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SINCE 1983

Dr. Vishwanath Karad

MIT WORLD PEACE UNIVERSITY | PUNE

TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

Supported by UNESCO

UNESCO Chair for
Human Rights, Democracy, Peace & Tolerance
World Peace Centre (Alandi) Pune, India

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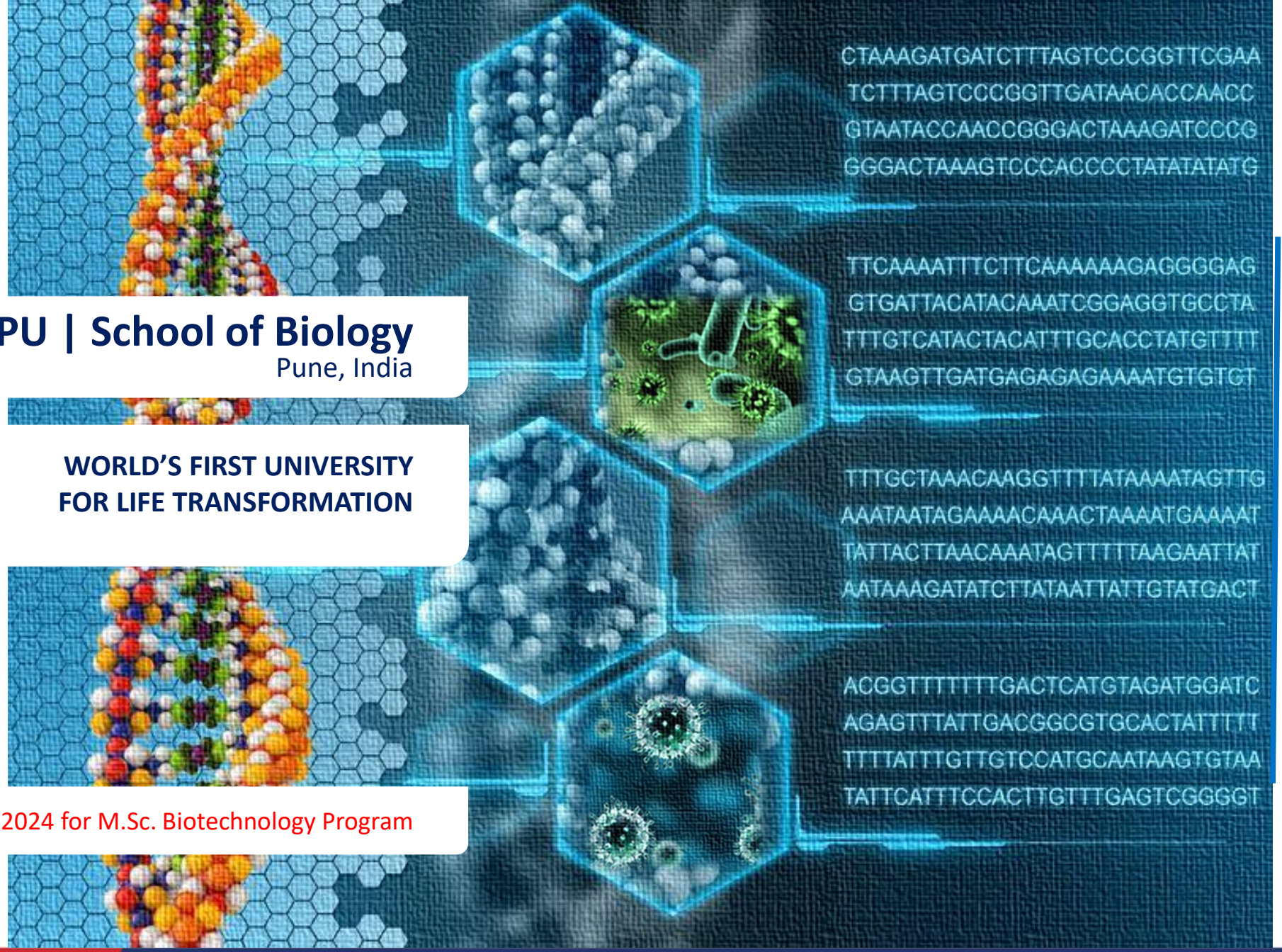
MIT-WPU | School of Biology

