

Biography of Otto S. Wolfbeis

Born	July 1947, Graz, Austria
Status	Professor emeritus (retired); formerly Professor of Analytical and Interface Chemistry at the University of Regensburg (UoR), Germany
Website	https://www.uni-regensburg.de/chemistry-pharmacy/analytical-chemistry/former-members/retired-professors/index.html
Wikipedia	https://en.wikipedia.org/wiki/Otto_S._Wolfbeis https://de.wikipedia.org/wiki/Otto_S._Wolfbeis
ResearchGate	https://www.researchgate.net/profile/Otto_Wolfbeis
ScholarGoogle	https://scholar.google.com/citations?user=pJlFf1IAAAAJ&hl=en
LinkedIn	https://de.linkedin.com/in/otto-wolfbeis-427357a8
Chemistry tree	https://academictree.org/chemistry/tree.php?pid=84646
ORCID	orcid.org/0000-0002-6124-2842



Education and Professional Experience

09/1965 – 12/1972	Chemistry studies at the University of Graz; PhD (Dec. 1972, with distinction)
1973 – 1975	Post-doctoral fellow at the Max-Planck Institute for Radiation Chemistry (now the MPI for Solar Radiation and Energy Conversion) in Mülheim (Germany) in the group of Prof. E. Koerner von Gustorf. Work on laser evaporation of metals and on vapor-phase syntheses of metal-ligand complexes.
1976/05 – 1977/05	Post-doctoral fellow at the Technical University of Berlin (group of Prof. E. Lippert). Working on pH effects and excited state (adiabatic) proton transfer in natural products, indicators and laser dyes.
1977 – 1995	Assistant and Associate Professor at Karl-Franzens University, Graz, Austria
1978	Habilitation (“Dozent”) with a thesis on syntheses and spectral properties of new fluorescent dyes, probes, and laser dyes.
1991 – 1994	Founding Director of the <i>Institute of Optical Sensors</i> at <i>Joanneum Research</i> , now part of the materials research section (https://www.joanneum.at/materials)
1994 (03 – 04)	Visiting professor at Tufts University (Medford/Boston; Mass.) (https://en.wikipedia.org/wiki/Tufts_University)
1995 – 2012	Full Professor of Analytical and Interface Chemistry at the University of Regensburg (UoR) https://en.wikipedia.org/wiki/University_of_Regensburg
1995 (03 – 05)	<i>I.-Kolthoff</i> Professor of Analytical Chemistry at the Hebrew University (Jerusalem)
1998 – 2012	Head of the <i>Central Radionuclide Laboratory & Laboratory of Environment Radioactivity</i> of the UoR
1998 (03 – 04)	Visiting professor at Wuhan University (China) (https://en.wikipedia.org/wiki/Wuhan_University)
2004 – 2008	Regensburg Representative of the <i>Bavarian Elite Academy</i> (https://de.wikipedia.org/wiki/Bayerische_Elite-Akademie)

Administration

1995 – 2013	Director of the Institute of Analytical Chemistry, Chemo- and Biosensors at the UoR.
2000 – 2002	Member of the Senate of the UoR
1999 – 2000 and 2007 – 2009	Dean of the Faculty of Chemistry & Pharmacy of the UoR
2002 – 2004	Vice President of the UoR

Teaching & Supervision

<i>Teaching</i>	General (Bio)Analytical Chemistry; Methods of Chemical Sensing and Biosensing; Interface Chemistry; Fiber Optic Sensing; Sensor Nanomaterials; Method for Immobilization; Clinical Sensing.
<i>Supervision</i>	<ul style="list-style-type: none">– >60 PhD dissertations– 7 Humboldt fellows– 7 habilitations– numerous diploma and master works.

