## Subbu S. Venkatraman, Nanyang Technological University

**Professor**, Materials Science and Engineering, Nanyang Technological University, N4.1-1-30, Nanyang Avenue, Singapore 639798, July 2000-present

Acting Chair, School of Materials Science and Engineering, June 2012 - present

**Director**, Biomedical Engineering Research Centre, NTU, January 2007-present.

**Director,** Ocular Therapeutic Engineering Centre, April 2012 – present

**Deputy Director (Graduate Studies),** Nanyang Institute of Technology in Health and Medicine (NITHM), April 2012 - present



#### **Research Interests:**

Gene and Drug Delivery
Polymers in Biomedical Devices
Biomaterial-Cell Interactions
Translation of Biomedical Research

## **Educational:**

Ph.D., Chemistry: Carnegie-Mellon University, Pittsburgh, USA MSc, Chemistry: Indian Institute of Technology, Chennai, India.

BSc (Honours), Chemistry: Bangalore University, India.

# ${\bf Professional:}$

Positions held:

**Senior Research Fellow & Product Development Manager**, **ALZA Corporation**, CA, USA: 1995-2000. *Biomaterials R&D for drug delivery products*.

**Director, Advanced Polymer Delivery Systems, Cygnus Therapeutic Systems**, CA, USA: 1990-1995. *Biomedical devices and sensor research/ transdermal delivery systems*.

Staff, Senior Staff, Dept. Manager, Materials Characterization, Raychem Corporation, R&D, Menlo Park, CA, 1983-1990.

Gels and elastomer development for microelectronics and telecommunications.

## **Research highlights:**

- 119 publications, 1387 citations, h-index 22
- 12 issued US patents; six more filed.

## **Research grant funding:**

As PI or co-PI: (TOTAL funding ~ 25 MM)

**Completed:** 

**SPRING POC** \$250,000, June 2009

EDB Medtech 1 \$300,000: Nov 2007-Oct 2008

Tier 2 ARC 2007: S\$545,000: Nov 1 2007-Oct 30, 2010

*TOTAL (Completed)* S\$3,647,000

**Current:** 

NRF CREATE Technion \$20,000,000 (Thrust 1 PI), 2009-2014 (\$\$9,363,427)

 NRF-POC
 \$250,000: Nov 2010-Dec 2011

 AStar, Singapore-China
 \$300,000: May 2011- April 2014

 Co-PI, NRF-CRP
 \$10,000,000: Nov 2008- Sept 2013

 PI, SERI TCR
 \$1,750,000: Nov 2008- March 2013

*TOTAL* (*current*): S\$21,663,000

#### **Miscellaneous:**

• Director, Biomedical Engineering Research Centre, Aug 2007-present

- Co-founder, CardioRev Therapeutics, January 2009
- Co-founder, Amaranth Medical, a company registered in Singapore (Fully-degradable Stents)
- Joint faculty, Singapore General Hospital: National Heart Centre and Singapore Eye Research Centre

## **Current post-graduate students:**

<u>Sole supervision</u>: Anthony Ng, Jaya Ganesh Natarajan, Peng Yan, Rongcong Luo, Mutu Shaillender, James Lim, Ng Xu Wen

Co-supervision: Ang Huiying, Gigi Yeung, Wang Yao, Evelyne Nguyen

## **Recent Journal Publications for S.Venkatraman:**

- 1. Ng AHC, Venkatraman SS, Ng NSP, et al. A fully-degradable tracheal stent: in vitro and in vivo characterization of material degradation *J Biomed Mater Res Part B: Appl Biomater*, 100B, pp. 693–699 (2012).
- 2. Zhu GH, Ng AHC, Venkatraman SS, et al. **A novel drug-eluting tracheal stent** *Laryngoscope*, 121, pp. 2234–2239 (2011).
- 3. JV Natarajan, M Ang, A Darwitan, S.Chattopadhyay, SS Venkatraman, TT Wong. Nanomedicine for glaucoma: Liposomes provide sustained release of latanoprost in the eye. *Int J of Nanomed.* 7, pp.123-31 (2012).
- 4. JV Natarajan, S Chattopadhyay, M Ang, A Darwitan, S Foo, Z Ma, M Koo, SS Venkatraman, TT Wong. Sustained release of an anti-glaucoma drug: Demonstration of efficacy of a liposomal formulation in the rabbit eye. *PLoS One*, E Pub 9 Sept 2011
- 5. X.Wang, S.S.Venkatraman, F.Y.C.Boey, J.S.C.Loo, L.P.Tan, "Controlled Release of Sirolimus from a Multilayered PLGA stent matrix", *Biomaterials*, 27, 5588-5595 (2006).

- 6. L.P.Tan, S.S.Venkatraman, J.F.D Joso, F.Y.C.Boey, "Collapse pressures of bilayered biodegradable stents", *J Biomed Mat Research Part B*, 79, 102-107 (2006).
- 7. Subbu Venkatraman, Lay Poh Tan, Joe Ferry Joso, Yin Chiang Freddy Boey, Xintong Wang, "Biodegradable Stents with Elastic memory", *Biomaterials*, 27, 1573-1578 (2006)
- 8. Frank Alexis, Subbu S. Venkatraman, Santosh Kumar Rath and Freddy Boey "In vitro study of release mechanisms of paclitaxel and rapamycin from drug-incorporated biodegradable stent matrices", <u>J. Controlled Release</u> Volume 98, Issue 1, Pages 67-74 (2004)
- 9. S.Venkatraman\*, L.P.Tan, T.Vinalia, K.H.Mak, F.Boey: "Collapse Pressures of Biodegradable Stents", *Biomaterials*, 24, pp.2105-2111 (2003).
- 10. S. Venkatraman, F. Boey and L.L. Lao, "Implanted Cardiovascular Polymers: Natural, Synthetic and Bio-inspired", *Progress Polym Sci*, 33, 853-874 (2008).