on the research going on in their laboratory.”

~ Paul Rack
University of California at Riverside
Author

“It's not easy for undergraduates to publish a paper due to time constraints and the lack of opportunity. However, JYI gives undergraduate students a chance to publish their research, which allows them to experience the publishing world early on. It also sets a high profile for the student when he/she applies for graduate school.”

~ Cintyu Wong
University of Rochester
Author