Research Activities

<i>By method</i>	Optical and electrochemical chemical sensors and biosensors; interface chemistry; bioanalytical fluorescence; gas sensors; bioassays; fluorescence imaging; fluorescent probes and labels (such as the chameleon labels); dual-lifetime referencing; lifetime-based and laser-induced fluorescence; fluorescence upconversion; nanomaterials; fiber optic sensors; nanosensors; intracellular sensing; photonic crystal-based sensing; molecular-imprint-based sensing; optical sensing and imaging of oxygen, pH values, temperature; air-pressure-sensitive paints and temperature-sensitive paints; electrochemical sensing of gases; capacitive immunosensing.
<i>By application</i>	<ul style="list-style-type: none">(a) Fiber optic chemical sensors and biosensors for blood gas analysis, in biotechnology and marine sciences; enzymatic sensing of glucose and lactate; imaging of oxygen in marine mats and in tumorous skin; pH sensing of (infected) wounds; electrochemical gas sensors; capacitive biosensors for immunoassays(b) Fluorescent protein and DNA labels(c) Imaging of oxygen, CO₂ and pH values in cells and tissue(d) Air pressure-sensitive paints and temperature-sensitive paints for use in the car industry and aircraft industry

Publishing, Reviewing, Statistics

<i>Papers</i>	>600 (96% in peer-reviewed journals). See: https://doi.org/10.13140/RG.2.2.28549.78562 (contains references, graphical abstracts and DOIs of papers).
<i>Books edited</i>	<ul style="list-style-type: none">(a) <i>Fiber Optic Chemical Sensors and Biosensors</i>, CRC Press, Boca Raton, 1991, 2 volumes. ISBN 0-8493-5508-7 and 0-8493-5509-5.(b) <i>Fluorescence Spectroscopy: New Methods and Applications</i>, Springer, 1993. ISBN 3-540-55281-2.(c) <i>Near-Infrared Dyes for High Technology Applications</i>, 1998. ISBN 0792351010. Co-edited with S. Daehne & U. Resch-Genger.

	(d) <i>Optical Sensors: Industrial, Environmental and Diagnostic Applications</i> . (co-edited with R. Narayanaswamy. ISBN 3-540-40888-X.
	(d) <i>Optical and Electronic Phenomena in Sol-Gel Glasses, and Modern Applications</i> . Co-edited with R. Reisfeld. ISBN: 978-3-540-60982-7.
Founding Editor of ..	(a) the <i>Springer Ser. on Fluorescence</i> . Editor from 1999 to 2013; 14 volumes in total). ISSN: 1617-1306. Web: www.springer.com/series/4243 (b) the <i>Springer Series on Chemical Sensors and Biosensors</i> . Editor from 2000 – 2006; 7 volumes in total). ISSN: 1612-7617. Web: https://www.springer.com/series/5346 (c) <i>Bioanalytical Reviews</i> (ISSN: 1867-2086)
Editor-in-Chief of	– <i>Microchimica Acta</i> . Journal impact factor: 6.2 (as per July 2020). Web: http://www.springer.com/chemistry/journal/604 and https://en.wikipedia.org/wiki/Microchimica_Acta – <i>Methods & Applications in Fluorescence</i> (Publ. by the <i>Institute of Physics</i> ; London); co-founded in 2012 by David Birch (Strathclyde); Yves Mely (Strasbourg) and Otto Wolfbeis. Impact factor (2021): 3.1. Web: http://iopscience.iop.org/2050-6120
Journal Boards	1991 – 2004: <i>Sensors & Actuators</i> 1994 – 2000: <i>Biosensors & Bioelectronics</i> 2005 – 2011: <i>Angewandte Chemie</i> (Curator) – and others.
Citations so far	>47,000 (Oct. 2021; source: https://scholar.google.com/citations?user=pJIFf1IAAAAJ&hl=en)
Hirsch Index	113 (as per 10-Oct-2021)
Reviewing	For numerous journals of publishers such as the <i>Am. Chem. Soc.</i> ; <i>Royal Soc. Chem.</i> ; <i>Wiley – VCH</i> ; <i>Elsevier</i> ; <i>Springer</i> ; <i>Nature</i> .
Publons	https://publons.com/researcher/1702959/otto-s-wolfbeis/

