

Dr. John Birks

Positions Held:

Vice President for Research and Development, InDevR, Inc., Boulder, CO, 2003-Present

President of 2B Technologies, Inc., Golden, CO, 2002-Present

Vice President for Research and Development, 2B Technologies, Inc., Golden, CO, 2002-2005

Professor Emeritus, September 2002-; Professor, 1984-2002; Chair, 1995-8; Associate Professor, 1977-84; Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO

Fellow Emeritus, September 2002-; Fellow, 1977-2002, Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, CO

Assistant Professor, 1974-77, Dept. of Chemistry, University of Illinois, Urbana-Champaign, IL

Education:

Ph.D., University of California, Berkeley, 1974

M.S., University of California, Berkeley, 1970

B.S., University of Arkansas, High Honors, 1968

Awards:

Alfred P. Sloan Fellowship, 1979-81

Leo Szilard Award for Physics in the Public Interest, American Physical Society, 1985

John Simon Guggenheim Fellowship, 1986

Witherspoon Peace and Justice Award, 1986

Thomas Jefferson Award, University of Colorado, 1989

Colorado Section Award, American Chemical Society, 1990

Teaching Fellow and Council on Teaching Lecture, University of Colorado, 1990

Douglas G. Hill Memorial Lecture, Duke University, 1998

Hazel Barnes Prize (CU's highest faculty award), University of Colorado, Boulder, 2000

ACS Award for Creative Advances in Environmental Science and Technology, 2003

Selected Professional Activities:

Ph.D. Graduates: 39; M.S. Graduates: 9

Publications: 131; Books Edited: 3; Patents: 6; Patents Pending: 1; Research Presentations: 290

Chair, Future Actions Committee, CHEMRAWN (CHEMical Research, Applied to World Needs) VII, "The Chemistry of the Atmosphere: Its Impact on Global Change," sponsored by IUPAC and ACS, Baltimore, Maryland, December 2-6, 1991; (Recommendations served as input to the UNCED environmental summit in Rio de Janeiro, Brazil.)

External Review Committee, Physical Sciences Graduate Program, U.C., Irvine, 1992

External Review Committee, Atmospheric Chemistry Division, NCAR, 1993

Symposium on Environmental Chemistry, American Chemical Society National Meeting, Denver, Colorado, co-organizer and chair of Session on Atmospheric Chemistry, 1993

Symposium on Atmospheric Chemistry, Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlanta, Georgia, organizer and chair, 1993

Symposium on Environmental Analytical Chemistry, Federation of Analytical Chemistry and Chemical Spectroscopy Societies (FACSS) Meeting, Providence, Rhode Island, organizer and chair, 1997

Co-Founder, 2B Technologies, Inc., Golden, Colorado, 1998

Co-Founder, InDevR, Inc., Boulder, Colorado, 2002

**Selected Publications Related to Development of Analytical Instrumentation:
(From 130 Total)**

"Peroxyoxalate Chemiluminescence Detection of Polycyclic Aromatic Hydrocarbons in Liquid Chromatography," K. W. Sigvardson and J. W. Birks, *Analytical Chemistry* 55, 432-435 (1983).

"Fluorine-Induced Chemiluminescence Detector for Reduced Sulfur Compounds," J. K. Nelson, R. H. Getty and J. W. Birks, *Analytical Chemistry* 55, 1767-1770 (1983).

"Photochemical Amplifier for Liquid Chromatography Based on Singlet Oxygen Sensitization," C. L. Shellum and J. W. Birks, *Analytical Chemistry* 59, 1834-1841 (1987).

"Photoreduction Fluorescence Detection of Quinones in High-Performance Liquid Chromatography," J. R. Poulsen and J. W. Birks, *Analytical Chemistry* 61, 2267-2276 (1989).

"Whole Column Detection: Application to High Performance Liquid Chromatography," K. L. Rowlen, K. A. Duell, J. P. Avery, and J. W. Birks, *Analytical Chemistry* 61, 2624-2630

(1989).

"Photoinitiation of Peroxyoxalate Chemiluminescence: Application to Flow Injection Analysis of Chemilumophores," R. E. Milofsky and J. W. Birks, *Analytical Chemistry* 62, 1050-1055 (1990).

"Fluorine-Induced Chemiluminescence Detection of Biologically Methylated Tellurium, Selenium and Sulfur Compounds," T. G. Chasteen, G. M. Silver, J. W. Birks and R. Fall, *Chromatographia* 30, 181-185 (1990).

"Development and Characterization of a Titanium Dioxide-Based Semiconductor Photoelectrochemical Detector," G. N. Brown, C. A. Koval and J. W. Birks, *Analytical Chemistry* 64, 427-434 (1992).

"Miniaturized Ultraviolet Ozonesonde for Atmospheric Measurements," J. A. Bognar and J. W. Birks, *Analytical Chemistry* 68, 3059-3062 (1996).

"Flow Tube Kinetics Investigation of the Mechanism of Detection in the Sulfur Chemiluminescence Detector," P. A. Burrow and J. W. Birks, *Analytical Chemistry*, 69, 1299-1306 (1997).

"Dimethyl Sulfide Measurement by Fluorine-Induced Chemiluminescence," A. J. Hills, D. H. Lenschow and J. W. Birks, *Analytical Chemistry*, 70, 1735-1742 (1998).

"Detection of Argon by Penning Ionization and Competitive Absorption Using a Sensitized Photoionization Detector," R. L. Skaggs, M. Lores Aguin, W. M. Lewis and J. W. Birks, *Analytical Chemistry*, 70, 3493-3497 (1998).

"Miniaturized Carbon Monoxide Sonde for Atmospheric Measurements," J. A. Bognar and J. W. Birks, *Analytical Chemistry*, 70, 3874-3879 (1998).

"High Precision Conductometric Detector for the Measurement of Atmospheric Carbon Dioxide," L. R. Kuck, R. D. Godec, P. P. Kosenka and J. W. Birks, *Analytical Chemistry*, 70, 4678-4682 (1998).

"Luminol/H₂O₂ Chemiluminescence Detector for the Analysis of Nitric Oxide in Exhaled Breath," J. K. Robinson, M. J. Bollinger and J.W. Birks, *Analytical Chemistry* 71, 5131-5136 (1999).

"Use of CFCs as Internal Standards for the Measurement of Non-Methane Volatile Organic Compounds Sampled onto Solid Adsorbent Cartridges," C. M. Karbiwnyk, C. S. Mills, D. Helmig and J. W. Birks, *Environmental Science and Technology*, 37, 1002-1007 (2003).