Pune, India

WORLD'S FIRST UNIVERSITY FOR LIFE TRANSFORMATION



2022-2024 for M.Sc. Biotechnology Program

MIT-WPU

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MIT-World Peace University

M.Sc. Biotechnology Admission Process 2022-24

Worlds first University for Life Transformation

Dr. Vishwanath Karad
MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

Welcome to the School of Biology

05
Active Universities
Formulated by MAEER

50+
Institutes owned by
MAEER Group

1,00,000+
Alumni Globally
Higher Education

54,000+
Active Students
On Campus

8,500+
Total Employees works with
MAEER (with 3,000 faculties)

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MIT-WPU: Rankings

3rd

Best university to study in India
(India Today 2018)

Ranked in **Silver** Category of Institutions

QS I·GAUGE INDIAN COLLEGE & UNIVERSITY RATING

Ranked **5th** in Private Universities in India

TOI

Consistently listed among the ranked institutions in engineering category during year 2016, 2017 & 2018, Ministry of HRD, Govt. of India

nirf

Consistently accredited in last decade for various Engineering programs

NBA NATIONAL BOARD OF ACCREDITATION

Listed Top Private University by Jagran Josh, awarded by Vice-President of India

JAGRAN Josh

Ranked **10th** among Best private institute for engineering in India, TOI Survey 2019

TIMES ENGINEERING

Ranked **15th** best private institute for engineering for placement in India, TOI Survey 2019.

TIMES ENGINEERING

Ranked **19th** among the Top Engineering Institutes in India, 2019

TIMES ENGINEERING

MIT World Peace University is a part of MIT Group of Institutions which is consistently ranked among Top 20 Private Professional Education Groups in the country for the last four decades

Worlds first University for Life Transformation

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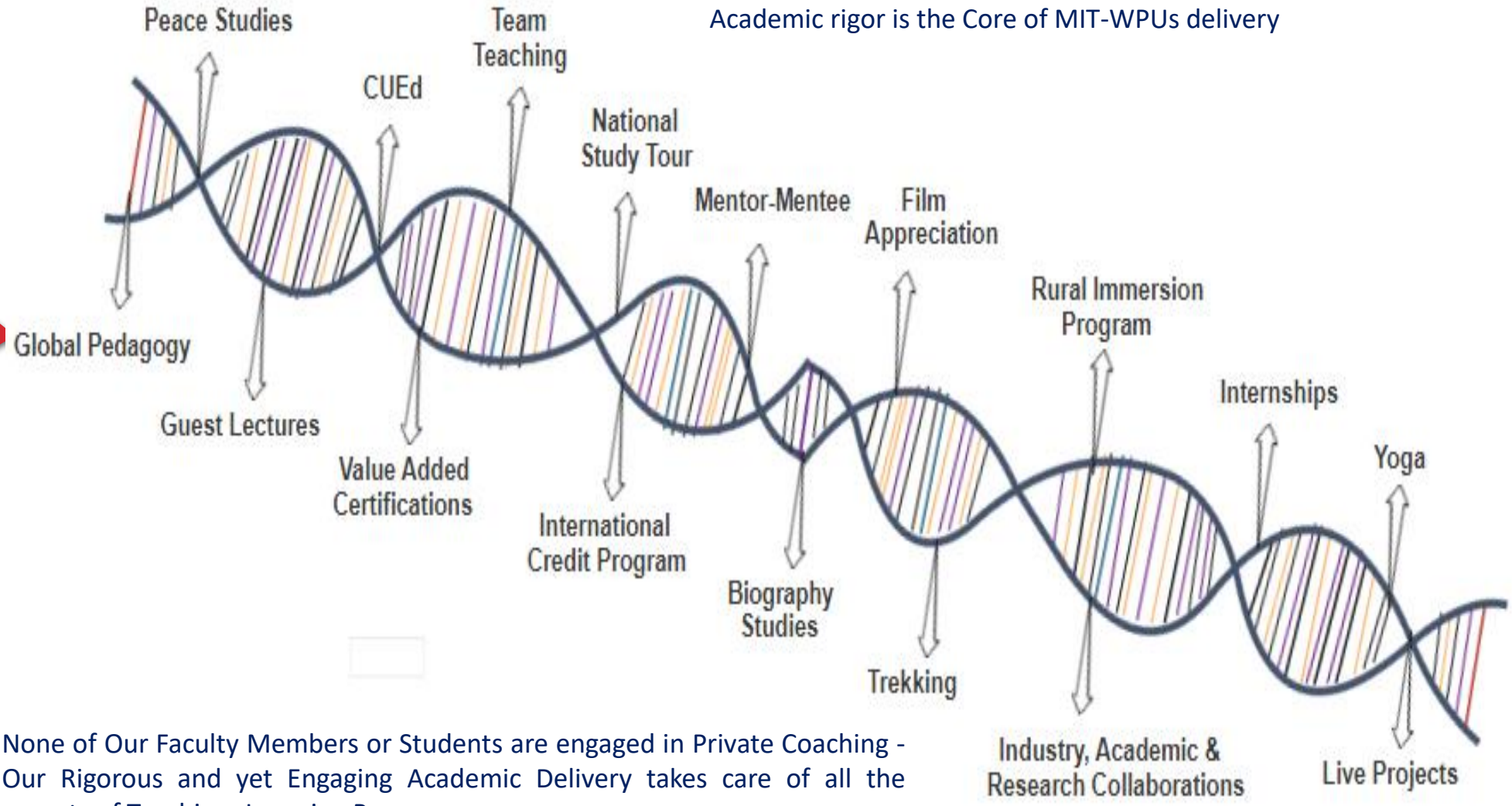
Accolades

