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Prof. C. S. Deshpande Memorial Lecture

Transforming education to upskill the University youth for Net Zero future

By

Dr. Rajendra Shende

Environmental Leader

Mumbai, 19 May 2025

Shri. Avinash Chatorikar, Secretary, Vidyalankar Dnyanapeeth Trust felicitating Dr. Rajendra Shende

Dr. Rajendra Shende delivering speech

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Opening & Welcome

Dr. Amit Oak

Director of Vidyalankar School of Management and Chief Operating Officer, Vidyalankar Institute of Technology

Namaskar. Good evening and a warm welcome to our distinguished guests:

Our Chief Guest, Dr. Rajendra Shende, Shri Milind Tadvalkar, Director, Vidyalankar Dnyanapeeth Trust, Madam Rashmi Deshpande, Chairperson, Vidyalankar Dnyanapeeth Trust, Shri Vishwas Deshpande, Managing Trustee, VDT, Shri Avinash Chatorikar, Secretary, VDT, Madam Namrata Deshpande, Trustee, VDT, I also extend my greetings to the esteemed dignitaries of the Trust, faculty, staff, students, alumni, friends, and well-wishers of the Vidyalankar family.

I am Dr. Amit Padmakar Oak, Director of Vidyalankar School of Management and Chief Operating Officer of Vidyalankar Institute of Technology. It gives me immense pleasure to welcome you all to the Seventh Prof. C. S. Deshpande Memorial Lecture on the theme: “Transforming Education to Upskill the University Youth for a Net Zero Future.”

About the Memorial Lecture Series

Dr. Saurabh Mehta

Professor & Chief Academic Officer,
Vidyalankar Institute of Technology

The “Prof. C. S. Deshpande Memorial Lecture Series” was initiated to perpetuate the memory of our revered founder. The vision of Vidyalankar Dnyanapeeth Trust and the Deshpande family has always been to create meaningful activities that honor his legacy.

There can be no better tribute than a public lecture series held around Prof. Deshpande’s birth anniversary, 19th May, every year. Through these lectures, eminent personalities from across India and abroad are invited to share their thoughts on education, science and technology, finance, socio-economic development, and national issues.

The inaugural lecture in this series was delivered by Dr. Narendra Jadhav, former member of the Planning Commission and Rajya Sabha, who spoke on making India’s higher and technical education globally relevant.

Subsequent lectures were delivered by:

- Padma Bhushan awardee Dr. Kirit Parikh, eminent economist, who spoke on Low-Carbon Strategy for Inclusive Growth.
- Padma Bhushan awardee Dr. Shashikumar Chitre, noted astrophysicist, who spoke on The Origin of Life in the Universe.

- Padma Vibhushan awardee Dr. Anil Kakodkar, former Chairman of the Atomic Energy Commission of India, who spoke on Taking India Forward – The Role of Educational Institutes.
- Padma Shri awardee Dr. Rajendra Badwe, world-renowned oncologist, who spoke on Cancer and Education: Creating Awareness and Building Strategies.
- Padma Bhushan awardee Shri Chinna Jeeyar Swamy, spiritual leader, who spoke on Science and Spirituality.

Each of these lectures has been a source of inspiration, not just for the Vidyalankar community but for the wider academic and social fraternity. They remind us of Prof. Deshpande's enduring vision and provide young minds the motivation to pursue excellence.

This year, we are privileged to host the Seventh Lecture in the series.

It is now my honor to introduce our esteemed speaker for today's lecture, Dr. Rajendra Shende.

Dr. Shende is a globally renowned environmentalist, sustainability leader, and policy expert. A distinguished chemical engineer from IIT Bombay, he served as the Director at the United Nations Environment Programme (UNEP), where he played a pivotal role in some of the most significant environmental agreements of our time.

He is best known for his leadership in implementing the Montreal Protocol, an international treaty that successfully phased out

ozone-depleting substances across 146 developing countries. This effort became one of the most successful global environmental agreements in history.

Dr. Shende also contributed to the work of the Intergovernmental Panel on Climate Change (IPCC), which was jointly awarded the Nobel Peace Prize for its efforts in advancing knowledge and action on climate change. After his tenure at the United Nations, he founded the Green TERRE Foundation, a platform dedicated to promoting sustainable development. Through this foundation, he launched initiatives such as:

- Smart Campus Cloud Network (SCCN) – engaging universities worldwide to adopt climate-friendly practices.
- Net Zero Campaigns – mobilizing institutions and communities to move towards carbon neutrality.

