

**Mikhail R. Baklanov**

Born in Irkutsk region, Russia

**Address:**

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**Education and Skill:**

July'66 - June'71      Novosibirsk State University, Chemistry Department, Russia

Oct.'71 - Oct.'74      PhD course at the Institute of Semiconductor Physics (ISP),  
Novosibirsk

May 1977              PhD degree

December 1991        D.Sc. degree (Habilitation)

**Experience:****1974– 1995    Institute of Semiconductor Physics of Russian Academy of Sciences (ISP, Novosibirsk, Russia)**

- Research Scientist (1974 - 1980).
- Senior Scientist (1980 -1990).
- Head of Laboratory (1990 – 1995).

**1995 – 2016    Interuniversity Microelectronics Centre (imec, Heverlee, Belgium)**

- Visiting Professor (1995 – 2001)
- R&D Director, XPEQT, Switzerland/Belgium (assignee at imec) (2001 – 2003)
- Principal Scientist (2003 – 2016)

**2016 – present: North China University of Technology, Professor (Beijing, China)**

**2010 - 2013**    Visiting Professor at Buryat State University (Ulan-Ude, Russia) and South Kazakhstan State University (Shymkent, Kazakhstan)

**2013 – present:** Visiting Principal Researcher at Moscow State University (Skobeltsyn Institute of Nuclear Physics, Microelectronics Department).

**2016 – present:** Visiting Principal Researcher at Moscow Technical University (MIREA).

**2016 – present:** Honorary Visiting Professor at Tianjin University (China).

**Public activities and honors:**

1993 – 1995: Principal Investigator of International Science Foundation's Grant "Elementary Stages of Interaction of Elemental Semiconductors with Halogens"

2000: Award for the best lecture at Anniversary Symposium of Mattson Europe

2000-2013: Member of Organizing and Program Committees of several International conferences (PESM (Belgium, France), MAM (Belgium), ICMNE (Russia), Euromat 2009 (Scotland), PGL, 2000-2011 (Poland), Spring MRS 2011, 2013, 2015, 2017 (USA).

1995-2015: more than 70 invited lectures at International Scientific Conferences;

2010-2011: Coordinator of Pilot trial projects in Eu-Ru-NET project (FP-7).

2013: Chairman of Interconnect Symposium at Spring MRS (San Francisco).  
2015: Chairman of Interconnect Symposium at Spring MRS (San Francisco).  
2013-2015: Contributor of low-k/barrier parts of International Technology Roadmap for Semiconductors (ITRS)  
2014: Member of Scientific Board of Eurotex Brussels (Belgium).  
2016: Member of Advisory Board of SBA Materials Inc. - Leader in Development of Nano-Porous/Meso-Porous Materials, ([www.sbamaterials.com](http://www.sbamaterials.com); San Jose, USA).  
2016: Member of Program Committee of International Conference on Solid-State and Integrated Circuit Technology (Hangzhou, China, October, 2016)  
2016: Chairman of the program Committee of International Workshop “Materials for Advanced Interconnects”, Beijing, China, November 2016).  
2017: Chairman of the program Committee Interconnect Symposium at Spring MRS (Phoenix).

### **Membership:**

Materials Research Society (USA), Electrochemical Society (USA), American Vacuum Society (USA).

### **Publications:**

More than 700 publications (including > 350 papers in peer reviewed journals), > 40 granted patents and > 75 invited presentations at International conferences, Editor and contributor of several books.

### **The most known books:**

- M. Baklanov, K. Maex, M. Green (Eds.). Dielectric films for advanced microelectronics. Wiley & Sons, 2007.
- M. Baklanov, P. S. Ho, E. Zschech (Eds.). Advanced interconnects for ULSI technology. Wiley & Sons, 2012.

**The most successful patents:** Three patents related to ellipsometric porosimetry (EP). The EP system is presently under industrial production by Company “Semilab” and it is a standard system for evaluation of nanoporous low-k films developed for nanoelectronics. Four (4) patents related to damage free cryogenic etching that allowed to achieve the lowest integrated k-value in ultralow-k materials.

### **Articles citations:**

7400 citations, h-index is 39, i10=138 (number of papers cited more than 10 times) (<https://scholar.google.be/citations?hl=en&user=UehKmEUAAAAAJ> )

The most cited papers in the field of low-k (the status for January 2017) are

- *Low dielectric constant materials for microelectronics*, Maex K; Baklanov M. R.; et al. JOURNAL OF APPLIED PHYSICS , **93**, 8793-8841, 2003 (**1363 citations**: the most cited paper at IMEC and in the field of Cu/low-k interconnect technology - worldwide);
- *Determination of pore size distribution in thin films by ellipsometric porosimetry*, Baklanov M.R. et al. JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B, **18**, 1385-1391, 2000 (**422 citations**: the most cited paper in the field of Cu/low-k metrology – at IMEC and worldwide);
- *Non-destructive characterization of porous low-k dielectric films*, Baklanov M.R.; Mogilnikov K.P., Microelectronic Engineering, **64**, 335-349, 2002 (**166 citations**).