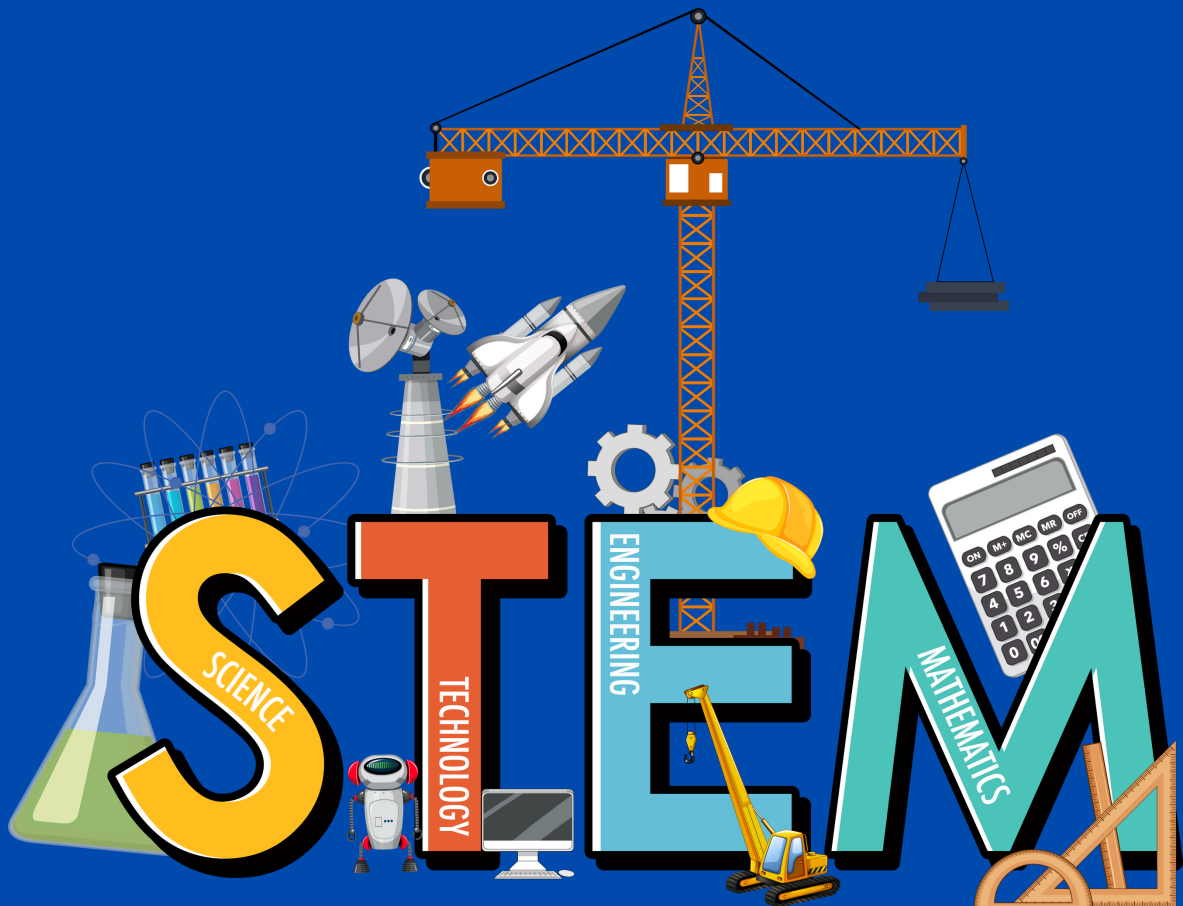


# Women in STEM: A Guide to 100 Inspiring Careers

Empowering the next generation of  
innovators, creators, and leaders.



By Fia Inamdar



## Biomedical Engineer

Biomedical engineers apply principles of engineering and biology to create medical devices, diagnostic tools, and therapeutic technologies. Their work improves patient care through innovation in prosthetics, imaging, and implants. They collaborate with clinicians and researchers in hospitals, labs, and tech firms.

**Notable Women in the Field:** Nina Tandon – Co-founder and CEO of Epibone

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$60,000–\$75,000/year (US)



## Genetic Counsellor

Genetic counselors assess individual or family risk for inherited conditions and offer guidance based on genetic testing. They help patients understand diagnoses and make informed health decisions. Often work in hospitals, clinics, or research settings.

**Notable Women in the Field:** Dr. Mary-Claire King – Discovered the BRCA1 gene for breast cancer risk

**Entry-Level Salary Range:** ₹5–7 LPA (India) | \$55,000–\$75,000/year (US)



## Epidemiologist

Epidemiologists analyze disease patterns to control outbreaks and inform public health policy. They played a key role during the COVID-19 pandemic. Workplaces include government health departments, research institutions, and NGOs.

**Notable Women in the Field:** Alice Hamilton – Pioneer in industrial toxicology and public health

**Entry-Level Salary Range:** ₹5–9 LPA (India) | \$60,000–\$80,000/year (US)



## Microbiologist

Microbiologists study microscopic organisms such as bacteria, viruses, fungi, and parasites. They contribute to breakthroughs in health, food safety, and environmental protection. Roles span laboratories, pharmaceutical firms, and government agencies.

**Notable Women in the Field:** Esther Lederberg – Pioneering work in bacterial genetics, discoverer of lambda phage, Emmanuelle Charpentier – Nobel laureate for co-developing CRISPR-Cas9

**Entry-Level Salary Range:** ₹4–6 LPA (India) | \$50,000–\$65,000/year (US)



## Molecular Biologist

Molecular biologists investigate the molecular mechanisms of cells, including DNA, RNA, and protein synthesis. Their work is foundational to genetics, drug development, and biotechnology. They operate in research labs, biotech firms, and academic settings.

