

Professional Advancement Through Off-Hours Research or Teaching

by Jonna M. Tarpoff, PE, President, Tarpoff Moore Engineering, Inc.

jtarpoff@tarpoffmoore.com 513-932-9777

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The Problem

On an individual level, engineers of all disciplines are focused on career and professional advancement. It dominates their thoughts nearly every day: How can I get a promotion? How can I gain authority and prestige? How can I become more knowledgeable than my colleagues? How can I improve my daily job satisfaction? And what's more, these concerns dominate engineers at all levels of experience, from the entry level engineer to the senior technology leader.

There are many factors influencing career advancement--technical factors such as how well you perform your job and "soft" factors such as how well you get along with or influence people. However, there is only one factor with enough power to propel you past your competition—being a 100% full-time engineer.

The Proposal

We work 40-50 hours a week on company assigned tasks. This doesn't leave much time to other activities, not to mention reducing the risk of career burn-out. However, the bottom line is each of us must improve our knowledge and hence our job performance to keep on top of our job AND to move ahead of our colleagues in prestige and authority. Therefore, we MUST work on engineering related tasks far more than 40-50 hours per week. An additional 10-15 hours per week on research activities will be necessary to increase our engineering knowledge and abilities in order to move ahead professionally. ALL successful engineers know this and are conducting their careers in this manner.

The best and easiest approach for each of us is to become involved ON ANY LEVEL with a technical division within our technical society. This division should be chosen to represent your technical interests as dictated by your present job OR by personal technical interests for future career growth. For example, if you are in a design related position, contact and offer your present knowledge to the Design Division of your technical society. ASME has technical divisions to suit every mechanical engineer. So does AIAA for those in the aerospace industry...as well as IEEE for engineers knowledgeable in and working with electrical/electronics technology.

A second approach is to teach a technical course at a local technical college as an adjunct instructor OR to offer tutoring services on the college level within your area of expertise. This will help teach YOU what you don't know about your area of expertise and to enable you to grow professionally. It also returns your knowledge to the community and leverages the existing technical "smarts" of the community. Most adjunct teaching positions require a PE license or MS degree. Get to know the department heads in charge of recruiting instructors and bone up on the proposed teaching subjects. If you want to know more, call me; I'll be happy to help.

The Plan for Technical Division Research Work

Technical Divisions offer participating members an avenue to exchange information with others within that specialty. They sponsor annual week-long technical conferences in which research papers are exchanged between people working in that specialty. Numerous technical committees exist within the Division to cover many different aspects of engineering. These committees meet in break-out sessions which are organized during the week to stimulate

discussion on new and future areas of focus. Leaders in your specialty are points of focus and offer understudy opportunities to those less knowledgeable. Codes and Standards Committees discuss problems and discuss proposals from committee members for improvements to the Codes and Standards. If you are less familiar with the Codes than the "experts", not a problem, your industry perspective is added to the process of improvement and your offer of review help will be accepted.

Participation in the technical committees is not limited to only the top echelon of the field. You do not need to be a PhD or even have any post graduate training. In some cases membership in the technical society is not a prerequisite. Technical Division Committee members at all levels are needed and your participation will allow you to get to know the experts in the field, to tap into a broad base of knowledge, and thus increase your own knowledge and your standing in your job and in the field. Participation in a committee may require you to conduct some relevant research at your particular knowledge and experience level, write a review paper with or without original research, or research Code or Standards short-comings and write a report.

Here's how to get started. Plan to attend and participate in a Technical Division conference this year. Most companies will pay to send you, HOWEVER, about 25-35% of attendees take personal vacation and finance it with personal funds often taking family members. If you become part of a committee before attending the conference, then the conference admission fees are waived. Find out about the committees existing within the Division and offer your services to the committee chair or vice-chair. You can't loose. It's the best way to enhance your career and increase your job satisfaction. Call me for help locating a local member active in the Technical Division of interest. Good luck and Q.E.D.

About the author:

JM Tarpoff, PE launched Tarpoff Moore Engineering, Inc. in 1999 after a successful ten year mechanical engineering design and analysis career with Bechtel Bettis (formerly Westinghouse Electric) in Pittsburgh and a successful two year career in manufacturing / mechanical engineering at P&G in Cincinnati gaining nearly \$2 million in savings from process improvements. The author has been an adjunct instructor of mechanical design courses through the University of Cincinnati's Applied Science College as well as having won numerous patent disclosure and design awards.