

Industrial Research Contributions

Would authors working in industry be welcome contributors to JMD? The answer is an emphatic “yes, indeed!” but the reality is that authors from industry are a small minority relative to authors from academia. There are some real reasons why this may be so. There are also opportunities for making industrial research contributions that may not be fully recognized.

In principle, JMD publishes “fundamental, basic” research. “Pure research, basic research, or fundamental research is research carried out to increase understanding of fundamental principles. Many times the end results have no direct or immediate commercial benefits: pure research can be thought of as arising out of curiosity. However, in the long term it is the basis for many commercial products and applied research. Pure research is mainly carried out by universities.” (Wikipedia, May 10, 2011). The argument of what is basic research in engineering has been going on for a long time, but the practical implication is that research without obvious commercial benefit is unlikely to happen in industry.

In the United States, there was a time when large corporations maintained a highly active basic, even speculative, research activity. A great example was the General Motors Research (GMR) Laboratory where many original ideas were developed across many diverse disciplines, like the real options theory used in financial analysis today. However, as budgets tightened, and globalization and laissez-faire politics took hold, “paternalistic capitalism” was replaced by “value to the shareholders,” and the large corporate basic research laboratories became a thing of the past. Many excellent laboratories still exist, but they must all justify their existence through service to their “internal customers.”

Governments have opinions and policies on this situation. The US government has many programs through various agencies that promote research interaction between universities and companies (e.g., NSF GOALI, NIST ATP, SBIRs). The European Union research funding is directed predominantly toward industry with major corporations being the lead and university researchers being the minority partners. (See the May 2011 editorial on design in France for some more discussion.) Emerging economies also direct research activity growth only to academic groups, although this situation may be changing.

How can we then expect to see industry authors making research paper contributions? Luckily, there are several ways this can happen. Industry researchers frequently collaborate with academic ones in substantive ways (meaning not just providing funding) and produce co-authored papers. For a design journal, this often leads to excellent papers because they tend to combine new basic research ideas with a real application of value. Industry researchers also perform research “in their own time” and some wise companies allow their people to devote a certain percent of their time to self-directed creative activities.

Industry authors may also take advantage of the different types of contributions that JMD offers. Design innovation papers aim at documenting the creation of a device that has had actual impact—rather than developing a new theory. Industry-based authors are uniquely positioned to contribute design innovation papers, while academics submitting such papers tend to describe “paper studies” of an idea, maybe some hardware, but little, if any, evidence of impact. Wouldn't it be fun to read a real technical paper on the conception and evolution until today of, say, the Hydra-Matic transmission? See more on design innovation papers in earlier editorials (http://asmejmd.org/show_editorial.php?id=27 and http://asmejmd.org/show_editorial.php?id=5). Technical Briefs is another category of JMD contributions that would serve industry authors well. Commenting on a technical issue from an industry perspective that compliments published academic research can provide insights of archival value.

JMD has been fortunate to include among its ranks of Associate Editors several researchers working in industry. They are a minority on our editorial board for the same reasons that industry authors are a minority. However, their contributions are very valuable to our community, and this is an opportunity to thank them. Let me then restate that JMD paper contributions from industry-based authors are very welcome. Moreover, academic authors may serve themselves and the journal well by working with colleagues in industry and submitting jointly authored papers.

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