**Notable Women in the Field:** Rosalind Franklin – Key contributor to the discovery of DNA's structure

**Entry-Level Salary Range:** ₹5–8 LPA (India) | \$55,000–\$70,000/year (US)



## Pharmacologist

Pharmacologists study the effects of drugs on biological systems to develop new medicines. They work in pharmaceutical companies, research institutions, and regulatory bodies. Their work ensures drug safety and efficacy.

**Notable Women in the Field:** Gertrude B. Elion – Nobel laureate, developed drugs for leukemia, AIDS, and more

**Entry-Level Salary Range:** ₹5–8 LPA (India) | \$65,000–\$85,000/year (US)



## Neuroscientist

Neuroscientists explore the structure and function of the brain and nervous system. Their research contributes to treatments for disorders like Alzheimer's and epilepsy. They work in hospitals, universities, and cognitive tech labs.

**Notable Women in the Field:** Rita Levi-Montalcini – Nobel laureate for discovery of Nerve Growth Factor

**Entry-Level Salary Range:** ₹6–10 LPA (India) | \$60,000–\$80,000/year (US)



## Immunologist

Immunologists study how the immune system works to protect the body from diseases. They develop vaccines, study allergies, and fight autoimmune conditions. Common employers include pharmaceutical labs, hospitals, and biotech firms.

**Notable Women in the Field:** Françoise Barré-Sinoussi – Nobel laureate for co-discovery of HIV

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Toxicologist

Toxicologists assess the impact of chemicals on human and environmental health. They help design safe pharmaceuticals and evaluate pollution risks. Work settings include government labs, industry, and academia.

**Notable Women in the Field:** Ellen Swallow Richards – Pioneer in environmental chemistry and public health, first woman admitted to MIT

**Entry-Level Salary Range:** ₹5–7 LPA (India) | \$55,000–\$70,000/year (US)



## Bioinformatician

Bioinformaticians develop algorithms and software to analyze biological data, such as genomes and proteins. Their work supports discoveries in personalized medicine and genetic research. They work in biotech, research labs, and academia.

**Notable Women in the Field:** Olga Troyanskaya – Computational biologist, developed methods for analyzing large biological datasets

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$70,000–\$90,000/year (US)



## Clinic Research Associate

Clinical Research Associates (CRAs) monitor clinical trials to ensure ethical conduct, regulatory compliance, and accurate data collection. They work with hospitals, pharmaceutical companies, and regulatory bodies. CRAs play a key role in advancing drug development.

**Entry-Level Salary Range:** ₹4.5–7 LPA (India) | \$55,000–\$70,000/year (US)



## Forensic Scientist

Forensic scientists analyze physical evidence from crime scenes to aid legal investigations. Their work includes DNA analysis, toxicology, and ballistics. Employed by law enforcement, government labs, and legal firms.

**Notable Women in the Field:** Frances Glessner Lee – Mother of Forensic Science, developed miniature crime scene dioramas

**Entry-Level Salary Range:** ₹4–6 LPA (India) | \$50,000–\$65,000/year (US)



## Biostatistician

Biostatisticians apply statistical techniques to public health and biomedical research. They design studies, analyze data, and interpret results that impact health policies and clinical practices. Workplaces include hospitals, research centers, and government agencies.

**Notable Women in the Field:** Gertrude Cox – Founding editor of *Biometrics*, significant contributions to experimental design

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$80,000/year (US)



## Medical Laboratory Scientist

Medical laboratory scientists perform diagnostic tests on body fluids to detect diseases and monitor treatments. They ensure quality control in test results and assist in clinical decision-making. Commonly work in hospitals and diagnostic labs.

**Notable Women in the Field:** Anna W. Williams – Pioneering work in public health microbiology, developed diphtheria antitoxin

**Entry-Level Salary Range:** ₹3.5–6 LPA (India) | \$50,000–\$60,000/year (US)



## CRISPR Technician

CRISPR technicians assist in gene-editing projects using CRISPR-Cas9 tools to modify DNA. They prepare experiments, analyze genetic changes, and help design genome engineering protocols. Roles exist in biotech startups, research institutes, and universities.

**Notable Women in the Field:** Dr. Jennifer Doudna – Co-inventor of CRISPR gene editing

**Entry-Level Salary Range:** ₹6–8 LPA (India) | \$60,000–\$75,000/year (US)



## Wildlife Biologist

Wildlife biologists study animals and their ecosystems to understand behavior, health, and conservation needs. Their work helps protect endangered species and inform biodiversity policies. They often work in field stations, sanctuaries, and conservation agencies.

**Notable Women in the Field:** Jane Goodall – Primatologist, studied chimpanzees

**Entry-Level Salary Range:** ₹4–6.5 LPA (India) | \$45,000–\$60,000/year (US)



## Virologist

Virologists study viruses and the diseases they cause to develop treatments, diagnostics, and vaccines. Their research is vital during pandemics and in vaccine development. Employers include pharmaceutical companies and public health labs.

**Notable Women in the Field:** Kizzmekia Corbett – Lead scientist for the NIH's COVID-19 vaccine research

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Cancer Researcher

Cancer researchers study cancer biology, develop therapies, and work on early detection technologies. They often specialize in molecular oncology or immunotherapy. Common settings include medical research institutes and biotech companies.

**Notable Women in the Field:** Elizabeth Blackburn – Nobel laureate, research on telomeres and telomerase, relevant to cancer

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$70,000–\$90,000/year (US)



## Pathologist

Pathologists examine tissues and body fluids to diagnose diseases. Their findings inform clinical treatments and surgical decisions. They work in hospitals, diagnostic labs, and forensic settings.

