

## Session IC3

**Engineering Education Periodicals and Proceedings:  
Increasing Awareness of and Access to the Literature****Thomas G. De Petro**Evans Library, Science/Engineering Services  
Texas A&M University**Abstract**

In the vast realm of engineering literature there is a set of publications that is often unknown and certainly underutilized: engineering education periodicals and proceedings. These publications can easily be overlooked by engineering faculty, researchers, students, librarians or information professionals, and others who may not be fully aware of their existence or content. There has been a need for a definitive list of such publications for some time. This paper presents an initial list of these items as the first step to make them more accessible to those in engineering education who may need them. The next step will be to create a descriptive database of these items, briefly detailing their content, stating who publishes them, indicating what indexes or databases they are indexed or abstracted in and showing if they are available electronically. A print-out of such a database could serve as an annotated bibliography, a finding guide, and as a checklist of engineering education periodicals and conference proceedings. Such a print-out could then be published by ASEE in its *Guide to the Literature* series or as an additional conference paper. As a result, the engineering education literature of ASEE and other organizations or publishers could be more easily identified and utilized by those who create it and by those who would benefit the most from it, namely engineering educators.

## Introduction

Many engineering education periodicals and some engineering education conference proceedings are consistently collected by some academic engineering libraries. This is most likely to occur if these publications are available for acquisition by libraries on a subscription or standing order basis. Unfortunately, this is not always the case. Some of these items, such as newsletters or regional conference proceedings, may not be acquired systematically on a regular basis by libraries with engineering collections. Consequently, this literature may not generally be available to those who may need it the most. Others might not even be aware of its existence, even if they use appropriate databases to search for and identify relevant literature in engineering education.

An example of this is a recent request for assistance in identifying articles and papers that describe the planning and development of graduate degree programs in materials science. To answer such a request for information in the form of articles or papers one needs to have the entire set of engineering education literature recorded in at least one bibliographic database. At the present time there is no such comprehensive bibliographic database that indexes and abstracts all of those publications.

This situation can be described as a “bibliographic deficiency” and it certainly needs to be addressed in ASEE through the Engineering Libraries Division. This is further complicated by the fact that some conference proceedings publications and engineering education periodicals, including magazines, journals, newsletters, etc., are not indexed or abstracted in the most basic standard bibliographies of both engineering and education literature: COMPENDEX, the Computerized Engineering Index from Engineering Information, Inc., an Elsevier Science company, and ERIC, the Educational Resources Information Center, a national clearing house sponsored by the U.S. Department of Education for collecting, identifying, and distributing educational journal articles and documents such as conference proceedings.<sup>1</sup>

COMPENDEX is available directly from Elsevier Science’s Ei on its “Village 2” platform and in its ScienceDirect system as a secondary database. It is also available with other search engines from the Ovid/Silver Platter company, the Thomson Company Dialog group, the STN database service, and other online database providers. The first step is to identify the engineering education periodical and proceedings literature to be bibliographically analyzed, verifying the status of such publications. That complete analysis needs to be subsequently reported in a future ASEE paper.

## Identifying and Listing the Proceedings and Journals

Academic engineering library online catalogs such as the Texas A&M University's "LibCat" at <http://voyager-am.tamu.edu/> are a logical starting point to identify proceedings and journals relevant to engineering education. Fortunately there is also an outstanding bibliographic publication available both in print and online that can be used to do this more completely. The *Ulrich's International Periodicals Directory* in print and the [ulrichsweb.com](http://ulrichsweb.com) database from R.R. Bowker LLC are the primary tools used in libraries to identify serial publications such as periodicals (magazines, journals, newsletters, etc.) and proceedings or other serial publications.<sup>2</sup> Library catalogs and *Ulrich's* were used to create a working list of these relevant items for further analysis in a future ASEE paper.

The identified engineering education periodicals and conference proceedings were then entered into a database using the EndNote bibliographic management software system, version 4, from the ISI Researchsoft company of the Thomson Scientific group.<sup>3</sup> EndNote is one of several such software packages used by both librarians and faculty and student researchers to organize listed references to items such as articles, books, or other documents or media. It can also be used as a database search engine, allowing resulting records to be downloaded and stored in an EndNote library database.

