

First Author

At one time or another, all of us have filled out a government or agency form where we are asked to list our name followed by father's name, then mother's name. The sequence of filling in first name (also called "given") or last name (also called "family") varies, but the sequence of father's name first and mother's name next seems always fixed. Now, why would that be so? Rationally, mother's name should be first as maternity is patently easier to ascertain than paternity. There must be other reasons for such universal practice. Could it be that only fathers compose forms? There is a bit of a mystery here.

Thus it is also with the sequence of listing authors of scientific papers with multiple co-authors. Who is the first author? For that matter, who is second or third or last? How about "lead" author and "corresponding" author referred to in the ASME journal guidelines? Who decides, and with what criteria?

In my first papers with my doctoral advisor I put my name first and his second. It did not occur to me to ask him: I had just written the paper myself and I had added his name as a courtesy, never mind that we had talked a lot about the work over months and years. He never commented on the author sequence. In my first papers with my doctoral students I put their name first and then mine, even when sometimes I might have written the majority of the paper. I am not quite sure why, I just did. I then happened to be talking with a friend working in experimental high-energy physics, who told me that their typical papers had 50 or so co-authors, and the first author was always the most senior person, usually the director of the lab. The logic was essentially that he was the father of the team, and there would be no lab, no team and no experiment without him. This got me worried. Was I doing this first author thing wrong all along? Would it mess up my career?

This is no idle question. Careers may be indeed at stake. I have sat through hundreds of university faculty evaluations, and there is always someone in the review committee asking why the candidate being evaluated is (or is not) first author. Some counters will discount papers where the candidate is not the first author. Administrative guidelines for promotion now require that you underline or boldface in your list of papers the names of co-authors that are students you have advised. I recall a discussion with an author arguing that alphabetical listing is the fairest, neutral way of listing co-authors—a seemingly reasonable point, except for that author's name starts with an "A." In other cases, co-authors have been excluded in order to showcase the name of the first author, who might be going into the job market and too many co-authors would dilute the personal contribution. Differences in status and seniority among co-authors also create potential difficulties: a junior author may benefit from much easier acceptance of a paper with a well-known senior co-author; a senior co-author may benefit from being included in work with no substantive contribution. Could the co-author sequence help to make such distinctions?

The answers to the above questions are not always clear cut. The ASME Ethics guidelines to authors state the following: "To protect the integrity of authorship, only persons who have significantly contributed to the research or project and manuscript preparation shall be listed as co-authors. The corresponding author at-

tests to the fact that any others named as co-authors have seen the final version of the manuscript and have agreed to its submission for publication. Deceased persons who meet the criterion for co-authorship shall be included, with a footnote reporting date of death. No fictitious name shall be given as an author or co-author. An author who submits a manuscript for publication accepts responsibility for having properly included all, and only, qualified co-authors."

The ASME guidelines are based on the widely used American Chemical Society Ethical Guidelines to Publication of Chemical Research, which include the following: "The co-authors of a paper should be all those persons who have made significant scientific contributions to the work reported and who share responsibility and accountability for the results. Other contributions should be indicated in a footnote or an 'Acknowledgments' section. An administrative relationship to the investigation does not of itself qualify a person for co-authorship (but occasionally it may be appropriate to acknowledge major administrative assistance)."

However, in the ASME guidelines to authors I could not find a clear definition of who is the "lead" author, except that the so-designated author is responsible for paying any excess page charges assessed to the manuscript. The "corresponding" author is usually chosen as the one with a permanent or stable address, who submits the paper and can manage the communications with the journal editors and staff. This used to be often the more senior person, head of a lab or a project; but in the electronic communication age, any co-author can usually be reached just as easily. Thus, good judgment and good communication is the best way to address these questions. For example, if a junior researcher reports, say, work from her dissertation, then she can be the first author, as well as the lead and corresponding one—provided she has an interest to remain engaged with the paper publication process after graduation. But if she launches a successful start-up company, then she would still remain first author, possibly a lead one but not a corresponding one.

There is a nice article on authorship ethics, which among other things states that "In cases where more than one person meets the qualifications for authorship of a manuscript, the order of authorship should be a joint decision of the co-authors" (Syrett, K. L., and Rudner, L. M., 1996, Authorship Ethics, *Practical Assessment, Research & Evaluation*, 5(1). Retrieved May 19, 2009 from <http://PAREonline.net/getvn.asp?v=5&n=1>). I think that is spot on.

As cutting-edge research continues to cross traditional boundaries and collaboration becomes a key element of success in addressing complicated, far-reaching problems, we all have to learn how to apportion credit where credit is due. Good accounting makes for good friends, and good co-authors.

Panos Y. Papalambros

Welcome to Our New Associate Editors



Dr. David Gorsich is the Chief Scientist of the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC). He is the organization's primary focal point to organizations such as DARPA and ARO, and serves as the technical director of the U.S. Army National Automotive Center. Previously Dr. Gorsich was the Director of Strategic Plans and Programs at TARDEC, and the Associate Director for Modeling and Simulation. As TARDEC's Associate Director for Simulation, he also was responsible for the Center's High Performance Computing program. Before 2003, Dr. Gorsich served as a research scientist in TARDEC's Robotics Lab as well as the leader of National Automotive Center's Vehicle Intelligence team. He received his Ph.D. in applied mathematics from M.I.T., his M.S. in applied mathematics from George Washington University, and his B.S. in electrical engineering from Lawrence Technological University.

Areas of interest: simulation, reliability-based design optimization, terrain modeling, spatial statistics and other approximation methods



Dr. Michael Kokkolaras is an Associate Research Scientist at the Department of Mechanical Engineering of the University of Michigan. He also has an appointment at the University of Michigan Transportation Research Institute. Dr. Kokkolaras has a Diploma in Aerospace Engineering from Munich University of Technology (Technische Universität München) and a Ph.D. in Mechanical Engineering from Rice University. Dr. Kokkolaras has conducted research for a number of projects funded by the U.S. Army, General Motors, Ford Motor Company, General Dynamics Land Systems, National Science Foundation, and Office of Naval Research, and co-authored numerous articles in archival journals and conference proceedings, as well as three book chapters. He is a member of the ASME (active within the Design Automation Committee) and a senior member of the AIAA (serving on the Multidisciplinary Design Optimization Technical Committee).

Interests: multidisciplinary design optimization, decomposition and coordination methods, design under uncertainty, platform-based design of product families

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Areas of interest: design science, design automation, artificial intelligence in design, design under uncertainty, decision-based design, system thinking, innovation management