**Notable Women in the Field:** Maude Abbott – Early Canadian physician, significant contributions to congenital heart disease  
**Entry-Level Salary Range:** ₹9–12 LPA (India) | \$80,000–\$100,000/year (US)



## Nutrition Scientist

Nutrition scientists study how nutrients impact health and disease prevention. They research diets, develop guidelines, and assess the nutritional quality of food products. They work in healthcare, food industries, and academia.

**Notable Women in the Field:** Dr. Vasanti Malik – Noted for work on global nutrition and chronic disease  
**Entry-Level Salary Range:** ₹5–7 LPA (India) | \$55,000–\$70,000/year (US)



## Analytical Chemist

Analytical chemists identify the composition and structure of substances using techniques like spectroscopy and chromatography. They ensure quality control in pharmaceuticals, food, and environmental samples. Most work in laboratories or R&D divisions.

**Notable Women in the Field:** Dr. Carolyn Bertozzi – Nobel Laureate in chemistry and bioorthogonal chemistry  
**Entry-Level Salary Range:** ₹4.5–7 LPA (India) | \$55,000–\$70,000/year (US)



## Chemical Engineer

Chemical engineers design processes to convert raw materials into useful products like fuel, food, and pharmaceuticals. They work in manufacturing, energy, and biotech sectors, balancing safety, efficiency, and sustainability.

**Notable Women in the Field:** Paula T. Hammond – Leading researcher in polymer chemistry and materials science, biomedical applications  
**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$80,000/year (US)



## Materials Scientist

Materials scientists study and develop new materials for use in everything from electronics to medical devices. They analyze atomic structures to enhance durability, conductivity, and performance. Common workplaces include labs and tech companies.

**Notable Women in the Field:** Dr. Mildred Dresselhaus – Known as the “Queen of Carbon” for her work on nanomaterials  
**Entry-Level Salary Range:** ₹6–8.5 LPA (India) | \$65,000–\$85,000/year (US)



## Polymer Chemist

Polymer chemists develop and analyze synthetic materials like plastics, rubbers, and adhesives. Their innovations are critical in fields such as packaging, aerospace, and biomedical engineering. They often work in industrial R&D.

**Notable Women in the Field:** Dr. Stephanie Kwolek – Inventor of Kevlar  
**Entry-Level Salary Range:** ₹5.5–8 LPA (India) | \$60,000–\$75,000/year (US)



## Cosmetic Chemist

Cosmetic chemists create skincare, makeup, and personal care products using chemistry and biology. They test for safety, stability, and sensory appeal. Employed by cosmetic brands, labs, and regulatory agencies.

**Notable Women in the Field:** Florence L. Wall – Early female leader in cosmetic chemistry, formulated products for major brands

**Entry-Level Salary Range:** ₹4–6.5 LPA (India) | \$50,000–\$65,000/year (US)



## Nanotechnologist

Nanotechnologists manipulate matter at the atomic and molecular scale to design advanced materials and devices. Their work spans electronics, medicine, and clean energy. Roles are found in research labs and cutting-edge tech firms.

**Notable Women in the Field:** Dr. Angela Belcher – Developed virus-built batteries

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$70,000–\$90,000/year (US)



## Food Chemist

Food chemists study the chemical processes and components of food to ensure flavor, safety, and nutrition. They help develop new food products and improve shelf life. Found in food companies, labs, and regulatory agencies.

**Notable Women in the Field:** Mary E. Pennington (Pioneer in food refrigeration and food safety)

**Entry-Level Salary Range:** ₹4.5–6.5 LPA (India) | \$50,000–\$65,000/year (US)



## Electrochemist

Electrochemists investigate the relationship between electricity and chemical change, vital in battery, sensor, and fuel cell technologies. Their work supports clean energy and electronics. Roles exist in academia, energy firms, and tech labs.

**Notable Women in the Field:** Dr. Esther Takeuchi – Developed the battery used in implantable cardiac defibrillators

**Entry-Level Salary Range:** ₹6.5–9 LPA (India) | \$65,000–\$85,000/year (US)



## Environmental Chemist

Environmental chemists study how chemicals affect ecosystems and human health. They assess pollution, regulate contaminants, and develop eco-friendly materials.

Workplaces include government agencies, NGOs, and green tech firms.

**Notable Women in the Field:** Dr. Ellen Swallow Richards – Founder of environmental chemistry, Dr. Mallika Sanyal – Leads environmental toxicology research in India

**Entry-Level Salary Range:** ₹5–7 LPA (India) | \$55,000–\$70,000/year (US)



## Medicinal Chemist

Medicinal chemists design and synthesize new pharmaceutical compounds to treat diseases. They work in drug discovery and collaborate with biologists and clinicians. Roles are mostly in pharmaceutical companies and biotech startups.

**Notable Women in the Field:** Gertrude Elion – Nobel Laureate who developed numerous drugs

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Software Engineer

Software engineers design, build, and test computer programs and applications. From mobile apps to enterprise systems, their work drives the digital world. Employed in tech firms, startups, finance, healthcare, and beyond.

**Notable Women in the Field:** Marissa Mayer – Former CEO of Yahoo and early Google engineer

**Entry-Level Salary Range:** ₹7–12 LPA (India) | \$70,000–\$95,000/year (US)



## Data Scientist

Data scientists extract insights from large datasets using algorithms, statistics, and machine learning. They guide decisions in business, healthcare, and policy. Found in tech, consulting, finance, and research sectors.

**Notable Women in the Field:** Hilary Mason – Founder of Fast Forward Labs and data ethics advocate

**Entry-Level Salary Range:** ₹8–14 LPA (India) | \$80,000–\$110,000/year (US)



## Machine Learning Engineer

Machine learning engineers build models that enable systems to learn from data and improve over time. Their work powers recommendation engines, fraud detection, and autonomous vehicles. Employed in AI labs and tech companies.