What makes Dr. Shende's journey especially inspiring is his commitment to grassroots transformation. He adopted his native village, Rahimatpur in Maharashtra, and developed it as a model of sustainable and community-driven development. Dr. Shende's life embodies environmental stewardship, climate resilience, innovation, and youth empowerment through education.

We are truly privileged to have him among us today. May I now request our Campus Director, Shri Milind Tadvalkar, to felicitate our Chief Guest, Dr. Rajendra Shende.

Dr. Rajendra Shende

Environmental Leader

Nobel Peace Prize Certificate winner 2007

Namaskar. A very good evening to everyone.

I feel at home here, though normally I am most comfortable speaking with young students. When I look around today, I see all of you as students—not just of age, but of learning. In that sense, we are all students for life.

First of all, let me thank the Vidyalankar family for inviting me to deliver this memorial lecture in memory of Prof. Chandrashekhar Sadashiv Deshpande. When I reflect on his life, I believe he was not merely a professor by profession—he was a professor with passion. Describing him only as an engineer or a rank-holder would be an injustice. He was, above all, someone who transformed the dreams of countless young people into reality. His teaching and his example engineered minds, not just machines. He knew how to turn raw talent into capable human beings.

To me, he was also a businessman—but not in the ordinary sense. He did not sell cement or steel. He sold dreams, and he built an institution around those dreams. That passion for education created Vidyalankar, which today stands as a shining example of what commitment and vision can achieve.

This memorial lecture, therefore, is not only a celebration of his memory but also a reminder that passion can make not only one's own dreams come true, but also those of others.

India at a Turning Point

Let me begin by reflecting on India's journey. We are living in a time of transformation. Just a month ago, India became the third-largest economy in the world, surpassing Japan. Before that, we overtook the UK. Think about the symbolism:

- The UK once ruled over us and drained our resources.
- Japan, in the 1950s and 60s, was the model we all tried to copy-its management, technology, and discipline.

And today, India has surpassed them both.

Yes, challenges remain. You only need to step outside and see the mix of modern skyscrapers and nearby slums to know this. But at the same time, we are building 34 kilometers of roads every day, our railways are the second largest in the world, and our metro network is also the second largest globally.

This is not just growth—it is growth with thinking. Unlike in the past, where many nations advanced without concern for the future, India is trying to progress while keeping sustainability in mind. That is why today's lecture focuses on Transforming Education to Upskill Youth for a Net Zero Future.

The Triple Crisis – Our World War III

The United Nations, where I worked for 20 years, was created in 1945 after the devastation of Hiroshima and Nagasaki. Its primary mission was peace. And while it may not have ended all wars, I often argue that without the UN we would have had 50 wars today instead of five.

But there is another kind of war going on-a triple crisis that threatens humanity:

1. Air Pollution – The World Health Organization estimates that 8 million people die every year due to polluted air.
2. Biodiversity Loss – In just 30–40 years, 70% of wildlife has disappeared. Elephants, for example, play a critical role in forest creation through seed dispersal, yet we are losing such keystone species.
3. Climate Change – Rising greenhouse gas emissions are causing extreme events: heatwaves, floods, cyclones, wildfires, and shifting rainfall patterns.

This is no less than a World War III. And unlike traditional wars, this war threatens all life on Earth.

Climate Change and Net Zero

For the last 800,000 years, carbon dioxide levels in the atmosphere remained between 250–280 ppm. Since the Industrial Revolution, they have risen to 440 ppm. Once emitted, CO_2 stays in the atmosphere for over 100 years, forming a "blanket" that traps heat and warms the planet.

To combat this, the Paris Agreement was signed by 196 countries, pledging to limit global warming to 1.5°C. Yet, while everyone signed, implementation has been weak. Powerful lobbies from fossil fuel industries delayed action.

The United Nations Secretary-General has rightly said: "Climate change is running faster than human action." That is why the world needs to move towards Net Zero—balancing emissions with removal of greenhouse gases.

The Role of Networking and Partnerships

During my time at UNEP, I worked on the Montreal Protocol to protect the ozone layer. It succeeded because of networking, partnerships, and collective action. Every country created Ozone Cells, which shared data and progress transparently. This collaboration led to the successful phase-out of CFCs and the healing of the ozone layer. We need the same kind of global and local networks for climate change. But unlike governments that often have conflicting interests, the real drivers can be universities.

