The Australian Women's Register

Entry type: Person
Entry ID: AWE26100314

Sahajwalla, Veena

Occupation Engineer, Inventor, Scientist

Summary

Scientia Professor Veena Sahajwalla is a materials scientist and engineer, and a world leader in recycling science and materials sustainability. She is the founding Director of the Centre for Sustainable Materials Research and Technology at the University of New South Wales, which she established in 2008. Sahajwalla was elected as a fellow of the Australian Academy of Technological Sciences and Engineering in 2007 and as a fellow of the Australian Academy of Science in 2018. She was the New South Wales Australian of the Year in 2022 and in the 2025 Australia Day Honours was appointed an Officer of the Order of Australia ‘for distinguished service to science as an engineer and inventor, to sustainable materials research and technology and waste management’.

Details

Sahajwalla was born in Mumbai, India to professional parents; a mother who worked as a paediatrician in government health clinics and father who was a civil engineer. Her childhood was spent running around the bazaars of Mumbai, where she came to appreciate the value of reusing waste instead of throwing it out.

She attended primary school and high school in Mumbai, then went on to achieve her Bachelor of Technology in Materials and Metallurgical Engineering at the Indian Institute of Technology Kanpur in 1986 – the only woman in her class and one of few women on campus at that time. Following her graduation at the top of her class, Sahajwalla moved to Vancouver, Canada, to undertake her Masters degree in metallurgical engineering at the University of British Columbia, where she met fellow engineer and soon-to-be husband Rama Mahapatra. She then moved to Michigan to do a PhD at the University of Michigan under the Barbour Scholarship program, and later recalled how scary it was to first do presentations in front of experts but how those experiences – and the support of her professors – helped her develop the confidence and experience to do that.

Returning to Australia in the early 1990s, Sahajwalla took up a job as a research scientist at CSIRO in Melbourne, then moved to Sydney to work as a lecturer in the Faculty of Science at the University of New South Wales (UNSW) in 1994 – the institution she has remained at to this day. In 1995 she and Rama had twin daughters.

During this time, she began developing the idea of green steel: using end?of?life rubber tyres and waste plastic as an alternative to coking coal in the process of steel production, which significantly reduces the carbon cost of manufacturing steel. That innovation has since been commercialised around the world, and has diverted millions of old tyres from landfill. She has talked about the importance of putting a dollar value on solutions to environmental challenges, because they need to be economically viable.

Green steel led to Sahajwalla winning numerous awards including in 1998 an Engineering Excellence Award from the Institution of Engineers, Australia and the Eureka Prize for Scientific Research in 2005 for innovations in recycling waste plastics in steelmaking. In 2001 Sahajwalla was appointed Associate Professor at UNSW, then full Professor in 2004 and Scientia Professor in 2009. She was elected as a fellow of the Australian Academy of Technological Sciences and Engineering in 2007.

In 2008, Sahajwalla founded the Centre for Sustainable Materials Research and Technology (SMaRT) at UNSW as Director, and expanded her research to include other waste streams, including macadamia nut shells and coffee grounds, and their reuse applications. Her next significant innovation was the concept of recycling ‘microfactories’: small-scale portable facilities that can extract resources from small amounts of waste – including e-waste – to enable local communities to produce products, materials and resources they need locally.

In 2014, Sahajwalla was awarded a $2.2 million Australian Laureate Fellowship to establish a green manufacturing research hub at UNSW. At the same time, she received a Georgina Sweet Award, an award established to promote the advancement of the careers of women in science and technology. That award led Sahajwalla to launch Science 50:50 in 2015, a program providing internships, scholarships and mentoring to encourage women and girls to pursue education and careers in science and technology.

Sahajwalla has received numerous awards and accolades throughout her career, including her election as a fellow of the Australian Academy of Science in 2018, winning a second Eureka Prize in 2022 for Promoting Understanding of Science, being named NSW Australian of the Year in 2022, and her appointment as an Officer of the Order of Australia in 2025. She was also named in Engineers Australia’s list of the 100 Most Influential Engineers in 2015.

Sahajwalla has published more than 380 peer-reviewed papers, given talks around the world at conferences, including the 2018 Falling Walls conference in Berlin, delivered the 2024 Ann Moyal Lecture at the National Library of Australia and was a judge on the ABC TV series ‘The New Inventors’.

Published resources

Article
Sahajwalla, Veena, Cohn, Helen, 2025,
https://eoas.info/biogs/P006220b.htm

Online article
Veena Sahajwalla, Australian Academy of Science,
https://science.org.au/about-us/academy-fellows/discover-our-fellows/veena-sahajwalla

Scientia Professor Veena Sahajwalla, University of New South Wales,
https://www.unsw.edu.au/staff/veena-sahajwalla

Professor Veena Sahajwalla,
https://www.atse.org.au/who-we-are/our-fellows/all-fellows/veena-sahajwalla/

Newspaper article
The alchemist: Veena Sahajwalla turns trash into treasure, Bearup, Greg, 4 May 2019

Archival resources

Mitchell Library, State Library of New South Wales
Professor Veena Sahajwalla interview by Bianca Nogrady

National Library of Australia, Oral History Collection
Veena Sahajwalla interviewed by Louise Whelan for the Indian diaspora in Australia oral history project

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Created 3 October 2026
Last modified