

## Simon G. Bott

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### EDUCATION:

1986 Ph. D. Chemistry University of Alabama  
*Dissertation Title:* Structural and Theoretical Studies of the Complexation Properties  
of some Fundamental Host Compounds (under guidance of Prof. J. L. Atwood)  
1983 B.Sc. Chemistry Bristol University, UK

### PROFESSIONAL EXPERIENCE:

Instructional Professor, University of Houston 2008 - present  
Director of Undergraduate Affairs and Advising, Chemistry, UH 2003 - present  
Undergraduate Advisor, Chemistry, University of Houston 2002 - 2003  
Visiting Assistant Professor, University of Houston (UH) 1997 - 2008  
Visiting Scientist, Rice University 1997 - present  
Assistant Professor of Chemistry, University of North Texas (UNT) 1990 - 1997  
Visiting Assistant Professor of Chemistry, University of Alabama (UA) 1989 - 1990  
Post-doctoral Research Associate, Massachusetts Institute of Technology 1988  
(Prof. S. J. Lippard)  
Post-doctoral Research Associate, Oxford University 1987  
(Dr. D. M. P. Mingos; other work with Prof. M. L. H. Green, Dr. S. R. Cooper)  
Teaching Assistant, University of Alabama 1984 - 1986

### TEACHING ACTIVITIES

Taught General Chemistry at UA, UNT and UH for 20 years  
Developed experiments and coordinated General Chemistry Laboratories at UNT and UH for 12  
years  
Coordinated Organic Chemistry Laboratories at the UH for 7 years (summer classes)  
Taught Senior Undergraduate and Graduate Inorganic courses at the UNT (4 years)  
Taught sophomore level Organic Courses at UH (3 years)  
Taught graduate seminars on crystallography at Oxford University, UA, UNT and Rice  
Taught Managerial Chemistry (intensive course for senior-level executives) at Rice (3 years)

### **CURRENT UNIVERSITY SERVICE**

Orientation Task Force (responsible for coordinating all aspects of Orientation)  
University Admissions Appeal Committee  
University Undergraduate Council (all aspects of undergraduate education, Vice-Chair))  
    University Undergraduate Council Academic Policy Subcommittee (Chair)  
    University Undergraduate Council ad hoc By-Laws Subcommittee (Chair)  
University Undergraduate Discovery Advisory Board (SACS required QEP)  
    University Undergraduate Discovery Assessment Taskforce (Chair)  
University Student Fee Advisory Committee (dispenses Student Activity Fees)  
University Committee for Tier One Publicity (coordinating efforts for state-wide referendum)  
Taskforce for Student Success (responsible for developing Freshman Experience program)  
Taskforce for Social Media (coordinating all aspects of university social media)  
*Houston Teachers Institute* Faculty Advisory Board  
Co-director, *TeachHouston*  
University Classroom Taskforce Committee  
Natural Science and Math College Curriculum Committee  
Department of Chemistry Curriculum Committee  
Department of Chemistry Undergraduate Committee (Chair)  
Faculty Advisor, Student Alumni Connection, University of Houston  
Faculty Advisor, American Chemical Society, Student Affiliate at UH  
Faculty Advisor, National Society of Collegiate Scholars

### **AWARDS AND HONORS (UH only)**

UH Delta Upsilon and Campus Activities, "Outstanding Faculty, **2000**  
UH George Magner Award for Excellence in Undergraduate Advising, **2003**  
Conference USA Award of Excellence, **2003**  
Houston Alumni Organization Outstanding Faculty, **2003**  
UH Student Government Association Faculty of the Year, **2004, 2008**  
UH Center for Students with DisAbilities, Outstanding Faculty, **2004**  
Named as having "Best Classes on UH Campus," Texas Monthly Magazine, **2004**  
UH Teaching Excellence Award for Non-Tenure Track Faculty, **2005**  
UH Campus Activities, Advisor of the Year Award, **2005**  
Cougar Cookers (Alumni Group), Honorary Chef, **2006**  
Bill Yeoman, Special Contributions Award (football program), **2007**  
Provost Award for Academic Advising, **2008**  
UH Greek Life, Faculty of the Year, **2009**

### PROFESSIONAL ACTIVITIES:

- 1992 - 1997 Treasurer of *The Aluminum Research Board*  
1995 - 1997 President, University of North Texas Chapter, *Sigma Xi, The Scientific Research Society*  
2002 - 2004 Chair-elect and Chair, Greater Houston Local Section, *American Chemical Society*  
2005 - National Councilor, *American Chemical Society*  
2007 - Associate Member, *American Chemical Society Committee on Education*

381 **publications** in refereed journals; 200+ **presentations** at international, national and regional meetings; 6 **books**; 2 **book chapters**. Full list available on request.