Conferences and Schools Founded

MAF (Methods and Applications of Fluorescence)	A conference series established in 1989. Chairman of the Steering Committee from 1989 to 2011. Recent sites: San Diego (Calif.; http://maf2019.ucsd.edu/), Gothenburg (Sweden; https://maf2021.com/)
Europtrode (on Optical Chemical Sensors and Biosensors)	A conference series established in 1992. Often referred to as <i>Europtrode</i> (www.europtrode.org/). Chairman of the Scientific Committee from 1991 to 2008. Recent conference sites: Naples (Italy; http://europtrode2018.eu/), Warsaw (Poland, 2021; http://europtrode2020.eu/). ; 16 conferences so far.
ASCOS (Advanced Study Course on Optical Sensors)	A Summer School founded (in an earlier version) with Robert Kellner back in 1991. See: www.ascos.org . Intended to train graduate students, with classes of around 50 international students. Involves much team work. Wolfbeis was heading the Organizing Committee from 1997 to 2010.

Chairing Conferences

1989	Conference on <i>Methods & Applications of Fluorescence</i> (Graz; Austria)
1990	SPIE Conference on <i>Fiber Optical Chemical Sensors and Biosensors</i> (Boston; Mass.)
1992	First conference on <i>Optical Chemical Sensors & Biosensors</i> (Graz)
1995	<i>German Biosensor Conference</i> (Regensburg)
1995	<i>Anakon</i> (the Conference of the German, Swiss and Austrian Analytical Chemistry Societies); Regensburg
1997	Conference on <i>Methods & Applications of Fluorescence</i> (Salzburg)

Technology Transfer

<i>Presens GmbH</i>	Wolfbeis was shareholder (until 2013) of <i>Presens GmbH</i> (www.presens.de) that was founded in 1998. Presens designs and manufactures (fiber) optical sensors and imagers for oxygen, pH values and CO ₂ , all based on fluorescence. More than 20 coworkers of Presens GmbH are graduates of Prof. Wolfbeis.
<i>Chromeon GmbH</i>	Wolfbeis was founder (in 2001) of <i>Chromeon GmbH</i> (www.chromeon.com). Manufactures fluorescent labels (such as Py-1 and Chromeon 634), labeled secondary antibodies, and materials for epi-genetics research. In 2012, Chromeon became part of <i>Active Motif</i> , Carlsbad; California. See: www.activemotif.com/ .
<i>Commercialized Sensors</i>	A list of products resulting from the Wolfbeis research (such as instrumental analyzers, labels, etc.) that have been commercialized by various companies can be found on the Wolfbeis website: https://www.uni-regensburg.de/chemistry-pharmacy/analytical-chemistry/former-members/retired-professors/index.html
<i>Patents</i>	Named inventor of >40 patents (Eur., US, Japan). A list can be found on the Wolfbeis website as indicated above.

Honors

1982	<i>Sandoz Prize</i>
1987	<i>Feigl Prize</i> (for new methods in microanalysis)
1989	<i>Merck Prize</i>
1996	<i>Friedrich-Emich Prize</i> (for new methods in molecular spectroscopy)
2003	<i>Lectureship Award Japan</i> (Jap. Chem. Soc.)
2010	<i>Krizik Medal</i> (Czech Acad. Sci.)
2012	<i>Lu Jiayi-Lectureship</i> (Xiamen University)
2013	<i>Clemens Winkler Medal</i> (German Chem. Society)

Other Data

1980 – 2021	Consultant to various companies, universities, the <i>Fraunhofer</i> Society, and to scientific publishers.
<i>Wolfbeis Prize</i>	A Prize awarded by the Steering Committee of the MAF conference series (see above) to scientists preferably of less than 45 years of age, with proven excellence in the fields of fluorescence spectroscopy, fluorescent probes, or fluorescence imaging.
2011	Initiator of a Fraunhofer Group “Optical sensors” in Regensburg. It is now part of the <i>Fraunhofer Research Institution for Microsystems and Solid State Technologies</i> (EMFT) in Munich. See: https://www.emft.fraunhofer.de/en/competences/innovative-sensor-solutions.html
2021	Coauthor of the novel «Die Rolinski-Tragödie» (<i>The Rolinski Tragedy</i> ; in German). Published by Schlosser-Verlag (Munich). ISBN 978-3-96200-455-2).

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