

# JAMES BRYAN WAKEFIELD

ChemPractice  
19550 SW Brookside Way  
Bend, Oregon 97702  
USA

Tel: (541) 550-6892  
E-mail: james@chempractice.com  
Websites: www.chempractice.com  
www.yourowncourse.com

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Profile: 15 years of professional experience teaching and developing interactive materials, including student-centered activities and integrated, continuous assessment; emphasis on process skills, group work and critical thinking; web-based skills development.

Teaching Experience: SUFFOLK UNIVERSITY BOSTON, MA  
FRAMINGHAM STATE COLLEGE FRAMINGHAM, MA  
Visiting lecturer at Suffolk University during the 1994/5 academic year and at Framingham State College during fall 1994 semester. Duties included teaching introductory organic chemistry laboratory and writing student manual for new 60 MHz NMR spectrometer.

WASHINGTON COLLEGE CHESTERTOWN, MD  
Lecturer during 1996/7 academic year; visiting assistant professor during spring 1999 semester and the 1995/6 academic year. Courses include general chemistry, inorganic chemistry, and bioinorganic chemistry, all with lecture and laboratory. Also assisted upper division students prepare presentations for weekly seminar series.

Research on the mechanism of the  $\beta$ -hydrogen elimination in metallacyclobutane complexes; one thesis student participated. Additional responsibilities: maintaining new 300 MHz NMR spectrometer and training students to use it.

FRANKLIN & MARSHALL COLLEGE LANCASTER, PA  
Visiting assistant professor during the 2001/2002, 1999/2000 and 1997/1998 academic years teaching general chemistry lecture and laboratory; adjunct assistant professor during the fall 1996 semester teaching one section of general chemistry.

Conducted research on the mechanism of the  $\beta$ -hydrogen elimination in metallacyclobutane complexes; two thesis students participated. Presented research results at 216th National ACS Meeting in Boston, August 1998 (INOR 097).

CENTRAL OREGON COMMUNITY COLLEGE BEND, OR  
Part-time instructor winter 2007 through spring 2008, teaching introductory chemistry for non-majors (GS 105) with lecture and multiple lab sections. Developed and implemented complete set of student-centered, instructor-facilitated group activities in fall 2007 to replace 10-week lecture.

Professional Experience: POGIL PROJECT LANCASTER, PA  
Project Associate for first phase of POGIL Project (<http://www.pogil.org>) from January 2003 to June 2007. Responsibilities included managing the activities of POGIL personnel, coordinating and helping run several dozen project workshops, and developing/maintaining the project website and database. Currently an editor-at-large for activities being created through the newly funded High School POGIL Initiative.

Education  
Projects:

CHEMPRACTICE

[www.chempractice.com](http://www.chempractice.com)

Founder/operator of web-based project offering skills development for chemistry students and teaching tools for their instructors. The website, **chempractice.com**, debuted in September 2000 with interactive drills, written in Java, in several categories of general chemistry. Tutoring services added in 2006.

YOUR OWN COURSE

[www.yourowncourse.com](http://www.yourowncourse.com)

Founder/operator of web-based project offering suite of assessment and activity-writing tools for instructors and students as well as their tutors and parents. The website, **yourowncourse.com**, debuted in September 2009 and is currently under development.

NORTHWEST REGIONAL POGIL NETWORK

[www.pogilnw.org](http://www.pogilnw.org)

Currently member of second phase of national project, including serving as a regional co-coordinator to establish a northwest network of POGIL practitioners. Developed and maintain network website and database. Organizer and co-facilitator of seven 1- and 3-day workshops in OR, WA and CA since June 2008. Organizer of annual regional meeting in summer 2010.

Education:

UNIVERSITY OF CALIFORNIA

IRVINE, CA

B.S. in chemistry, 6/86. B.S. in biology, 6/85. Undergraduate research with Prof. William J. Evans in organoyttrium and organolanthanide chemistry.

