

# "How To" Guide for Short Term Visits Between Academe, Industry and Government

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# 1. Definition of "Short Term" Visit

**Any short duration series of formal repeated contacts between academic statisticians (faculty or students) and industrial or governmental organizations**

- **Can be a single day trip by a group of industrial statisticians to a local university**
- **Includes internships, co-op arrangements or contract visits lasting as long as 6 months**

# 1. Definition of "Short Term" Visit: Continued

## Some examples of short term visits include

- Repeated weekly or bimonthly discussion meetings
- Short term research, consulting or training contracts
- Co-op programs or internships
- Fellowship programs (widely used by government organizations)
- University invitations to alumni working industry to come and give talks or host discussion sessions
- University/Industry programs where students "shadow" an industrial statistician for several days
- Sabbaticals spent consulting or training at a company
- "Show & tell" tours and visits
- Joint peer review/advisory committees (universities inviting industry or government statisticians to participate or vice-versa)

## 2. Benefits to Both Parties

- **Benefits to Industry and Government**
  - Source of future new hires for Industry
  - Experienced faculty consultants bring fresh approaches to complex industrial/governmental problems and encourage collaborative research projects
  - Interns can do literature searches and write software routines that solve important but lower priority problems that industrial/governmental statisticians haven't time to tackle
  - Interns and faculty consultants return to academe with a much better idea of what research areas are important to industrial/governmental needs
    - On target dissertation research and papers in applied journals lead to tools and techniques that solve industrial problems
  - Networking and sharing of research directions and critical problems breaks down barriers (the perceived separation between academe and industry/government)

## 2. Benefits to Both Parties: Continued

- **Benefits to Academe (apart from financial support)**

- Source of interesting and relevant problems for research topics

- University gains valuable feedback on how well prepared students are for the role of industrial statistician

- What works
- What needs improvement
- What is missing

- Students learn about statistical applications first hand and gain valuable career planning insights

- Students gain or practice useful skills

- Statistical software application or development skills
- Communication skills (with customers and peers)
- Problem solving skills

- The reputation and perceived value of the University and the Department is enhanced within the outside community

## 3. How to Get Started: Pre-Visit Stage

### A) Learning about opportunities and interested parties

– There are many ways to get started - some are:

- “Networking”, or “Word of Mouth” referrals
- Advertisements in professional publications
- Bulletin Board notices
- Web site notifications
- Professional meetings (ASA or other conferences)
- Invitations from University Departments to review curriculum, give seminars, mentor students or serve on an advisory committee (alumni in industry or government are a good target audience to invite)
- Resume mailings to companies with possible intern openings (some university departments mail out “resume books” and have faculty sponsors guiding the intern program)
- Data bases of skills, opportunities and interested parties, maintained by ASA chapters

## 3. How to Get Started: Pre-Visit Stage (Continued)

### B) Selection Process

- In person interviews
  - Very effective, but expensive for short term intern positions when there could be many non-local candidates
- Phone interviews
  - An informal conference call where several people talk to a candidate for 30 minutes to an hour (using a speakerphone)
    - Cost effective and generally gets the job done
    - Hard to judge how well you are communicating
- Proposal submissions
  - Appropriate for research or training proposals between industry/government and academic professors

## 3. How to Get Started: Pre-Visit Stage (Continued)

### C) Communication of mutual expectations (Essential precursor for a successful visit): Discuss or document what applies from the list below

- Formal job description
- Written research proposal or "Statements of Work"
- Internship prospectus
- Formal deliverables list
- Formal contract
- Pre-visit or tour
- Working conditions description ( hours, dress codes, security requirements, management contacts, etc.)
- Degree of interaction, guidance or collaboration to expect

***"Tell me what you want from me and show me what it will be like when I get there"***

## 3. How to Get Started: Pre-Visit Stage (Continued)

### D) If visit will involve short-term relocation

- Provide and communicate useful relocation aids
  - Travel arrangements, maps and directions
  - Short term living accommodations
  - Area description
- Consider supplemental rent allowances for students (to cover double rent cost situations)

### E) Arrange for an appropriate working area and whatever working supplies, computer facilities, etc. are needed for the agreed upon job tasks

- Preparing the simple physical necessities for the visit ahead of time goes a long way towards getting things off to a good start

## 4. Conducting the Actual Visit

- **If the pre-visit stage was thorough the actual visit should produce few or no surprises**
  - **Mutual expectations communicated and agreed upon**
    - **A meaningful and challenging work assignment ready to begin**
- **An assigned "mentor" can speed up the introductory orientation stage**
  - **Especially useful for making student interns comfortable and quickly productive**
- **Regular checkpoint dates and meetings (formal and informal) will help keep the project or tasks on track**
- **Sometimes assignment adjustments or changes are needed**
  - **Negotiate and put in place promptly**

## 4. Conducting the Actual Visit (Continued)

- **Schedule time at end of visit for the "Wrap-up" stage**
  - **Written and/or oral presentation of results**
  - **Plans for publication and mutual agreement concerning publication rights**
  - **Exit interview and/or feedback session**
  - **Communicate plans for future follow-up activities, if any**

## 5. The Visit "Wrap-Up" Stage

- **Final Report/Presentation**
  - Very valuable experience for student interns and co-ops
    - Communication of project results to management and peers
    - Closure of work assignment
  - Documents deliverables for research/development contracts
- **Exit interview or feedback session**
  - What worked and what could have been improved?
  - Were all the expectations met?
  - Were the goals/checkpoints/deliverables met?
  - Was the degree of interaction, guidance or collaboration the right amount?
- **Decide on whether to publish research results (if non-proprietary)**
  - Conference or journal paper
  - Thesis publication

