

Dr. Tahira Reid Smith

Inventor • Engineer • Professor • Founder

tahirareidsmith.com | jumpdreamsinc.com

Biography

Dr. Tahira Reid Smith is the founder and president of Jump Dreams, Inc. and a professor of mechanical engineering at Penn State University, where she serves as the Arthur L. Glenn Professor of Engineering Education and inaugural Associate Department Head for Inclusive Research and Education. She is a Fellow of the American Society of Mechanical Engineers.

Her journey began with a sketch in a third-grade classroom in the Bronx. While other kids played at recess, Tahira was drawing her invention—a machine that could turn the ropes for Double Dutch so anyone could jump in. That idea never left her.

She earned her Bachelor of Science in Mechanical Engineering from Rensselaer Polytechnic Institute, where she studied under famed inventor and fellow Bronxite Burt Swersey. It was in Swersey's Introduction to Engineering Design course that she revisited her childhood concept and filed her first patent. In the spring of 1998, her invention was featured in The Playful Mind exhibition at the Smithsonian National Museum of American History, and in 2000, the first working prototype was demonstrated on camera—a moment covered by the New York Times, the Today Show, and Essence Magazine.

She went on to earn her Master of Science in Mechanical Engineering (Mechatronics) from Rensselaer Polytechnic Institute and her Ph.D. in Design Science from the University of Michigan. After a postdoctoral position at Iowa State University, she joined the faculty at Purdue University, where she spent eleven years, earned tenure and promotion—becoming the first Black woman to do so in Purdue's Mechanical Engineering department—and established the Research in Engineering and Interdisciplinary Design (REID) Lab.

In 2023, she joined Penn State University as a full professor and revisited the Double Dutch invention that had been dormant for nearly two decades. Working with Speck Design, she developed a professionally engineered functional prototype of the world's first automated Double Dutch training system. In January 2024, she founded Jump Dreams, Inc. to bring that third-grade sketch to market.

Her invention and story have been on exhibit at the Smithsonian National Museum of American History — first in The Playful Mind exhibition in 1998, and since March 2024 in the “Change Your Game / Cambia Tu Juego” exhibit. Her work has also been featured on NPR, the New York Times, Essence Magazine, Ebony Magazine, the Today Show, PBS NOVA, the New York Daily News, and the BBC, among others. Her story was included on the New York State English and Language Arts Common Core Exam in 2017. She has demonstrated the Jump Dreams prototype on Capitol Hill and delivered a TEDx talk on innovation.

Selected Credentials & Milestones

- Fellow, American Society of Mechanical Engineers (ASME)
 - Arthur L. Glenn Professor of Engineering Education, Penn State University
 - Inaugural Associate Department Head for Inclusive Research and Education, Penn State
 - First Black woman to earn tenure in Mechanical Engineering at Purdue University
 - Ph.D., Design Science, University of Michigan
 - M.S., Mechanical Engineering (Mechatronics), Rensselaer Polytechnic Institute
 - B.S., Mechanical Engineering, Rensselaer Polytechnic Institute
 - Patented inventor (multiple patents filed and issued)
 - On exhibit at the Smithsonian National Museum of American History (1998 and 2024–present)
 - Featured on PBS NOVA (2024)
 - Featured on the Today Show (2000)
 - TEDx Speaker
 - Demonstrated Jump Dreams prototype on Capitol Hill
 - Founder and President, Jump Dreams, Inc.
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Selected Media Coverage

- The New York Times – "Patents: Inventor Makes Good on a 3rd Grade Notion" (2000)
 - The Today Show – Live demonstration with Katie Couric and Al Roker (2000)
 - Essence Magazine – Feature (2000)
 - PBS NOVA – Feature segment (2024)
 - Smithsonian National Museum of American History – "Change Your Game / Cambia Tu Juego" exhibit (2024–present)
 - NPR / BBC – Interviews and features
 - Ebony Magazine – Feature on Black women inventors (2022)
 - The Mirror (UK) – Feature on groundbreaking products by Black women (2023)
 - New York State ELA Common Core Exam – Story featured as exam content (2017)
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