Institute with Excellent Industry Interface by World Education Congress

National Award “Education Development in Rural India by CONCERN

We are providing a very disciplined, value based education.
Academic rigor is the Core of MIT-WPUs delivery

MIT-WPU Method



None of Our Faculty Members or Students are engaged in Private Coaching - Our Rigorous and yet Engaging Academic Delivery takes care of all the aspects of Teaching -Learning Process

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School of Biology at MIT-WPU

Vision

To be recognized nationally and internationally as the biological sciences department that exhibits the commitment to excellence in education, research and innovation in the interdisciplinary areas of Biology.

Mission

The School of Biology at MIT-WPU is a comprehensive academic unit with broader scope that encompasses diverse areas from molecular and cell biology to highly interdisciplinary areas like biological engineering and Nano-biotechnology.

The mission of the School of Biology is to provide quality education and empirical learning in the broad field of biological sciences including biology for engineers, to contribute to the field and MIT-WPU through scholarly research, to train the next generation of biological scientists, engineers and research scholars, and to provide professional service.

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Why Biotechnology

https://mitwpu.edu.in/biotechnology/

Biotechnology sector in India

- The Biotechnology sector in India is estimated to grow by about 31 percent CAGR by 2025.
- India is among the top 12 biotech destinations in the world and ranks third in the Asia-Pacific region.
- India has the second-highest number of US Food and Drug Administration (USFDA)–approved plants, after the USA.

800 + companies
3000 start-ups
US$100 billion

- The biotechnology industry in India, comprising about 1000 companies (2017), more than 3000 start-ups
- Valued at US$ 70 billion in 2020.
- The government has the dream of growing the sector into a US$ 150 billion industry by 2025, as per Union Minister for Science and Technology

Different sectors and multinationals

- Multinational companies investing hugely in India
- Biopharma and CRO (62 per cent), bio-services (18 per cent), bio-agri (15 per cent), bio-industry (4 per cent), and bio-informatics contributing (1 per cent)
- All sectors are blooming

