

## SHASHANK SHEKHAR TIWARI

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### WORK HISTORY

**Research Fellow (Remote Affiliation)** (Since October 2018)- Canadian Institute for Genomics and Society, Toronto, ON, Canada.

**Lab Administrator/ Health Policy Analyst** (June 2014-Feb 2017)-Individualized Treatment Technology LLC Birmingham, AL, USA.

### EDUCATION

**University of Nottingham** (United Kingdom)

**PhD**, Science and Technology Studies (July 2013).

Thesis: “The ethics and governance of stem cell clinical research in India” (The Wellcome Trust UK PhD Fellowship).

Supervisors: Prof. Paul Martin, Dr. Sujatha Raman and Prof. Pranav N. Desai (Jawaharlal Nehru University).

Examiners: Prof. Steven Wainwright (Brunel University), Prof. Brigitte Nerlich (University of Nottingham).

**Jawaharlal Nehru University** (India)

**MPhil**, Science Policy Studies (2006-2008)

Dissertation: “Sectoral Innovation System of Stem Cell Technology in India”.

Supervisor: Prof. Pranav N. Desai.

Examiner: Prof. Sachin Chaturvedi (Research and Information System for Developing Countries, New Delhi).

**University of Allahabad** (India)

**MSc**. Zoology (Specialization-Parasitology) (1996-1998).

### PROFESSIONAL QUALIFICATION

**Public Responsibility in Medicine and Research (PRIMER)** -Boston University Ethical Research Oversight Online Course (2016).

**University of Allahabad** (India)

**Bachelor of Journalism & Mass Communication** (2003).

## RESEARCH INTERESTS

Science and Technology Studies  
Science Policy Studies  
Innovations Studies  
Biomedicine and Society  
Sociology of Bioethics  
Ethical Boundary-Work  
Sociology of Expectations  
Governance of Science and Technology  
Research Methods: Qualitative and Quantitative Research

## RESEARCH PROJECT

Beyond The Imagination: Genetics, Nano- And Biotechnologies And Their Applications (March 28, 2014 - April 11, 2018): The Mapungubwe Institute for Strategic Reflection (MISTRA), Johannesburg, South Africa.

## ON-LINE LECTURE

Ethical, Legal and Social Implications (ELSI) of Emerging Biotechnologies, Tamkang University, Taiwan, November 13, 2013.

## PUBLICATIONS

### Journal articles and book chapters

- **Tiwari, S.S.** (2019) Capitalizing Genome: the Business of Direct-to-Consumer Testing in India, *Confluence- The Indian Academy of Sciences Discussion Forum*, April 1.
- **Tiwari, S. S. & Desai, P.N.** (2018) Unproven Stem Cell Therapies in India: Regulatory Challenges and Proposed Paths Forward, *Cell Stem Cell*, 23 (5): 649-652.
- **Tiwari S.S.** (2018) The proliferation of stem cell research and therapy in South Africa and India: a comparative study In *Beyond the Imagination – genetics, nano and biotechnologies and their applications*, MISTRA, Johannesburg, pp. 195-221.
- **Tiwari S.S.** (2018) The ethics and governance of an emerging technology in an emerging market: The case of private umbilical cord blood banking in India In: Dwivedi, Y.K. et al. (ed.), *Emerging Markets from a Multidisciplinary Perspective - Challenges, Opportunities and Research Agenda*, New York Springer, pp. 391-404.
- **Tiwari, S.S., Raman, S. & Martin, P.** (2017) Regenerative medicine in India: Trends and challenges in innovation and regulation, *Regenerative Medicine*, 12 (7): 875-885. (Lay summary of this article has been published by EuroStemCell as *India's current development and regulation of the regenerative medicine sector*

- **Tiwari S. S.**, Raman, S., Martin, P. (2017) Governing stem cell sector in India In: Pham, Phuc V.; (ed.), *Stem Cells in Clinical Applications: Safety, Ethics and Regulations*, Heidelberg and London, Springer, pp. 247-262
- **Tiwari, S.S.** & Tiwary, E. (2015) India: assess social impact of technology, *Nature*, 522 (419).
- **Tiwari, S.S.** (2015) Reforming the Medical Council of India, *Indian Journal of Medical Ethics*, 12 (1): 59.
- **Tiwari, S.S.** & Raman, S. (2014) Governing stem cell experiments in India: regulatory vacuum or jurisdictional ambiguity? *New Genetics and Society*, 44 (3): 413-433.
- **Tiwari, S. S.** & Desai, P.N. (2011) Stem Cell Innovation System in India: Emerging Scenario and Future Challenges. *World Journal of Science Technology and Sustainable Development*, 8(1), 1-23.
- Sant, A.K., **Tiwari,S.S.**, Dwivedi,B.K.& Singh,S.P (2004) Screening of some tomato varieties against root-knot disease caused by *Meloidogyne incognita*. *Current Nematology*, 15(1,2) 109-12.

### Conference proceeding

- **Tiwari, S. S.** & Desai, P.N. (2010) Stem Cell Innovation System in India: Emerging Scenario and Future Challenges. *8th International Conference of World-Association-for-Sustainable-Development (WASD) Location: ST LUCIA Date: Nov 22-24, 2010.*

### Newspaper/Blog articles

- **Tiwari, S.S.** (2019) User's Guide to Direct-To-Consumer Genetic Testing in India. *Canadian Institute for Genomics and Society*, March 25.
- **Tiwari, S.S.** (2015) Proliferation of stem cell therapies: Regulatory challenges. *Pharmabiz*, June 09.
- **Tiwari, S.S.** (2015) Regulate private diagnostic labs, create awareness. *Deccan Herald*, March 11.
- **Tiwari, S.S.** (2014) Ethical and governance deficit in emerging biotechnologies. *Deccan Herald*, Dec 12.
- **Tiwari, S. S.** (2014) Cord blood banking: Ambiguous policy. *Deccan Herald*, Nov 05.
- **Shashank** (2011) Regulating stem cell based research and therapy in India. *Deccan Herald*, Dec 19.