There is however, a problem with the EndNote software. It allows the user to specify the "Reference Type" for each item to be listed in a database file. There are 21 choices for this designation in EndNote version 4: journal article, book, book section, manuscript, edited book, magazine article, newspaper article, conference proceedings, thesis, report, personal communication, computer program, electronic source, audiovisual material, film or broadcast, artwork, map, patent, hearing, bill, statute, case, and "generic." The one key type of source missing in an obvious oversight is periodical, meaning a magazine, journal, newsletter, etc. The designers of EndNote evidently did not foresee a need to refer to an entire journal in a bibliographic list of sources. Instead the software only accommodates individual articles from such journals or other periodical publications. The following list was generated from an EndNote database currently being developed to identify and describe the most relevant engineering education proceedings and periodicals:

**Initial List of Engineering Proceedings and Periodicals for Further Bibliographic Analysis**

Publication Title	Publisher or Producer
Annual Conference Proceedings	ASEE
ASEE Prism Magazine	ASEE
Australasian Conference on Computer Science Education	ACM
Bulletin of Mechanical Engineering Education	[Ceased publication]
Chemical Engineering Education	ASEE Chemical Engineering Division
Computer Applications in Engineering Education	John Wiley & Sons, Inc.
Computers in Chemical Engineering Education <a href="http://www.che.utexas.edu/cache">http://www.che.utexas.edu/cache</a>	CACHE (Computer Aids for Chemical Engineering)
Computers in Education	ASEE Computers in Education Division
Conference for Industry and Education Collaboration	ASEE
Engineering Science and Education Journal	IEE (Institution of Electrical Engineers, UK)
European Journal of Engineering Education	SEFI (Société Européenne pour la Formation des Ingénieurs / European Society for Engineering Education)
Frontiers in Education	ASEE
Global Journal of Engineering Education	UNESCO International Center for Engineering Education
IEEE Transactions on Education	IEEE (Institute of Electrical and Electronics Engineers, USA)
International Journal of Electrical Engineering Education	Manchester University Press, UK
International Journal of Mechanical Engineering Education	Manchester University Press, UK
Journal of Engineering Education	ASEE
Journal of Materials Education	International Council on Materials Education (ICME)
Journal of SMET Education (SMET = Science, Mathematics, Engineering, Technology)	Technovations, RLS, LLC
Proceedings / Conference on Software Education & Training	IEEE Computer Society
Proceedings of the ASEE Gulf-Southwest Annual Conference	ASEE

This list needs to be viewed and analyzed by engineering education colleagues, including both librarians and professors of engineering, for accuracy and completeness. Note that it contains

*Proceedings of the 2002 ASEE Gulf-Southwest Annual Conference,  
The University of Louisiana at Lafayette, March 20 – 22, 2002.  
Copyright © 2002, American Society for Engineering Education*

one ceased title. Engineering education publications that are no longer published still need to be identified and listed as part of the literature. Achieving access to database records of the papers or articles contained in such a ceased publication might prove difficult, however. Unfortunately, producers of databases such as COMPENDEX or ERIC might see little value in retrospectively adding such individual records to their products retrospectively. Without such bibliographic access there may be no record of this literature beyond its occasional listing in some library catalogs.

### Summary and Conclusions

The engineering education periodicals and proceedings can continue to be identified, analyzed, and recorded. The need for a more complete and thorough list of them is indicated. Pertinent information must also be included, including which indexes or abstracts, i.e., bibliographic databases, include them. This information would be very useful to those who need them most, namely engineering educators. Engineering libraries could also use such a comprehensive list to review and assess current library collections and to inform users of what is available as periodicals and conference proceedings in engineering education.

### References

1. COMPENDEX, the Computerized Engineering Index produced by "Ei" or Engineering Information, Inc., an Elsevier Science company, is described on the Ei webpage at <http://www.ei.org>.
2. *Ulrich's International Periodicals Directory : Now Including Irregular Serials & Annuals*. New York: R.R. Bowker LLC, 2002 (annual). The content of the *Directory* is also available online as "ulrichsweb.com" at <http://www.ulrichsweb.com>.
3. ISI ResearchSoft EndNote can be seen at URL: <http://www.endnote.com>.

#### THOMAS G. DE PETRO

Mr. De Petro currently serves as an Assistant Professor of Library Science and as the Engineering Librarian at Texas A&M University. His research interests include library instruction for engineering education and comparative and international science and technology librarianship. Professor De Petro holds the Master of Library and Information Science degree from the University of Texas at Austin. He can be reached at (979) 862-1901 or at [tdp@tamu.edu](mailto:tdp@tamu.edu).