Source: Ministry of S&T, IBEF

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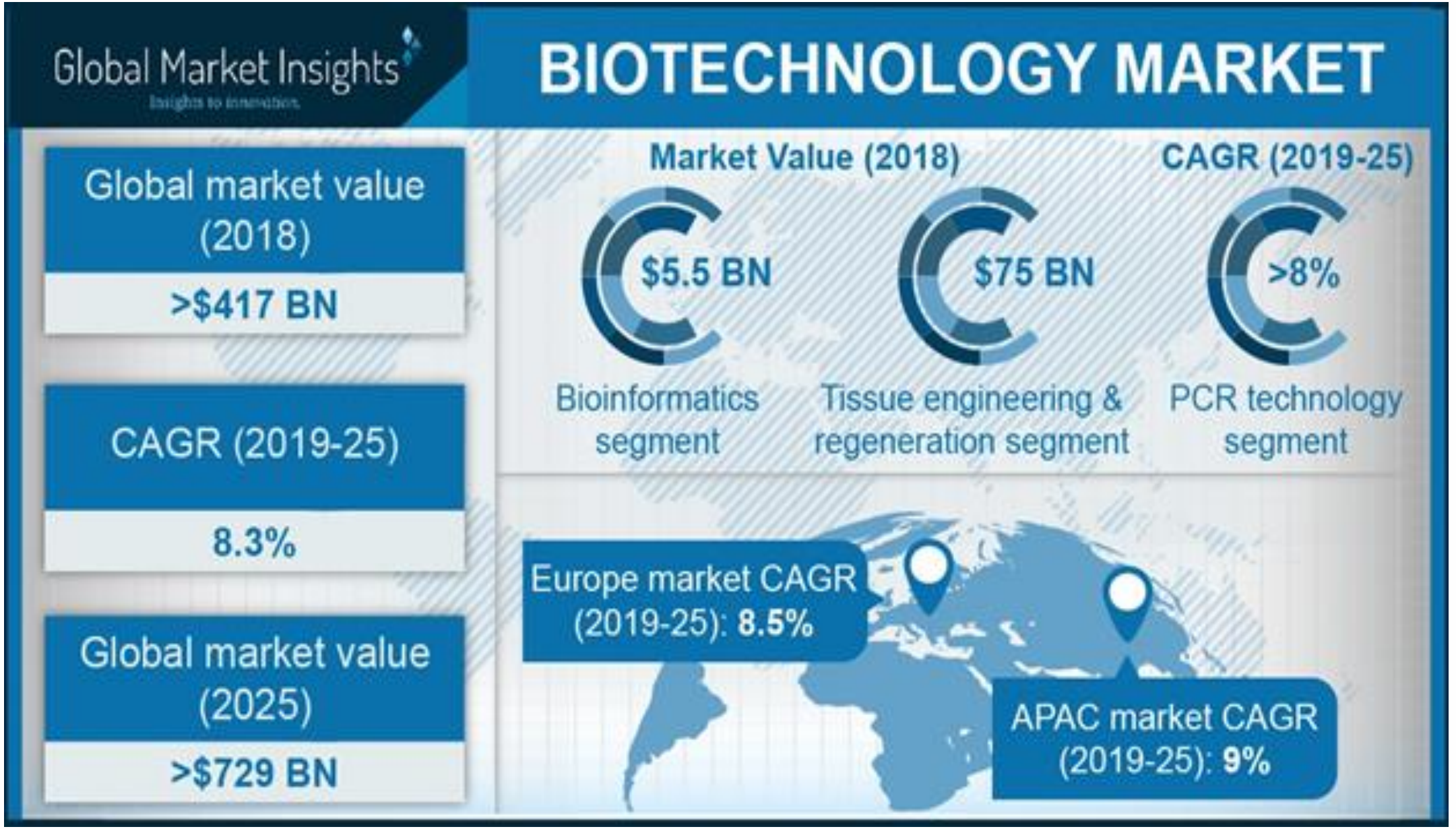
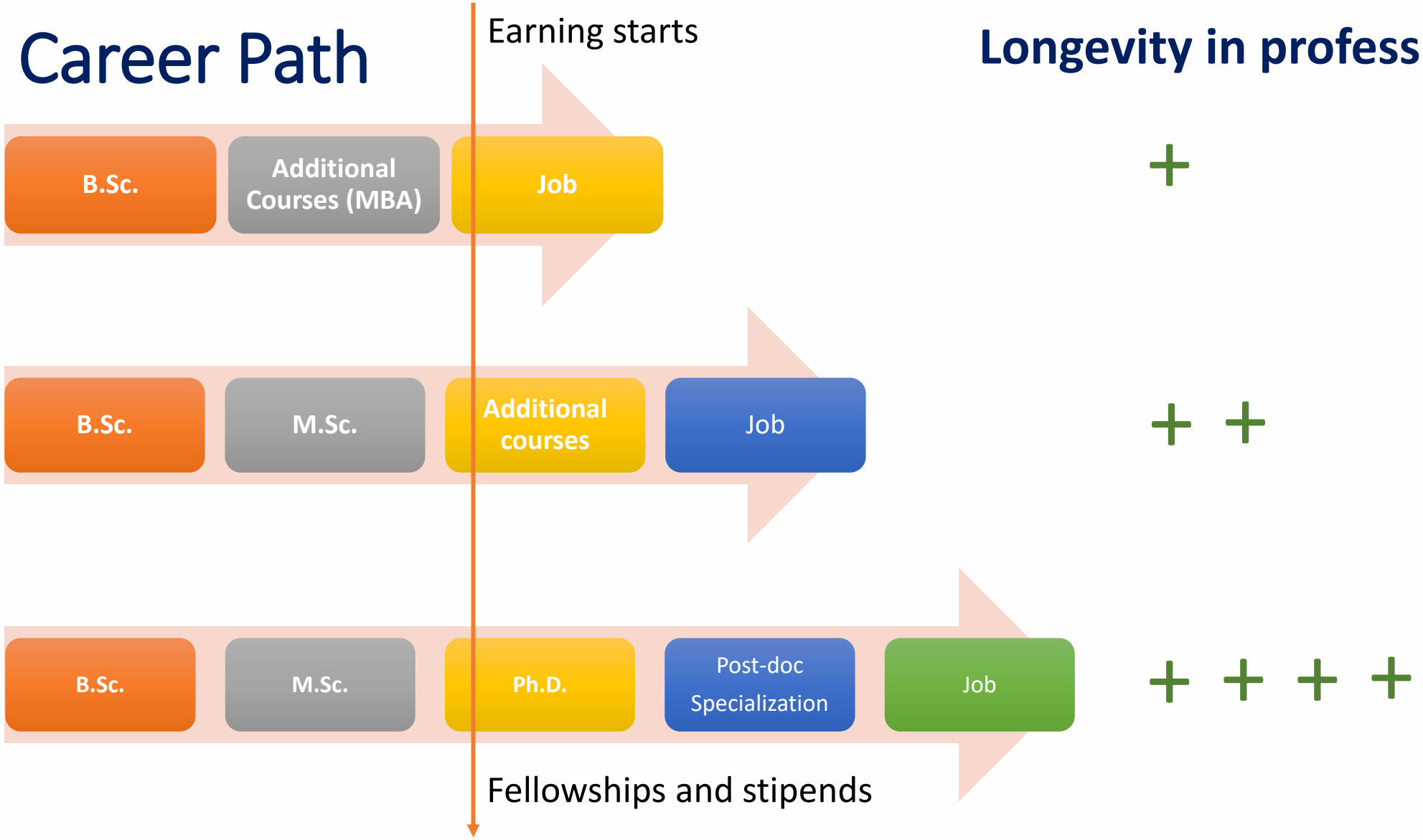


