

CV for Associate Professor Winnie E. Svendsen (1966)



Degrees:

1996: *PhD in experimental Physics*, Copenhagen University & RISØ
1993: *MSc in experimental Physics* University College Dublin (Ireland)
1991: *BSc (Honors) in experimental Physics*, University College Dublin (Ireland)

Positions:

2003 -present: *Assoc. Prof, DTU Nanotech, DTU, DK.*
2000-2003: *Assoc Prof, DTU Photonics, DTU, DK.*
1999-2000 *Assoc Prof, Dept of Atomic and Molecular Physics, Copenhagen University, DK.*
1998-1999 *Assist. Prof, Dept of Atomic and Molecular Physics, Copenhagen University, DK*
1996-1998 *Post Doctoral Max-Planck-Institute for Plasma Physic, Munich, Germany & RISØ, DK*
(Maternity leave Feb-Aug 2001 & May 2004 – Feb 2005 in total 14 month)

Research Area: Micro and Nano integrated system for Bio Medical application. This includes fundamental investigation of the physical properties of biological materials, investigation of the functionality of Nanosensors, and microfluidic handling of biological material. The sensor technology is based on electronically readout, where we use impedance spectroscopy, electrochemical and conductance (field effect transistors). The biosensing is conducted via assays using specific biomarker, enzymatic activities or on detecting physical difference of the biomaterial (i.e membrane structures, size etc). Biological areas of interest have so far been to investigate chromosome translocations, neural metabolism, drug delivery using nanopeptides, protein detection in serum and detection of cancer marker in whole blood.

Journal publications: 70 (*ISI 63, H-index: 13*); More than 130 conference contributions. **Patents:** 4 (6).

Books : "Micro and Nano Techniques for the Handling of Biological samples". Ed.: J. Castillo, M. Dimaki, W.E. Svendsen. Taylor & Francis Publishers (In preparation)

"Self-assembly in Nanobiotechnology: advances and applications". Ed.: J. Castillo, L. Sasso, W. E. Svendsen. Pan Stanford Publishing (In press). Author on several book chapters.

Honors, awards, and funding:

I have received around **32 MDkr** in funding since 2006 from national and from EU 5th, 6th and 7th Framework programs. Current running projects are Svineafgiftsfonden (0,9 MDkr, '10-'11 & 1.2 MDkr '11-'12), EU 7th Framework: *Marie Curie* (co-applicant) EnCRaBA (4,2 MDkr, 2011-2015), DSF samarpejds stpendier (2.7 MDkr).

Distinctions and awards: EOLAS - Applied Research Award for excellent research, Irish Science and Technology agency. 3rd Prize Winner Venture Cup Denmark Finals 2009: Winner of Grand Prize, The Mai Bangkok Business Challenge @ Sasin 2009: Winner of Finals, Venture Cup Copenhagen Finals.

Memberships of scientific committees, review:

Expert on the European Observatory for Nano Bio Technology (EON) Memberships: Executive Board (ExBo) WP leader and Task leader in European programs. Member of the board in the Danish physical society and KIF, member of RDA, APS. On 2 Congress Committee; Chair of 6 Symposium sessions.
Grant-proposal reviewer for The Danish Research Council, the Israel Science Foundation, the Austrian and SWISS science foundation. Reviewer for leading Journals, Nature, APL, J. Sc Instr, J. APS, iNEER, MEE and Elsevier journals; Ext. examiner, Opponent, etc. for 3 doctoral theses and several MSc theses

Teaching experience:

Undergraduate, graduate, and postdoc advisor (14 PhD, 7 postdocs 19 BSc, 37 MSc,).
Lecturer in DTU course Nano2 & Nano1, Introduction to Nanotechnology, Nanotech and Microsystems in pharmaceutical industry and medicine. Invited lectures on PhD courses on nanotech in European universities and well as overseas.

Current PhD projects 2009-2012 Novel material for 3D nanoelectrodes, 2009-2012 Manipulation of peptide nanotubes, 2010-2013 Nanocytogenetic on chip, 2012-2015, design and fabrication of SiNW FET Biosensors, 2012-2015, Integration of SiNW BIO FET.