

# PRESS RELEASE

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## PROFESSOR ULRICH SCHUBERT RECEIVES 2009 WACKER SILICONE AWARD

- WACKER HONORS DISTINGUISHED SCIENTIST IN FIELD OF ORGANOSILICON CHEMISTRY
- €10,000 SILICONE AWARD – A TRIBUTE TO SCHUBERT'S PIONEERING WORK IN BASIC RESEARCH AND MATERIALS SCIENCE
- WACKER CEO RUDOLF STAUDIGL: "PROFESSOR SCHUBERT'S RESEARCH FINDINGS HAVE MAJOR INDUSTRIAL SIGNIFICANCE."

**Munich, July 7, 2009 – This year's €10,000 WACKER Silicone Award was presented today to Professor Ulrich Schubert, who holds the Vienna University of Technology's chair of inorganic chemistry. Held at WACKER's Munich headquarters, the award ceremony was attended by Bavarian Economics Minister Martin Zeil. Dr. Rudolf Staudigl, President and CEO of Wacker Chemie AG, said that Schubert had been chosen because of his trail-blazing work on metal-silicon complexes and his materials science studies such as the sol-gel process. Along with the Kipping Award, the WACKER Silicone Award is the world's most prestigious honor in silicon chemistry.**

In his address, the Bavarian Economics minister highlighted the chemical industry's significance as a key innovation driver for the German economy. "Innovations underpin our economic growth and

prosperity. In this respect, the chemical industry plays a major part, because its development of innovative processes and products represents a unique contribution to the transfer of knowledge and technology between university-led research and industrial application.”

WACKER CEO Dr. Rudolf Staudigl described this year’s award winner as a major researcher in organosilicon chemistry. “Professor Schubert has had a formative and enriching influence on silicon research. His work on metal-silicon and metal-tin complexes and his materials science studies regarding the sol-gel process are trailblazing.” He added that the diversity of fields that Schubert had covered during his academic career was truly impressive. “His research ranges from the fundamentals to materials chemistry. Because much of his work has practical relevance, it remains important not only academically, but also industrially.”

The focus of Professor Schubert’s early research encompassed metal-silicon and metal-tin complexes exhibiting metal-hydrogen-silicon and metal-hydrogen-tin three-center two-electron bonding. Shedding light on these bonds provided a deeper understanding of the mechanisms exhibited by silicon-hydrogen bonding to a transition metal such as platinum. These processes play a key role, for instance, in the production of silicone elastomers and organofunctional silanes both of which are also manufactured by WACKER.

Other topics of his work include silyl complexes of precious and semiprecious metals, and studies on fundamental organometallic reactions such as the oxidative addition and reductive elimination of silicon-element and tin-element bonds to metals. In the mid-1980s, Schubert started shifting his focus to the materials sciences,

especially the sol-gel process. His research highlighted basic mechanisms and industrial applications of his findings. For example, he was the first person to develop organically modified silicone aerogels and he devised a method of producing metal oxides and metal nanoparticles with a narrow particle-size distribution within a silicon dioxide matrix generated by the sol-gel process. This process has considerable potential for catalysis applications, for instance.

Additionally, Schubert investigated the synthesis of titanium and zirconium clusters with polymerizable organic ligands. The appeal of this field was that such clusters could be incorporated into organic polymers for the first time. As a result, the mechanical properties of materials can be enhanced, or materials can be given special optical or electrical properties. WACKER CEO Staudigl: "Professor Schubert has demonstrated impressively how the innovative potential of organosilicon chemistry can be exploited even more effectively."

Born in Regensburg in 1946, Prof. Ulrich Schubert studied chemistry at the Technical University of Munich (TUM). In 1974, he obtained his doctorate in the lab group of Prof. E. O. Fischer, winner of the 1973 Nobel Prize in Chemistry. For his post-doc work, he attended Stanford University in Palo Alto, USA, from 1975 to 1976. His academic career began in 1980 when he became a lecturer at TUM. In 1982, he was appointed C3 Professor of Inorganic Chemistry at the University of Würzburg. From 1989, he also headed the "Inorganic-Organic Polymers" department at the Fraunhofer Institute of Silicate Research (ISC) in Würzburg. Since 1994, he has held the Vienna University of Technology's chair of inorganic chemistry and headed its Institute of Materials Chemistry.