**Notable Women in the Field:** Sara Hooker – Researcher at Cohere and founder of Delta Analytics

**Entry-Level Salary Range:** ₹9–14 LPA (India) | \$90,000–\$120,000/year (US)



## AI Researcher

Artificial Intelligence researchers design new algorithms and intelligent systems, advancing fields like robotics, vision, and natural language. They work in academia, government labs, and leading AI startups.

**Notable Women in the Field:** Daniela Rus – Director of MIT's Computer Science and Artificial Intelligence Lab

**Entry-Level Salary Range:** ₹10–16 LPA (India) | \$95,000–\$130,000/year (US)



## Cybersecurity Analyst

Cybersecurity analysts defend digital systems against attacks by detecting threats and implementing protective measures. They work in corporate security, defense, finance, and government.

**Notable Women in the Field:** Parisa Tabriz – Google's "Security Princess" and cybersecurity leader

**Entry-Level Salary Range:** ₹6.5–10 LPA (India) | \$70,000–\$95,000/year (US)



## Game Developer

Game developers create interactive digital experiences through code, design, and storytelling. They build games for consoles, mobile, and AR/VR platforms. Common employers include game studios, media companies, and startups.

**Notable Women in the Field:** Jade Raymond – Founder of Ubisoft Toronto and EA Motive

**Entry-Level Salary Range:** ₹5.5–9 LPA (India) | \$65,000–\$85,000/year (US)



## UI/UX Designer

UI/UX designers shape how users interact with digital products, focusing on clarity, usability, and aesthetics. Their work ensures intuitive and engaging experiences across web and mobile platforms.

**Notable Women in the Field:** Julie Zhuo – Former VP of Product Design at Facebook  
**Entry-Level Salary Range:** ₹5–8 LPA (India) | \$60,000–\$80,000/year (US)



## Blockchain Developer

Blockchain developers build decentralized applications using secure, distributed ledgers. They create smart contracts and cryptocurrencies, transforming industries like finance, logistics, and healthcare.

**Notable Women in the Field:** Preethi Kasireddy – Blockchain engineer and educator, Elizabeth Stark – Co-founder of Lightning Labs  
**Entry-Level Salary Range:** ₹7–12 LPA (India) | \$80,000–\$100,000/year (US)



## DevOps Engineer

DevOps engineers bridge the gap between software development and IT operations by automating workflows and optimizing deployment pipelines. They help ensure faster, reliable software delivery.

**Notable Women in the Field:** Bridget Kromhout – Principal Cloud Developer Advocate at Microsoft, global leader of devopsdays organization.  
**Entry-Level Salary Range:** ₹7–11 LPA (India) | \$75,000–\$100,000/year (US)



## Computer Vision Engineer

Computer vision engineers teach machines to interpret visual data from the world, enabling facial recognition, autonomous driving, and image-based AI. Found in robotics, healthcare, and automotive industries.

**Notable Women in the Field:** Dr. Olga Russakovsky – Co-leads the ImageNet project and works on AI fairness  
**Entry-Level Salary Range:** ₹8–13 LPA (India) | \$85,000–\$110,000/year (US)



## Quantum Computing Researcher

Quantum computing researchers work on developing computers that use quantum mechanics to solve complex problems faster than classical computers. Their work is cutting-edge and interdisciplinary.

**Notable Women in the Field:** Dr. Debbie Leung – Expert in quantum information theory  
**Entry-Level Salary Range:** ₹9–15 LPA (India) | \$100,000–\$130,000/year (US)



## Cloud Architect

Cloud architects design and manage cloud infrastructure for organizations, ensuring scalability, security, and efficiency. Their role is essential in modernizing digital systems across industries.

**Notable Women in the Field:** Tracy Kuhrt – Cloud computing and blockchain developer advocate (e.g., at IBM and Hyperledger), focusing on technical adoption.  
**Entry-Level Salary Range:** ₹8–14 LPA (India) | \$90,000–\$120,000/year (US)



## Database Administrator

Database administrators (DBAs) ensure data is stored, organized, and accessible efficiently and securely. They manage backups, optimize performance, and support application teams.

**Notable Women in the Field:** Gail Shaw – SQL Server expert and trainer

**Entry-Level Salary Range:** ₹5.5–9 LPA (India) | \$65,000–\$85,000/year (US)



## Ethical Hacker

Ethical hackers (or penetration testers) test systems for vulnerabilities to prevent cyberattacks. They simulate hacking techniques legally to improve security. Employed in cybersecurity firms, IT departments, and government.

**Notable Women in the Field:** Katie Moussouris – Creator of Microsoft's bug bounty program

**Entry-Level Salary Range:** ₹6.5–10 LPA (India) | \$70,000–\$90,000/year (US)



## NLP Engineer

Natural Language Processing engineers build systems that understand and process human language, powering virtual assistants, chatbots, and language translation tools. They work in AI labs, tech firms, and healthcare startups.

**Notable Women in the Field:** Dr. Margaret Mitchell – Co-lead of Google's former ethical AI team

**Entry-Level Salary Range:** ₹8–12 LPA (India) | \$80,000–\$110,000/year (US)



## Cognitive Neuroscientist

Cognitive neuroscientists study how brain activity is linked to mental processes such as perception, memory, and decision-making. Their work informs treatments and education strategies.

**Notable Women in the Field:** Dr. Helen Mayberg – Pioneer in deep brain stimulation therapy

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Human Factors Specialist

Human factors specialists design systems and products that align with how people think and behave, enhancing safety and usability. Found in aviation, healthcare, product design, and transportation.