Career Path



Longevity in profession?

+

+ +

+ + + +

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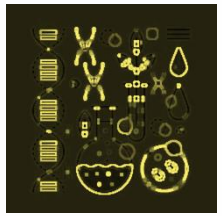
M.Sc. Biotechnology

Program in Brief

Foundation Courses:
Learn and develop insight into fundamental subjects like Biochemistry, Molecular & Cell Biology



Interdisciplinary Courses –

- **Module1:** Study of Stem Cell Technology, Nanobiotechnology, Regenerative Biology
- **Module2:** Study of Pharmacovigilance and data management, Genomics and proteomics

Specialized Courses: Gain functional expertise and learn the tools of Synthetic and Systems Biology, Computational Biology.

Electives: Build complementary skill sets relevant to function Pharmaceutical Biotechnology, Agriculture Biotechnology etc.

Internship and Projects: Experiential learning to be industry ready, 2 dedicated research projects (at industry/research institution/inhouse)

Entrepreneurship and Innovation Courses: Learn updated technology platforms

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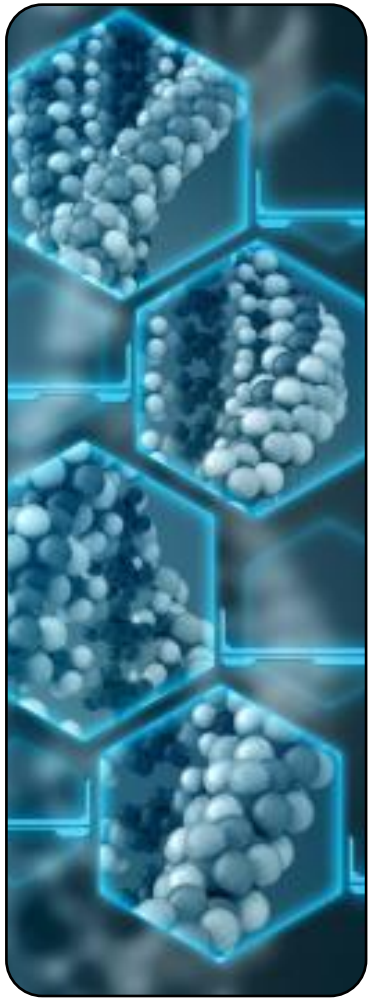
Salient Features