Why? Because students—today's youth—are the ones who will face the brunt of climate change in 2050. They must be empowered to act now.

Universities as Climate Leaders

Universities must become living laboratories for Net Zero. Students should not only be educated, but also upskilled to measure, monitor, and mitigate emissions.

For example:

- Using AI for decarbonization strategies.
- Applying blockchain to track Scope 3 emissions (emissions in supply chains).
- Designing smart campuses powered by renewable energy.
- Some inspiring examples:
- In France, students installed solar panels above vineyards, providing shade for crops, clean power, and even water collection from condensation.
- In Australia, universities replaced lawnmowers with sheep to graze on football fields—an innovative, low-emission solution.

Such ideas show that youth-led innovation can solve challenges that appear insurmountable.

India's Demographic Advantage

India has the largest youth population in the world. This is our greatest strength. We are already a leader in startups. India has the third-largest number of unicorns globally. Many of these startups are led by young graduates who are innovating in renewable energy, electric mobility, and climate solutions.

But there is also a warning sign. Recently, 38% of IIT graduates did not receive placements—a shocking figure for India's premier institutions. Why? Because industries are demanding green skills: knowledge of clean energy, climate finance, sustainability practices. Without them, even the brightest graduates risk becoming irrelevant.

That is why institutions like Vidyalankar must urgently integrate sustainability and Net Zero skills into their education.

From Knowledge to Wisdom

Education today must move beyond textbooks.

- Knowledge is raw data.
- Education is processing that data.
- Skill is applying it effectively.
- Wisdom is knowing the consequences.

We already know the Earth is heating like water at 100°C. Our "finger" is already in that boiling water. Now wisdom demands that we not only prevent further harm but also prepare for resilience.

Call to Action for Vidyalankar

I urge Vidyalankar to take the lead and commit to becoming a Net Zero Campus by 2030.

This is not just about reducing electricity bills or planting trees. It is about:

- Building student capacity in climate science.
- Using renewable energy (solar, wind, EVs).
- Measuring and reporting carbon footprints.
- Making sustainability part of every discipline.

Companies like Tata, Adani, Reliance, and Mahindra have already pledged to go Net Zero by 2040. They will need graduates with the right skills to implement this. Vidyalankar can be at the forefront of supplying that human capital.

This is not only an environmental responsibility but also an employment opportunity for your students.

Closing Thoughts

To conclude:

- Climate change is real and urgent.
- Net Zero is not a choice; it is a necessity.
- Universities and students must lead this transformation.

Let us not go home today saying, "It was a good lecture." Instead, let us go home asking: What action will I take tomorrow?

Remember: Nobody should be left behind.

Thank you.

Q & A Session

Moderator: Thank you very much, Dr. Shende, for that inspiring lecture. We now open the floor for a few questions.

Question 1 (Amit Aylani, Faculty Member): Sir, you mentioned Scope 3 emissions and the challenges they present. You also spoke about using blockchain technology to track them. As a researcher, I am working on similar issues. Could you elaborate on how universities and startups can practically support companies in addressing Scope 3 emissions?

Response by Dr. Rajendra Shende: That is an excellent and timely question. Scope 3 emissions are indeed the most complex. They cover the entire supply chain—for example, food transported to a campus canteen by truck, train, or other means. To calculate emissions, you need to track distance, mileage, fuel consumption, and apply UN-approved factors.

Blockchain technology offers a transparent and verifiable way to record such data across multiple stakeholders. I strongly believe universities should form a research network on blockchain for Net Zero, so that campuses themselves become models.

I encourage you to take this forward—perhaps with AICTE's support under the "AI for Education – 2025" initiative. A collaborative project could be launched here at Vidyalankar, and my foundation would be glad to support it.

Question 2 (Student): Sir, what do you see as the three biggest challenges in achieving a Net Zero future, and how do we tackle them?

Response by Dr. Rajendra Shende: Challenges are many, but let me highlight three:

1. Climate impacts on energy systems – Hydropower may fail when dams run low; nuclear plants struggle when cooling water overheats. Climate change itself affects our energy choices.
2. Technological adaptation – We must innovate continuously, from AI to smart grids, to overcome such disruptions.
3. Behavioral change – Even the best technology is useless without lifestyle changes, awareness, and discipline.