**Notable Women in the Field:** Dr. Anne S. McLaughlin – Expert in aging and human-computer interaction

**Entry-Level Salary Range:** ₹5.5–8 LPA (India) | \$60,000–\$80,000/year (US)



## Behavioral Data Analyst

Behavioral data analysts interpret patterns in human behavior through data to support decisions in marketing, design, policy, and healthcare. They combine psychology with data science tools.

**Notable Women in the Field:** Kristen Berman (Co-founder of Irrational Labs, applies behavioral economics to product design)

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Neuropsychologist

Neuropsychologists assess how brain injuries or disorders affect cognitive function and behavior. They work in hospitals, research, and rehabilitation. Their insights guide treatment plans and diagnoses.

**Notable Women in the Field:** Dr. Brenda Milner – Founding figure in neuropsychology  
**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$70,000–\$90,000/year (US)



## Industrial-Organisational Psychologist

I-O psychologists apply psychological principles to improve workplace dynamics, leadership, and productivity. They conduct assessments, training, and organizational development.

**Notable Women in the Field:** Dr. Alice Eagly – Expert on leadership and gender psychology  
**Entry-Level Salary Range:** ₹5.5–8.5 LPA (India) | \$60,000–\$80,000/year (US)



## Environmental Scientist

Environmental scientists study the impact of human activity on ecosystems and work to solve environmental problems. They develop policies, conduct fieldwork, and advise governments and industries.

**Notable Women in the Field:** Dr. Vandana Shiva – Indian environmental activist and physicist  
**Entry-Level Salary Range:** ₹5.5–8 LPA (India) | \$60,000–\$80,000/year (US)



## Climatologist

Climatologists study long-term weather patterns and their global impact. Their work supports climate change research, agriculture, and disaster planning. They often work with governments and research institutions.

**Notable Women in the Field:** Dr. Sunita Narain – Director of the Centre for Science and Environment, India  
**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Hydrologist

Hydrologists analyze how water moves across and through the Earth. They work on water management, flood prediction, and pollution control. Employed by environmental agencies, consultancies, and government bodies.

**Notable Women in the Field:** Dr. Ellen Wohl – Renowned river scientist and conservationist  
**Entry-Level Salary Range:** ₹5.5–8 LPA (India) | \$60,000–\$80,000/year (US)



## Marine Biologist

Marine biologists study ocean life and ecosystems, often working on conservation, fisheries, or marine biotechnology. Their research informs policy and protects biodiversity.

**Notable Women in the Field:** Dr. Asha de Vos – Marine biologist and founder of Oceanswell  
**Entry-Level Salary Range:** ₹5.5–8 LPA (India) | \$60,000–\$80,000/year (US)



## Geophysicist

Geophysicists use physics to study the Earth's structure and processes, including earthquakes, magnetism, and oil exploration. They work in energy companies, research labs, and geological surveys.

**Notable Women in the Field:** Dr. Inge Lehmann – Discovered Earth's inner core

**Entry-Level Salary Range:** ₹6.5–10 LPA (India) | \$70,000–\$90,000/year (US)



## Ecologist

Ecologists investigate relationships between organisms and their environments, contributing to biodiversity conservation and habitat restoration. They work in field research, NGOs, and academic institutes.

**Notable Women in the Field:** Dr. Jane Lubchenco – Marine ecologist and former NOAA administrator

**Entry-Level Salary Range:** ₹5–7.5 LPA (India) | \$60,000–\$75,000/year (US)



## Renewable Energy Engineer

Renewable energy engineers design and implement technologies like solar, wind, and bioenergy systems. Their work drives sustainability and energy independence. Roles exist in energy firms and cleantech startups.

**Notable Women in the Field:** Damilola Ogunbiyi – UN leader for Sustainable Energy

**Entry-Level Salary Range:** ₹6.5–10 LPA (India) | \$70,000–\$90,000/year (US)



## Oceanographer

Oceanographers explore physical, chemical, and biological aspects of oceans, studying currents, marine life, and climate interactions. Their findings aid in navigation, fisheries, and conservation.

**Notable Women in the Field:** Dr. Margaret Leinen – Director of Scripps Institution of Oceanography

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Atmospheric Scientist

Atmospheric scientists study weather systems and atmospheric conditions, contributing to forecasts, pollution control, and climate models. They work with meteorological departments and research centers.

**Notable Women in the Field:** Dr. Joanne Simpson – First woman to receive a PhD in meteorology

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000/year (US)



## Urban Sustainability Planner

Urban sustainability planners design eco-friendly, efficient cities by integrating green spaces, transport, and waste systems. Their work shapes sustainable infrastructure and community resilience.

**Notable Women in the Field:** Janette Sadik-Khan – Former NYC Transportation Commissioner

**Entry-Level Salary Range:** ₹5.5–8.5 LPA (India) | \$60,000–\$80,000/year (US)



## Statistician

Statisticians interpret data to identify trends and support decisions in fields like public health, marketing, and policy. Their insights drive evidence-based change.

**Notable Women in the Field:** Florence Nightingale – Pioneered data visualization in healthcare using statistics

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–\$85,000 (US)



## Actuary

Actuaries use math and statistics to calculate risk in industries like insurance and finance. They help businesses prepare for future uncertainties.

**Notable Women in the Field:** Emma Peart – Advocate for female representation in actuarial science

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$70,000–90,000/year (US)



## Operations Research Analyst

They use optimization and math models to streamline logistics, resources, and systems in industries like defense, manufacturing, and healthcare.

**Notable Women in the Field:** Dr. Margaret Brandeau – Applied operations research to optimize healthcare resource allocation

**Entry-Level Salary Range:** ₹6.5–9 LPA (India) | \$65,000–85,000/year (US)

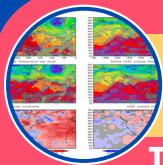


## Quantitative Analyst

Quants develop complex models for financial markets to inform investments and pricing. They are key players in hedge funds and fintech.