- - Perfect blend of **academia**, **Industry**, and **research**
  - Internship/ Industry project
  - **Immersion Program** in **rural** areas to understand the problems and provide solutions

- - Curriculum is delivered through highly qualified and experienced faculty
  - Opportunity to work on **interdisciplinary** projects
  - Excellent academic **ambience** and **vibrant** campus life

- - Effective **Mentoring** Scheme
  - On-campus **Incubation**
  - Centre to nurture the Start-Ups
  - State-of-the-art **infrastructure**

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A truly interdisciplinary in nature and offers cutting edge knowledge and skills

Focus of the course

Combination of Textbook based, lab based & project based courses

Interdisciplinary learning

Focus within the curriculum

Healthcare

Medical

Pharmaceutical

Clinical

Tools to Implement

Specific skills

Independent research

Internships (industry/research institute)

Job shadowing opportunities

Makes you industry ready, enrich and harness to be competitive at local, national and global level

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Programme	Courses	Credits	6 Months	3 Months
2 years	24	88	Research Project	Industry Training

Futuristic courses

Theory, Laboratory and Practice

Research Exploration and Collaborations

Industry exposure

M.Sc. Biotechnology

Experiential Learning

Projects, Assignments and Innovation

World Peace Curses

Yoga, Life Skills, Sports, Ethos, Liberal arts

Eligibility **Minimum 55% marks (aggregate)**	• **B.Sc. (Biotechnology / Biochemistry / Microbiology / Botany / Zoology / Life Sciences / Biomedical Sciences / Chemistry).** • **B. Pharm.; B.Sc. Agriculture; B. Tech. (Biotechnology and related stream).**
Admission Process and selection criteria	**Aggregate UG score and Online Personal Interview: MIT-World Peace University and Graduating score**

M.Sc. Biotechnology Course Structure

Year 1

Biochemistry	Computational Biology and Bioinformatics
Molecular and Cell Biology	Enzymology
Biostatistics	Biophysics
Microbiology	Regenerative Biology and Stem Cell Technology
Immunology	Bio-entrepreneurship, IPR & Bioethics
Bioanalytical Techniques	Biotech Laboratory - 02
Biotechnology Laboratory - 01	Elective-01
Peace Studies -01	Peace Studies-02
Yoga – For Winning Personality	

Year 2

Biomimetics and Nanobiotechnology	Industrial Training/Project
Synthetic Biology & Biologics Production	MOOC
Pharmacovigilance, Data Processing and Management	Biologue: A scientific discourse
Systems Biology	Industrial Training/Project
Biotech Lab - 03	
Project	
Elective-02	
Open Elective* (Extra credits)	

Elective Choices			
Elective I	Bioprocess Engineering	Integrative Biology	Fermentation Technology
Elective II	Environmental Biotechnology	Food Biotechnology	Agriculture Biotechnology

Team - School of Biology

Prof. (Dr.) Anup Kale
Head, Asso. Professor
Ph.D. Biochem (Nagpur Univ, Rath Res Institute, USA)
Nanobiotech, Bioeng & Bio analytics; Nutraceuticals;
Experience: 16 yrs
h-index: 12; # citations: 531

Prof. (Dr.) Alex Hankey
Professor Emeritus
Ph.D. from MIT, US
Complexity Biology, Systems Approach, Biophysics
Experience: 30 yrs
h-index: 12; # citations: 2095

Prof. (Dr.) Shilpa Chapadgaonkar
Associate Professor
Ph.D. Biochem Eng, IIT , Delhi
Bioprocess Technology, Enzymology, Pharma Biotech
Experience: 16 yrs
h-index: 07, # of citations: 222

Prof. (Dr.) Manasi Mishra
Associate Professor
Ph.D. in Biotech, CSIR-NCL, Pune
Plant immunity proteins and peptides, Synthetic biology
Experience: 08 yrs
h-index: 09; # citations: 224