Solutions will come from innovation, creativity, and the energy of youth. Let me share two inspiring examples:

- In France, students placed solar panels high above vineyards. This not only generated clean power but also provided shade for crops and captured dew water—helping both farmers and the environment.
- In Australia, students used sheep to graze on university lawns instead of polluting mowers. Within days, the grass was trimmed uniformly, and emissions were reduced.

These are simple yet brilliant ideas. They prove that every challenge has an innovative solution when young minds work with determination.

Vote of Thanks

Milind Tadvalkar

Campus Director,
Vidyalankar Dnyanapeeth Trust

Namaskar.

On behalf of the Vidyalankar family, I extend our heartfelt gratitude to Dr. Rajendra Shende for delivering such a thought-provoking and inspiring lecture. Your words have not only enlightened us but also challenged us to take concrete steps toward sustainability.

This memorial lecture series was envisioned by our mentor, Dr. Gupchup, who believed that through such lectures, we could bring eminent personalities to our campus and expose our students and faculty to diverse thoughts and disciplines. Today, as we complete the seventh lecture, I feel his vision has truly come alive.

I would also like to thank the members of the Vidyalankar Trust, our dignitaries, faculty, staff, students, alumni, and well-wishers who have joined us today. A special thanks to the organizing team whose efforts made this event possible.

As Dr. Shende rightly reminded us, Vidyalankar must not stop at listening — we must take action. I assure you, sir, that we will continue our journey with renewed commitment, ensuring that our students are empowered to lead India towards a sustainable, Net Zero future.

Thank you all.

Address for communication

Vidyalankar Dnyanapeeth Trust

Pearl Centre, Senapati Bapat Marg, Dadar West, Mumbai 400 028

About Prof. C. S. Deshpande (1932-2005)

Endowed with a good academic career, C. S. Deshpande stood FIRST at the Inter Science Exam winning all the University prizes. Then after completing B.E. (Electronics and Telecom.) from the College of Engineering, Pune, he joined the prestigious T.I.F.R. He appeared at the I.E.S. (Indian Engineering Services) Examination and again stood FIRST in this All India examination.

He discovered his intrinsic interest was in the field of teaching and writing Mathematics and in Mathematical Engineering Subjects. This pursuit of his passion and an urge of dedicating himself to sincere academic pursuit led him to establish Vidyalankar. His basic objective was to guide eager young students. He worked at it with a missionary zeal to enhance their worthiness and imbibe nobler values of life in their receptive minds not through empty words alone but through his own example.

Prof. C. S. Deshpande Memorial Lectures

2016

Dr. Narendra Jadhav
Educationist & former Rajya Sabha Member

Making Indian Higher &
Technical Education Globally Relevant

2017

Dr. Kirit Parikh
Economic Advisor

Low carbon Strategy
for Inclusive Growth

2018

Dr. Shashikumar Chitre
Mathematician and Astrophysicist

Origin of Life in the Universe

Is there intelligent life elsewhere
in the Universe?

2019

Dr. Anil Kakodkar
Nuclear Scientist

Taking India Forward

Role of Educational Institutes

2023

Dr. Rajendra Badve
Surgeon-Oncologist, Director,
Tata Memorial Centre

Cancer and Education

2024

Shri Chinna Jeeyar Swami
Vedic Scholar

Science & Spirituality

2025

Dr. Rajendra Shende
Environmental Leader

Transforming education to upskill the
University youth for Net Zero future

PROF. C. S. DESHPANDE
MEMORIAL LECTURES

TIMELINE

In a year

2016 — 01

Dr. Narendra Jadhav
Educationist & former Rajya Sabha Member
Making Indian Higher & Technical Education Globally Relevant

02 — 2017

Dr. Kirit Parikh
Economic Advisor
Low carbon Strategy for Inclusive Growth

2018 — 03

Dr. Shashikumar Chitre
Mathematician & Astrophysicist
Origin of Life in the Universe
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04 — 2019

Dr. Anil Kakodkar
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Taking India Forward
Role of Educational Institutes

2023 — 05

Dr. Rajendra Badve
Surgeon-Oncologist, Director, Tata Memorial Centre
Cancer and Education

06 — 2024

Shri Chinna Jeeyar Swami
Vedic Scholar
Science & Spirituality

2025 — 07

Dr. Rajendra Shende
Environmental Leader
Transforming education to upskill the University youth for Net Zero future

Dr. Rajendra Shende delivering speech

Gathering at the Memorial Lecture


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