**Notable Women in the Field:** Dr. Jessica James – Leading quantitative researcher and author in finance, known for her work on interest rate modeling

**Entry-Level Salary Range:** ₹9–14 LPA (India) | \$90,000–120,000/year (US)



## Mathematical Modeler

They simulate real-world systems—like epidemics or traffic—using equations and computational tools. Modelers inform scientific and policy decisions.

**Notable Women in the Field:** Dr. Maria Chudnovsky – Leading mathematician known for her work in graph theory, with applications in network modeling and optimization

**Entry-Level Salary Range:** ₹6.5–9 LPA (India) | \$70,000–90,000/year (US)

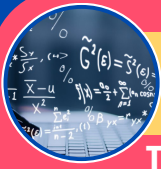


## Cryptographer

Cryptographers design secure systems to protect data and communications. Their work powers everything from e-commerce to government security.

**Notable Women in the Field:** Dr. Shafi Goldwasser – Co-invented zero-knowledge proofs, foundational to modern cryptography

**Entry-Level Salary Range:** ₹8–12 LPA (India) | \$85,000–110,000/year (US)



## Computational Mathematician

They develop algorithms and simulations to solve complex mathematical problems, often used in physics, climate science, and finance.

**Notable Women in the Field:** Dr. Leslie Greengard – Co-developed the fast multipole method for solving equations efficiently

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$75,000–95,000/year (US)



## Mechanical Engineer

Mechanical engineers design and build machines, tools, and thermal systems used in everything from rockets to refrigerators. They apply physics to solve real-world problems in automotive, aerospace, and manufacturing industries. Their innovations power engines, prosthetics, and automation.

**Notable Women in the Field:** Dr. Laura G. DeSimone – Distinguished mechanical engineer known for research in mechanics of materials and design

**Entry-Level Salary Range:** ₹5.5–8.5 LPA (India) | \$65,000–85,000/year (US)



## Civil Engineer

Civil engineers shape the physical world by planning and constructing bridges, roads, tunnels, and dams. Their work ensures safety, resilience, and sustainability in infrastructure that communities rely on daily. They balance design precision with large-scale public impact.

**Notable Women in the Field:** Dr. Delia Y. Cheng – Civil engineer at NASA Ames Research Center, known for her work in sustainable infrastructure and advanced materials

**Entry-Level Salary Range:** ₹5.5–8.5 LPA (India) | \$60,000–80,000/year (US)



## Electrical Engineer

Electrical engineers create and improve systems that generate, transmit, or use electricity—from microchips to power grids. They drive advancements in renewable energy, robotics, and electronics. Their work fuels nearly every modern technology.

**Notable Women in the Field:** Dr. Shirley Ann Jackson – Distinguished theoretical physicist and electrical engineer, former chair of the U.S. Nuclear Regulatory Commission

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$70,000–90,000/year (US)



## Aerospace Engineer

Aerospace engineers develop aircraft, satellites, and spacecraft that explore our skies and beyond. They work on aerodynamics, propulsion, and space structures in labs, defense agencies, and organizations like NASA or ISRO. Their contributions push the boundaries of flight.

**Notable Women in the Field:** Kalpana Chawla – First Indian woman in space; worked on aerodynamics of space shuttle missions; Gwynne Shotwell – Led engineering and operations as President of SpaceX

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$75,000–100,000/year (US)



## Mechatronics Engineer

Mechatronics engineers design smart, automated systems by combining mechanics, electronics, and software. They build robots, drones, and intelligent consumer devices. Their interdisciplinary work is vital in sectors like manufacturing, healthcare, and AI robotics.

**Notable Women in the Field:** Dr. Katie Bouman – Developed algorithms for imaging black holes, involving complex optical and computational systems, an example of interdisciplinary mechatronics-related work.

**Entry-Level Salary Range:** ₹6.5–9.5 LPA (India) | \$70,000–95,000/year (US)



## Robotics Engineer

Robotics engineers design, build, and program robots that perform precise, repetitive, or hazardous tasks. From surgical robots to industrial arms, they create solutions that enhance productivity and safety. They work at the intersection of mechanical design and artificial intelligence.

**Notable Women in the Field:** Dr. Kate Darling – Leading expert on robot ethics and human-robot interaction, influencing robot design and deployment

**Entry-Level Salary Range:** ₹7–11 LPA (India) | \$75,000–100,000/year (US)



## Structural Engineer

Structural engineers ensure that buildings, bridges, and towers stand strong against gravity, wind, and earthquakes. They use physics and materials science to calculate loads and prevent collapse. Their invisible work creates safe, durable structures all around us.

**Notable Women in the Field:** Roma Agrawal – Structural engineer behind The Shard in London

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–85,000/year (US)



## Nuclear Engineer

Nuclear engineers develop technologies that harness nuclear energy for power, medicine, and defense. They manage reactors, research radiation therapies, and ensure safety protocols. Their role is crucial in clean energy transitions and scientific innovation.

**Notable Women in the Field:** Dr. Kathryn McCarthy – Director of Idaho National Laboratory's Advanced Reactor Technologies, a leader in nuclear energy research

**Entry-Level Salary Range:** ₹7–11 LPA (India) | \$80,000–105,000/year (US)



## Industrial Engineer

Industrial engineers optimize systems, processes, and workflows to save time, cut costs, and reduce waste. Found in factories, hospitals, and tech firms, they blend efficiency with human-centered design. Their strategies transform operations across every industry.