Approximately \$250,000 obtained in **Research Funding** over years from Robert A. Welch Foundation, Camille and Henry Dreyfus Foundation, Rice University, Halliburton.

Editorial Board, *Journal of Chemical Crystallography* 1994 – present

Editorial Board, *InChemistry* 2008 – present

Guest Editor, *Special Issue of Structural Chemistry* on Supramolecular Chemistry

Member, Local Organizing Committee for the "3rd International Calixarene Conference", Ft. Worth, TX (1995).

Chairman, Microsymposium on Organometallics and Coordination Compounds, *International Union of Crystallography*, XVIIth International Congress and General Assembly, Seattle, WA (1996).

Session Chair, Activation of Small Molecules, 31st International Conference on Coordination Chemistry, Vancouver, BC (1996)

Session Chair, Inorganic Gordon Conference, Summer, 1997.

Member, Organizing Committee for the "Southwest Regional meeting of the American Chemical Society", Houston, TX (2006). Responsible for Undergraduate Program.

Panelist, Two Joint High School College Symposia organized by the Dallas/Fort Worth Section of the American Chemical Society

Served on testing boards for AP Chemistry (2007, 2008) and ACS General Chemistry (2007 and 2009) Tests

Peer Review Board for *American Chemical Society* Student Affiliate Chapters

Freshman and Inorganic text reviewer for John Wiley and Sons, McGraw-Hill, Thompson, West, Saunders, Prentice-Hall, Houghton-Mifflin, Cengage, W. H. Freeman and Benjamin-Cummings Publishers.

Software question developer for Cengage, McGraw-Hill and W. H. Freeman Publishing Companies

Proposal referee for *American Chemical Society/Petroleum Research Foundation, Research Corporation, National Science Foundation*

Manuscript referee for: *Acta Crystallographica, Adv. Materials for Optics and Electronics, Inorganic Chem., Inorganica Chimica Acta, J. American Chemical Society, J. Chemical Crystallography, J. Chemical Society, Chemical Communications, J. Chemical Society, Dalton Transactions, J. Chemical Society, Perkin Transactions (I and II), J. Coordination Chemistry, J. Inclusion Phenomena and Molecular Recognition, J. Organometallic Chem., New J. of Chem., Organometallics, Supramolecular Chem., Synth. React. Inorg. Metal-Org. Chem., Tetrahedron Letters*

### CONSULTING HISTORY

Air Products

Baker-Hughes

Chemicals Incorporated

Conley, Rose and Tayon LLP

Halliburton

Hitchcock and Associates

OneChem

Sanchez, Betances and Sifre LLP

Sheinfeld, Maley and Kay LLP

Alcoa

CES Enviromental

Clausen-Miller PC

CSI: New York

Hill Rivkins & Hayden LLP

Los Alamos Nat. Lab

Rimkus Consulting

Separation Specialists

Spectrum Chemicals

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*Study and make recommendations regarding the current accountability system and ways to measure student advising. Examine the quality of academic advising services to ensure that students are taking courses relevant to their degree program and are on path for graduation.*

I have been a Faculty advisor of Chemistry since 2002; thus, I could pontificate for days on the subject - academic advising at large public institutions is usually a broad and poorly-defined process, in terms of both personnel and responsibilities.

However, there are three particular issues that are pertinent to the charge for this testimony. Based on the invitation I received, I have not necessarily specified accountability issues. Rather, I have focused on plans and programs that improve advising, but in ways that allow more objective accountability and quality control.

**a) Automated Degree Plan and Progress Audits:**

These have been in place for a while to differing extents at various institutions. When they are done correctly, the advisor-time spent generating such documents in the past can be applied to actual interaction with students. In addition, suitably developed routines can enable students and advisors to check quickly whether particular courses can be applied to their degree plans.

Support of the development and maintenance of these systems would be extremely beneficial.

**b) Transfer Course Issues:**

These will continue to be thorny issues for a number of reasons. The “plus” side of students being able to seamlessly transfer classes from one public institution to

another is obvious. However, there are negatives associated with the advising process.

There are often issues with the actual transferability of classes. Many of these issues arise for upper-level classes. However, there are also significant problems with lower-division transfers. There is one looming in chemistry, for example, to do with virtual versus real laboratory courses.