INDIANA UNIVERSITY

BLOOMINGTON, IN

Ph.D. in inorganic chemistry (minor in organic chemistry), 5/92. Thesis research with Prof. Jeffrey M. Stryker involves metallacyclobutane complexes derived from nucleophilic addition to  $\eta^3$ -allyl complexes of iridium bearing reactive "ancillary" ligands. Objectives in this line of research include organometallic synthetic methodology and mechanistic insights into regioselectivity in nucleophilic additions to cationic  $\pi$ -complexes of transition metals.

Postdoctoral  
Experience:

UNIVERSITY OF KENTUCKY

LEXINGTON, KY

Postdoctoral scholar working with Prof. John P. Selegue, 1/92-6/93. Responsibilities included research as well as supervision and training of undergraduate and graduate researchers. Two main research projects concern the chemical and physical properties of carbon-rich complexes and their utility as materials: 1) organometallic complexes possessing highly unsaturated, carbon-rich ligands and 2) preparation, purification, spectroscopic characterization and reactivity of anionic fullerenes.

Programming:

Server-side scripting (PHP and MySQL), client-side scripting (JavaScript), applet development (Java), application development (Objective C), and web coding (HTML/CSS).

Community:

PTA President of CACC Montessori (Hockessin, DE), 2002-2004.

PTO President of W.E. Miller Elementary School (Bend, OR), 2009-present.

Designed and performed science shows for Summer Days Math and Science Camp for Girls, 1999-2003.

Presentations: Process-Oriented Guided-Inquiry Learning (POGIL). Inorganic Alumni Symposium, Indiana University. Oct. 8, 2004.

Publications: Ethylene-Assisted Allylic Carbon-Hydrogen Bond Activation of Substituted Alkenes with Use of Dicationic Iridium Complexes. Synthesis, Structure and Configurational Isomerism of Cationic Iridium  $\eta^3$ -Allyl Ethylene Complexes. J. B. Wakefield and J. M. Stryker, *Organometallics* **1990**, 9, 2428.

Metallacyclobutanes from Nucleophilic Addition to  $\eta^3$ -Allyl Ethylene Complexes of Iridium. Regioselectivity Dependence on Nucleophile and Allyl Orientation. J. B. Wakefield and J. M. Stryker, *J. Am. Chem. Soc.* **1991**, 113, 7507.

Muon Investigations of Fullereryl Radicals. B. Addison-Jones, P. W. Percival, J.-C. Brodovitch, F. Ji, S. Wlodek, J. P. Selegue, M. S. Meier, and J. B. Wakefield, *Hyperfine Interactions*, **1994**, 86, 817.

#### Workshops

##### Facilitated:

3-day POGIL Workshop at Linfield College, (McMinnville, OR) June 20-22, 2008.

1-day POGIL Workshop at Sonoma State University (Rohnert Park, CA), Sept. 13, 2008.

1-day POGIL Workshop at Miracosta College (Oceanside, CA), Nov. 1, 2008.

3-day POGIL SuperLabWorkshop at Linfield College (McMinnville, OR), Jan. 9-11, 2009.

3-day POGIL Northwest Regional Lab Workshop at Linfield College (McMinnville, OR), June 29-July 1, 2009.

1-day POGIL Workshop at Santa Ana College (Santa Ana, CA), May 8, 2010.

3-day POGIL Northwest Regional Meeting at Seattle University (Seattle, WA), July 20-22, 2010.

#### References:

Prof. Richard S. Moog  
Dept. of Chemistry  
Franklin & Marshall College  
P.O. Box 3003  
Lancaster, PA 17604  
E-mail: rick.moog@fandm.edu

Prof. Frank J. Creegan, Emeritus  
Dept. of Chemistry  
Washington College  
300 Washington Av.  
Chestertown, MD 21620  
E-mail: fcreegan2@washcoll.edu

Prof. Susan E. Shadle  
Director, Center for Teaching and Learning  
Boise State University  
1910 University Dr.  
Boise, ID 83725  
E-mail: sshadle@boisestate.edu

Prof. Carol Higginbotham  
Dept. of Science  
Central Oregon Community College  
2600 N.W. College Way  
Bend, Oregon 97701  
E-mail: chigginbotham@cocc.edu