**Notable Women in the Field:** Dr. Eileen M. Van Aken – Leading industrial engineer and professor known for her work in systems engineering and organizational improvement

**Entry-Level Salary Range:** ₹6–8.5 LPA (India) | \$65,000–85,000/year (US)



## Petroleum Engineer

Petroleum engineers design and manage methods to extract oil and gas from beneath Earth's surface. They use geology, thermodynamics, and simulation tools to maximize efficiency and minimize environmental harm. Their work fuels global energy systems.

**Notable Women in the Field:** Christine Ehlig-Economides – Pioneered reservoir modeling techniques

**Entry-Level Salary Range:** ₹8–12 LPA (India) | \$90,000–120,000/year (US)



## Agricultural Engineer

Agricultural engineers apply engineering solutions to farming challenges—developing irrigation systems, automated tractors, and food processing equipment. Their innovations support sustainable agriculture, food security, and rural livelihoods.

**Notable Women in the Field:** Ruth Oniang'o – Linked agricultural engineering with nutrition in East Africa

**Entry-Level Salary Range:** ₹5.5–8 LPA (India) | \$60,000–80,000/year (US)



## Audio Engineer

Audio engineers shape how we hear music, podcasts, films, and games by manipulating sound waves and acoustics. They record, mix, and master audio using both technical precision and artistic judgment. Their work brings sonic clarity to our digital world.

**Notable Women in the Field:** Leslie Ann Jones – Grammy-winning audio engineer at Skywalker Sound

**Entry-Level Salary Range:** ₹4.5–7.5 LPA (India) | \$55,000–75,000/year (US)



## Automotive Engineer

Automotive engineers design and test vehicles that are faster, safer, and more sustainable. They work on engines, drivetrains, and autonomous systems in industries leading the future of transport. Their innovations power electric, hybrid, and smart mobility.

**Notable Women in the Field:** Bertha Benz – Proved the automobile's practicality in the world's first road trip

**Entry-Level Salary Range:** ₹6.5–9.5 LPA (India) | \$65,000–85,000/year (US)



## Systems Engineer

Systems engineers coordinate large, complex projects by integrating components across hardware, software, and processes. They act as the glue between design, implementation, and testing teams. Found in aerospace, defense, IT, and beyond—they keep systems running smoothly.

**Notable Women in the Field:** Dr. Sandra Magnus – Systems engineer turned NASA astronaut on shuttle missions

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$75,000–95,000/year (US)



## Optical Engineer

Optical engineers design and optimize systems that use light—lasers, microscopes, fiber optics, and imaging tools. Their work enables breakthroughs in communication, medicine, astronomy, and VR. They bend light to reveal the invisible.

**Notable Women in the Field:** Dr. Nergis Mavalvala – Designed optical instruments for gravitational wave detection

**Entry-Level Salary Range:** ₹6.5–9.5 LPA (India) | \$70,000–90,000/year (US)



## Environmental Engineer

Environmental engineers develop technologies to protect ecosystems and human health. They create clean water systems, pollution controls, and sustainable waste management practices. Their mission is to engineer a more livable planet.

**Notable Women in the Field:** Dr. Nancy G. Love – Professor of Civil and Environmental Engineering, recognized for her work in water quality engineering and sustainable wastewater treatment

**Entry-Level Salary Range:** ₹6–9 LPA (India) | \$65,000–85,000/year (US)



## Genetic Engineer

Genetic engineers manipulate DNA to modify organisms for medical, agricultural, and research purposes. Their work supports breakthroughs in disease resistance and gene therapy.

**Notable Women in the Field:** Jennifer Doudna – Co-invented CRISPR gene-editing technology

**Entry-Level Salary Range:** ₹7–11 LPA (India) | \$75,000–100,000/year (US)



## Pharmaceutical Scientist

Pharmaceutical scientists research and develop drugs to treat illnesses, ensuring safety, efficacy, and regulation compliance. They bridge biology, chemistry, and patient care.

**Notable Women in the Field:** Tu Youyou –

Discovered artemisinin for malaria treatment

**Entry-Level Salary Range:** ₹6.5–9.5 LPA (India) | \$70,000–90,000/year (US)



## Synthetic Biologist

Synthetic biologists engineer organisms to solve real-world problems—designing microbes that make fuel, plastic alternatives, or vaccines. The field blends biology with design.

**Notable Women in the Field:** Dr. Reshma Shetty – Co-founded Ginkgo Bioworks, a leader in synthetic biology

**Entry-Level Salary Range:** ₹7–11 LPA (India) | \$75,000–100,000/year (US)



## Biotech Product Manager

These professionals guide biotech innovations from lab to market—coordinating research, design, and business strategy to deliver impactful products.

**Notable Women in the Field:** Michelle Carnahan – Former Head of US BioPharma at Sanofi, with extensive experience in leading biotech product portfolios

**Entry-Level Salary Range:** ₹8–12 LPA (India) | \$85,000–110,000/year (US)



## Regulatory Affairs Specialist

They ensure drugs and devices meet global safety and ethics standards, liaising between scientists, companies, and government agencies.

**Notable Women in the Field:** Dr. Sujata Dayal – Headed regulatory affairs at major pharmaceutical multinationals

**Entry-Level Salary Range:** ₹6.5–9 LPA (India) | \$70,000–90,000/year (US)



## Stem Cell Researcher

Stem cell researchers study undifferentiated cells to regenerate tissue, treat diseases, and understand early development. Their work fuels future therapies.

**Notable Women in the Field:** Dr. Sally Temple – Pioneered neural stem cell therapies

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$75,000–95,000/year (US)



## Tissue Engineer

Tissue engineers create lab-grown tissues and organs by blending cells, materials, and bioengineering. Their work advances regenerative medicine and transplants.