Dr. (Mrs) Shikha Gaikwad
Assistant Professor
Ph.D. in Microbiology (GKU)
Applied Microbiology and Biotechnology
Experience: 17 yrs
h-index: 02; # citations: 26

Dr. Shreeram Joglekar
Assistant Professor
Ph.D. Biotech (DIAT, DRDO)
Nanobiotech, Biochemistry, Proteomics, Microfluidics
Experience: 06 yrs
h-index: 05; # citations: 415

Dr. Nithya N. Kutty
Assistant Professor
Ph.D. in Agri Biotech, IIT - K
Plant metabolism, Plant-microbe interactions.
Experience: 02 yrs
h-index: 04; # citations: 37

Dr. Rehan Deshmukh
Assistant Professor
Ph.D. in Biosen, BITS, Pilani
Biosensor development, Nanomaterials synthesis
Experience: 02 yrs
h-index: 05; # citations: 173

Dr. Neha Shintre
Assistant Professor
Ph.D. Microbiology (SPPU)
Marine microbial diversity, Natural product chemistry
Experience: 01 yrs
h-index: 02; # of citations: 09

Dr. Rasika Radhakrishnan
Research Associate
Ph.D. Bionanotech, RMIT Univ, Australia
Nanobiotech,Pharmaceutics
Experience: 01 yrs
h-index: 02; # citations: 101

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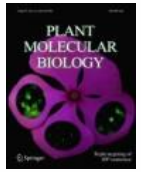

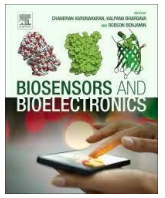

Research at School of Biology

Faculty at School of Biology is doing interdisciplinary translational research in the area of Nanobiotechnology, proteomics, molecular microbiology, genomics, cell biology, Plant biotechnology, Complexity Biology, Applied Microbiology and Biotechnology, Metabolomics, Biofertilizers , Biocontrol and Integrated Nutrient Management. Biosensors, Molecular Microbiology and Cell Biology.

Faculty received grants and funds from Funding agencies

Current:

Indian Council of Medical Research (ICMR), Govt. of India.

Past:

Department of Science and Technology (DST), Govt. of India.

Department of Biotechnology (DBT), Govt. of India.

BCUD, Savitribai Phule University of Pune.

Collaborations and Funded Research Projects

Collaborative, consultancy, funded research and academic projects

Biosensors, Nanobiotechnology, Biomimetics, Complexity Biology, Applied Microbiology

Multiplexed detection of pathogens by nanomaterials like graphene, quantum dots and composite nanomaterials. (electrochemical and fluorescence-based methods)

Bio-analytics, Diagnostics

Assay Development, Multiplexing; Lab-on-Chip devices, BioMEMS, Bio conjugation of nanomaterials and biomolecules.

Analytical Method Development, Bioengineering, Biomaterials and bio-inspired materials for Sensor applications.

Developed probes for detecting pathogenic *E. coli.*

The MIT-WPU Biotechnology Edge

Mentoring by Faculty

from

- NCL, India
- IISER, India
- University of Oxford
- Gwangju Institute of Science s and Technology (GIST)
- National University of Singapore (NUS)
- Nanyang Technological University (NTU)

1. Industry Advisory Board
2. Academic Advisory Council
3. Academic Council

Industry and International partnerships

Through these partnerships we are able to extend our reach to various globally acclaimed Universities. We are working towards bringing the best minds in Academics from all over the world to foster international partnerships for transformative global opportunities and programs.

Employability

Equipping you to look at future. Although self-motivation is the key- Team work, Communication Skills and most importantly, a winning attitude are a must for any B-School Pass out.

Rural Immersion

Through these partnerships we are able to extend our reach to various globally acclaimed Universities. We are working towards bringing the best minds in Academics from all over the world to foster international partnerships for transformative global opportunities and programs.