## **Expert comments in Newspaper coverage**

- India Seeks to Stifle Sham Stem Cell Therapies by Regulation. *Bloomberg Law*, April 24, 2018.
- India Proposes to Regulate Stem Cell as Drugs; To Require Clinical Trials, Licenses. *IndiaSpend*, June 26, 2018.

## **CONFERENCE PRESENTATION**

- From 'janampatri' to 'genomepatri': the (re) emergence of personalized medicine in India (Accepted) 2019 4S Annual Meeting, New Orleans, United States of America (Sept 4-7);
- Therapeutic application of stem cell in India: A case for local Vs global science (2013) 4S Annual Meeting, San Diego, United States of America (Oct 9-12);
- The ethical implications of expectations: A case for stem cell treatments in India (2012) 4S/EASST joint conference, Copenhagen, Denmark (Oct 17-20) (Abstract published but could not attend);
- Contested bioethical governance: A case study of stem cell science in India (2010) Third National Bioethics Conference, New Delhi (Nov17-20);
- The emergence of stem cell science in India: A twist from 'periphery' to 'centre'? (2010) EASST010- "Practicing Science and Technology, Performing the Social", Trento, Italy (Sept 2-4);
- Framing Bioethics in the Governance of Stem Cell Research in India (2010) 4S Annual Meeting, Komaba I Campus, University of Tokyo, Tokyo, Japan (Aug 25-29);
- Unfolding the 'Knot': the commercialization of cord blood banking in India (2009) Mapping the Genomics Era: Measurements & Meanings, ESRC Genomics Network, Cardiff (UK) (Oct 7-9).

## **CONFERENCES/WORKSHOPS/SYMPOSIA/SUMMER SCHOOL**

- 4S Annual Meeting, San Diego, United States of America (9-12 Oct 2013);
- 1st Global Forum on Bacterial Infections: Balancing Treatment Access and Antibiotic Resistance, New Delhi, India (3-5 Oct 2011);
- Third Bioethics National Conference, New Delhi, India (17-20 Nov 2010);
- EASST010- "Practicing Science and Technology, Performing the Social", Trento, Italy (2-4 Sept 2010);
- 4S Annual Meeting, Tokyo, Japan (25-29 Aug 2010);
- UKNSCN/UKTI Indian stem cell mission seminar (15 March 2010, London);
- ESRC Genomics Network Conference 2009 (7-9 October, Cardiff);
- Summer School at Brocher Foundation, Geneva: "The Human Body as a Source for Therapeutics Ethical, Medical, and Legal Implications" (31 Aug-5 Sept 2009);

- PSTS conference, The University of Nottingham 2009(28-29 July);
- “BEYOND PATTISON: Challenges for Stem Cell Translation and Policy” at the Wellcome Trust, London (7-8 May 2009);
- XXXI All India Cell Biology Conference, special theme, “Stem Cell Research”, December, 14<sup>th</sup> -16<sup>th</sup>, 2007, Banaras Hindu University, Varanasi, Uttar Pradesh, India;
- Third Global Conference, “India R&D 2007-Innovation Advantage India”, December 5<sup>th</sup> -6<sup>th</sup> 2007, Federation of Indian Chambers of Commerce and Industry, New Delhi, India;
- China-India Consultation Workshop, “Experiences in Innovation for Development”, November 22<sup>nd</sup> -24<sup>th</sup>, 2007, Centre for Studies in Science Policy, School of Social Sciences, Jawaharlal Nehru University, New Delhi, India.

## **ACADEMIC ACHIEVEMENTS**

- The Wellcome Trust (UK) PhD fellowship: Jan 2009 to Jan 2012.
- The paper published in *New Genetics and Society* entitled *Governing stem cell experiments in India: regulatory vacuum or jurisdictional ambiguity?* is assigned to a graduated course at the University of Minnesota (USA) by Leigh Turner. The paper is also shortlisted as a key reference by Harvard Stem Cell Institute, USA.
- The paper published in *Regenerative Medicine* entitled *Regenerative medicine in India: Trends and challenges in innovation and regulation* has been recommended in F1000Prime as being of special significance in its field by F1000 Faculty Member Douglas Sipp.

## **ACADEMIC SERVICES**

### **Review Editor**

Frontiers in sociology (Since November 2018).

### **Reviewed Research Articles For**

- South Asia Multidisciplinary Academic Journal;
- Asian Biotechnology Development Review;
- Engaging Science Technology & Society;
- African Journal of Science, Technology, Innovation and Development;
- Science Technology and Society;
- Centre for Development Studies, Thiruvananthapuram, Kerala, India.

### **Invited Project Review**

- University of Missouri, United States of America.

## **OTHER EXPERIENCE**

- More than 8 years of experience in the field of Science Communication at All India Radio and Doordarshan Kendra, Allahabad, India.

## **REFERENCES**

- **Prof. Paul Martin**  
Sociology of Science and Technology  
Department of Sociological Studies  
The University of Sheffield (UK)  
E-mail: paul.martin@sheffield.ac.uk
- **Dr. Sujatha Raman**  
Associate Prof. and Director of Research  
Australian National Centre for Public Awareness of Science (CPAS),  
The Australian National University (ANU), Canberra  
E-mail: sujatha.raman@anu.edu.au
- **Prof. Pranav N Desai**  
Centre for Studies in Science Policy,  
School of Social Sciences,  
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