**Notable Women in the Field:** Dr. Jennifer Elisseeff – Leading bioengineer known for biomaterials and tissue regeneration innovations

**Entry-Level Salary Range:** ₹7–11 LPA (India) | \$75,000–100,000/year (US)

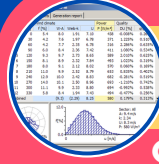


## Tech Ethicist

Tech ethicists ensure innovation aligns with human values—advising on AI fairness, privacy, and social responsibility in fast-moving technologies.

**Notable Women in the Field:** Timnit Gebru – Exposed ethical concerns in AI and bias in facial recognition

**Entry-Level Salary Range:** ₹7-10 LPA (India) | \$75,000-95,000/year (US)



## Climate Data Analyst

Climate data analysts model environmental change using sensors, satellites, and simulations—supporting global responses to heatwaves, sea rise, and drought.

**Notable Women in the Field:** Dr. Kim Cobb – Renowned paleoclimatologist analyzing coral and climate data for long-term environmental change

**Entry-Level Salary Range:** ₹6.5-9 LPA (India) | \$70,000-90,000/year (US)



## Science Communicator

Science communicators translate complex ideas into clear, engaging formats—from social media to museum exhibits—bridging researchers and the public.

**Notable Women in the Field:** Dr. Mayim Bialik – Neuroscientist turned educator and advocate for STEM outreach

**Entry-Level Salary Range:** ₹4.5-7.5 LPA (India) | \$55,000-75,000/year (US)



## Digital Health Specialist

These specialists merge tech with medicine—developing apps, wearables, and AI tools that revolutionize patient care and medical diagnostics.

**Notable Women in the Field:** Dr. Toyin Ajayi – CEO of Cityblock Health, transforming tech-enabled primary care for underserved populations

**Entry-Level Salary Range:** ₹6.5-9.5 LPA (India) | \$70,000-90,000/year (US)



## Computational Biologist

Computational biologists use algorithms and statistics to understand living systems—from gene networks to pandemics—at scale.

**Notable Women in the Field:** Dr. Bonnie Berger – MIT professor and pioneer in algorithmic approaches to genomics and proteomics

**Entry-Level Salary Range:** ₹7-11 LPA (India) | \$75,000-100,000/year (US)



## AgriTech Specialist

AgriTech specialists build digital and biological tools that optimize farming—improving yield, sustainability, and food systems.

**Notable Women in the Field:** Kavita Ganesh – Co-founded Fasal, using AI to support Indian farmers

**Entry-Level Salary Range:** ₹6.5-9 LPA (India) | \$70,000-90,000/year (US)



## Space Systems Engineer

They design and manage spacecraft systems—working on satellites, Mars rovers, or orbital sensors across space agencies and private companies.

**Notable Women in the Field:** Donna Shirley – Led the Mars Exploration Program at NASA JPL, overseeing spacecraft design and development

**Entry-Level Salary Range:** ₹7.5–11 LPA (India) | \$80,000–105,000/year (US)



## Environmental AI Specialist

These experts design machine learning tools to monitor pollution, forecast climate, and promote eco-friendly innovation.

**Notable Women in the Field:** Priya Danti – Co-founded Climate Change AI, integrating ML and sustainability

**Entry-Level Salary Range:** ₹7–10 LPA (India) | \$75,000–95,000/year (US)



## Medical Robotics Engineer

Medical robotics engineers create assistive devices and intelligent systems that support surgery, rehab, and diagnosis with precision and safety.

**Notable Women in the Field:** Marcia O'Malley – Expert in haptics and rehabilitation robotics, advancing medical robotic interfaces

**Entry-Level Salary Range:** ₹7.5–11 LPA (India) | \$80,000–105,000/year (US)



## Scientific Illustrator

Scientific illustrators merge accuracy with creativity to visualize complex ideas—crafting illustrations for textbooks, journals, and exhibits.

**Notable Women in the Field:** Maria Sibylla Merian – 17th-century scientific illustrator and entomologist known for her detailed insect and plant drawings

**Entry-Level Salary Range:** ₹5–8 LPA (India) | \$60,000–80,000/year (US)

# Explore Further:

## Women in STEM Organizations

She++:

Website: <https://sheplusplus.org/>

Society of Women Engineers (SWE):

Website: <https://swe.org/>

SciShow on YouTube: (General science communication channel, often features women in STEM or discusses STEM topics broadly)

YouTube Channel:

<https://www.youtube.com/user/scishow>

## Career Quizzes

Roadtrip Nation (Career Finder):

Website: <https://roadtripnation.com/careerfinder>

BigFuture by College Board (Career Quiz):

Website: <https://bigfuture.collegeboard.org/career-explorer/career-quiz>

## Books and Films

### Hidden Figures:

Film (Official Site - often links to streaming/purchase options):

<https://www.foxmovies.com/movies/hidden-figures>

Book (Goodreads for more info/purchase links):

<https://www.goodreads.com/book/show/25074217-hidden-figures>

### Code Girls: The Untold Story of the American Women Code Breakers of World War II:

Book (Goodreads for more info/purchase links):

<https://www.goodreads.com/book/show/35715017-code-girls>

### The Boy Who Harnessed the Wind:

Film (Netflix link, if you have a subscription):

<https://www.netflix.com/title/80200047>

Book (Goodreads for more info/purchase links):

<https://www.goodreads.com/book/show/15729792-the-boy-who-harnessed-the-wind>

# **This is just the Beginning.**

**Whether you're curious, committed, or just starting to explore, this guide is a launchpad — not a roadmap.**

**Every path in STEM is shaped by real-world challenges, relentless curiosity, and voices like yours.**

**So ask bold questions. Try hard things.  
Make your mark.**

**By Fia Inamdar**