The best way to address these is communication. In particular, a relatively recent program that places UH advisors in our primary two-year feeder institutions has removed many of the complications that our students used to experience.

Support of such cross-institutional advising programs should be encouraged.

### **c) Non-Academic Issues**

An academic advisor is often the person that is the closest connection to the university for a student – especially in the early years. As such, the advisor is often required to provide help with non-advising issues. These can be academic (such as study habits, problems with professors) or non-academic (homesickness, depression, legal issues, etc.). In many cases, an advisor is not familiar with the appropriate divisions of the university that would be good resources.

In order to attempt to alleviate some of the pressure on the advising system, we have developed a student success program that seeks to develop personal relationships with students within the university framework. These relationships can develop in several ways and are not designed to replace academic advising but to help and augment the system.

The initial focus of the program (CSI-Houston for Cougar Success Initiatives) has been on FTIC (First Time in College) students. This choice was made for three reasons:

- a) They are a more homogeneous body as most are fresh from high school (thus, fewer variables);
- b) There is a greater transition from high school to university compared to that from another institution of higher learning (more “bang for the buck”);

c) Many of the introductory courses taken by FTIC students are, of necessity, taught in large sections. This makes it difficult for the students to develop relationships with their professors.

### **Phase 1. “Buddies”**

For the last three years, freshmen applicants to UH have been selected at random to have a “Buddy” – a current UH student who is involved and invested on campus. The buddy communicates with the applicant in whatever fashion the applicant chooses – e-mail, Facebook, phone, text, etc. This addresses one large issue that has become problematic in recent years – that there are now so many ways for students to communicate that those used by large administrative bodies such as universities (e-mail, snail mail) do not reach many of their targets.

The buddy/applicant communication is predominantly for the applicant to ask questions about the university and their application. Questions that the “buddy” cannot answer are immediately forwarded to a central point (currently the writer of this report). If further help is needed, the central point is part of a network of faculty and high-level administrators who each have direct phone and e-mail access with the other members of the network. Thus, we can cut through to the heart of the issue and quickly answer questions or resolve problems.

The data for the Buddy program are as follows:

**2008** 300 applicants invited to have a buddy  
72 accepted  
67 came to UH as FTIC in Fall 2008  
63 still enrolled in Fall of 2009 (94.0% retention vs 79% norm)  
58 enrolled for Fall of 2010 (86.6% retention as of July 13 vs 64% norm)

**2009** 1000 applicants invited to have a buddy  
326 accepted  
306 came to UH as FTIC in Fall 2009  
291 still enrolled in Spring of 2010 (95.0% retention vs 91% norm)  
273 enrolled for Fall of 2010 (89.2 % retention as of July 13 vs 79% norm)

## **Phase 2. PALS (Personal Access Liaison)**

In August 2009 (after significant advance discussions), a request was sent to all Faculty and Staff to volunteer to be PALS. In this initial year, PALS were asked simply to e-mail between 4 and 6 assigned FTIC students at strategic times over the semester with advice and offers of help.

The times were

- a) the week before the start of the semester,
- b) 4 days into the semester,
- c) 5 weeks into the semester (the time when a lot of exams, etc., become due),
- d) a week before the start of registration for the next semester,
- e) the final week of classes.

The advice offered in the e-mails ranged from providing times and dates for workshops on study skills, personal issues, etc., to the contact information for the student's academic advisor.

In order to answer student questions, PALS were provided with an FAQ blog as well as access into the network described above for Buddy information.

3152 FTIC students were divided between 492 volunteer PALS at the start of the Fall semester.

2937 of the students were enrolled for the Spring semester (93.1% retention).

I have not been able to analyze the complete list of students, but of 100 picked at random, 86 are signed up for classes in the Fall semester.

Of particular note for this testimony, an expansion of the program in the Fall will involve developing "SuperPALS." We will identify at-risk FTIC students during the first weeks of the semester. Each of these students will be assigned a SuperPAL who will actively attempt to meet the student and intervene. This intervention might include registering them in study skill classes, checking on their class attendance, meeting with their faculty, etc.

We will attempt to identify at-risk students as follows:



- a) Monitoring early attendance in CORE 1101 (for students who have not yet selected a major) and ENGL 1303 (first English) classes;
- b) Checking early grades in large sections of Biology, Math, Chemistry, Political Science, History, and Psychology classes.

### **Phase 3. Transfer Students**

These two programs will be expanded to include transfer students in Fall 2011.

Resources to expand these programs so that they can be applied on other campuses would be well-received!