## 6. Follow-up

- **Keep in touch with intern "alumni"**
  - Let them know whether their project saved money or made a significant technical contribution
  - Let their school departments know their work was appreciated
- **Write up and circulate success stories - these help promote more future visits**

## 7. Critical Success Factors

- **Successful visits require proactive efforts on the part of University Departments and Industry/Government Groups**
  - Formal processes with assigned people and responsibilities are needed to “get the word out” and make the visits happen
- **Well defined and communicated expectations are the bedrock of a good short term visit**
- **Carefully manage the visit period**
  - Travel, accommodations and work environment
  - Project goals/deliverables and checkpoints
  - Final reports/presentations/publications
  - Exit interview or feedback session (see Appendix for suggested questions)
- **If possible, give long-term feedback about the realized value of the project**

## 7. Critical Success Factors (Continued)

- **Analyze and share feedback data: have joint evaluation discussions between academe, industry and government**
  - Repeat doing what works
  - Avoid what doesn't work
- **Write up "Success Stories"**
  - They pave the way for future visits

## 8. Sources and Acknowledgements

- **Much information was gained by the brainstorming and exchange of ideas at the SPAIG meeting on May 30 & 31, 1997**
  - **see the web site <http://web.utk.edu/~wparr/spaig/spaigmay3031.html> and, in particular, Report 2 by facilitator Susan Schall**
- **Thanks to James Colaianne and Geetha Ramachandran for their early involvement in the production of this Guide**
- **Many good ideas came (either formally or informally) from discussions with the following interns and co-ops (who took part in visits to Sematech, IBM, Motorola and NIST)**
  - **David Enck, Don McCormack, Terry Moore, Dan Park, Susan Parker, Scott Shellman, Alison Smith and Mark Reeder**
- **Finally, useful data were obtained from contacts and discussions with the following university professors (while they were visiting industry either training or involved in short term research)**
  - **Peter John, George Milliken and Douglas Montgomery**

# Appendix: Visit Effectiveness Assessment Form

## 1. Pre-visit Stage

a) How did you learn about the opportunity?

Advertisements? \_\_\_

Bulletin Board Announcements? \_\_\_

Internet Web site? \_\_\_

A.S.A. or other professional meetings? \_\_\_

Word of mouth (networking)? \_\_\_

Other? \_\_\_

Comments:

b) What helped create agreed upon mutual expectations for the visit?

Formal job descriptions? \_\_\_

Research proposals? \_\_\_

Internship prospectus? \_\_\_

Formal deliverables documentation? \_\_\_

Written information about working conditions? \_\_\_

Discussions/agreements about salary and deliverables? \_\_\_

Informal discussions about all of the above? \_\_\_

Pre-visits or tours? \_\_\_

Other? \_\_\_

Comments: \_\_\_

# Appendix: Visit Effectiveness Assessment Form

## 1. Pre-visit Stage: Continued

c) What was the selection process used to formalize the visit?

Application and notification? \_\_\_

Interviews (in person?) \_\_\_ (or via phone?) \_\_\_

Negotiation process? \_\_\_

Formal proposal submission? \_\_\_

Formal contract? \_\_\_

Other? \_\_\_

Comments:

d) What initial arrangements were made to facilitate the success of the visit?

Travel arrangements? \_\_\_

Short term living accommodations ? \_\_\_

Other helpful relocation aids? \_\_\_

Other? (Describe): \_\_\_

Comments:

# Appendix: Visit Effectiveness Assessment Form

## 2. The Actual Visit

### a) Structure and Facilities

Were you adequately informed about working conditions before starting? \_\_

How did you feel about the working setup (rules, hours, dress/behavior codes, security conditions, etc.)? \_\_

Were the working conditions satisfactory (space, supplies, equipment, etc.)? \_\_

How were the people interactions:

-fellow workers? \_\_

-supervisors? \_\_

### b) What did you think of the Goals/Checkpoints/ Deliverables:

-Clear, understood and documented? \_\_

-Dates agreed upon and matching expectations? \_\_

-Project management process in place? \_\_

Helpful? Yes \_\_ No \_\_

-Degree of interaction, guidance or collaboration the right amount? \_\_

Other comments?

# Appendix: Visit Effectiveness Assessment Form

## 3. The Wrap-Up Stage

a) What was the end product or deliverable of the visit?

- Written reports? \_\_\_
- Presentations or lectures? \_\_\_ \_\_\_
- Publications? \_\_\_
- Other? \_\_\_

b) What kind of feedback was given?

- Formal? \_\_\_
- Informal? \_\_\_
- Two-way? \_\_\_
- Other? \_\_\_

**Comments:**

# Appendix: Visit Effectiveness Assessment Form

## 4. The Post-Mortem Stage

### a) How could the visit Process be improved:

- The "learning about opportunities" stage? \_\_
- The "developing/communicating mutual expectations" stage?\_\_
- The selection process? \_\_
- The working/living arrangements? \_\_
- The work environment? \_\_
- The process of producing successful results? \_\_
- Making use of the results? \_\_
- Publicizing successes? \_\_
- Learning from failures? \_\_
- Communicating results (successes and failures) to all concerned parties? \_\_

Other? \_\_

## 5. Any General Comments in addition to the above?