Prof. Ulrich Schubert has received a variety of honors and awards for his research and work as university lecturer. His distinctions include the Haines-Morris lectureship from the University of Tennessee in Knoxville, USA (2000), the membership of the Austrian Academy of Sciences (2005), the fellowship of UK's Royal Society of Chemistry (2005) and the membership of the German Academy of Sciences Leopoldina (2006). Professor Schubert chaired the Austrian Chemical Society (GÖCh) from 2001 to 2004. He has been a member of the senate of the Vienna-based Christian Doppler Research Association since 2004 and of the Executive Committee of the Austrian Science Fund (FWF) since 2005.

**Previous WACKER Silicone Award winners:**

- 2007 Prof. Yitzhak Apeloig (Israel Institute of Technology, Haifa)
- 2005 Prof. Mitsuo Kira (Tohoku University, Japan)
- 2003 Prof. Don Tilley (University of California at Berkeley, USA)
- 2001 Prof. Manfred Weidenbruch (University of Oldenburg, Germany)
- 1998 Prof. Robert Corriu (Université de Montpellier, France)
- 1996 Prof. Hubert Schmidbaur (Technical University of Munich, Germany)
- 1994 Prof. Edwin Hengge (†)
- 1992 Prof. Richard Müller (†) and Prof. Eugene Rochow (†)
- 1991 Prof. Hideki Sakurai (Science University of Tokyo, Japan)
- 1989 Prof. Robert West (University of Wisconsin, USA)
- 1988 Prof. Nils Wiberg (†) (University of Munich, Germany) and Prof. Reinhold Tacke (University of Würzburg, Germany)
- 1987 Prof. Peter Jutzi (University of Bielefeld, Germany) and Prof. Norbert Auner (University of Frankfurt, Germany)

**Silicones**

Silicones are the basis of materials with highly diverse product properties for virtually unlimited applications. Silicones are used in a broad variety of industries ranging from the automotive, construction and chemical sectors, through electrical engineering, electronics, cosmetics and consumer care to textiles, pulp and paper, metal processing and mechanical engineering. One of the world's leading producers of silicones, WACKER offers one-stop solutions for products, services and strategies in the silicones field. The WACKER Group generated annual silicone sales of around €1.4 billion in 2008.



Presentation of the 2009 WACKER Silicone Award in Munich (from left): Dr. Rudolf Staudigl (WACKER President & CEO), award winner Prof. Dr. Ulrich Schubert (Vienna University of Technology) and the Bavarian Economics Minister Martin Zeil. (photo: Wacker Chemie AG)



Professor Dr. Ulrich Schubert (Vienna University of Technology) received WACKER's Silicone Award 2009. (photo: Wacker Chemie AG)

Note:

*Photos of the Silicone Award ceremony are available for download at:*

<http://www.wacker.com/presspictures>

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**The company in brief:**

WACKER is a globally active chemical company with some 15,900 employees and annual sales of around €4.3 billion (2008). WACKER has 27 production sites and over 100 sales offices worldwide.

**WACKER SILICONES**

Silicone fluids, emulsions, rubber and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

**WACKER POLYMERS**

Polyvinyl acetate and vinyl acetate copolymers in the form of dispersible polymer powders, dispersions and solid resins used as binders for construction chemicals, coatings, adhesives, paints, plasters and nonwovens

**WACKER FINE CHEMICALS**

Fine chemicals, biologics and other biotech products such as cyclodextrins and cysteine

**WACKER POLYSILICON**

Polysilicon for the semiconductor and photovoltaics industries; solar wafers

**Siltronic**

Hyperpure silicon wafers and monocrystals for semiconductor devices