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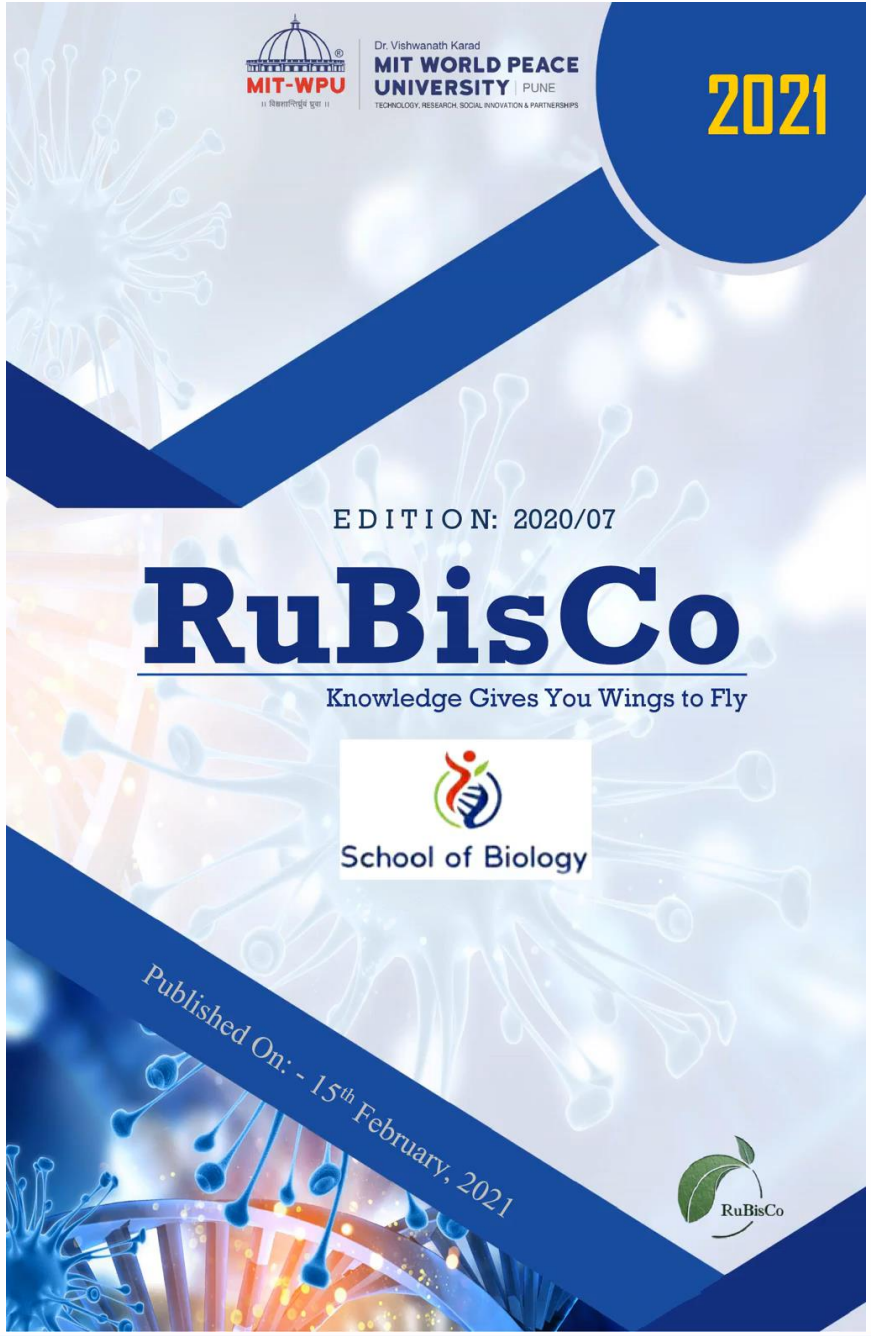
Infrastructure

Digital classrooms
Microbial Culture laboratory
Animal Tissue Culture laboratory
Bioanalytical laboratory
Electrochemical Analysis set-up



Student's technical magazine successfully completed 1 year with contributions from all over the world.

Students chapter

Students chapter of Society of Biological Engineers

One of only two chapters in India

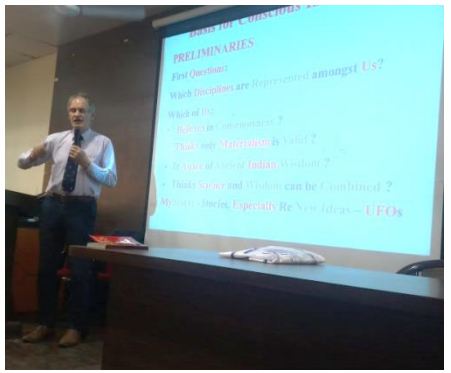
The Society for Biological Engineering (SBE), an AIChE Technological Community, is a global organization of leading engineers and scientists dedicated to advancing the integration of biology with engineering.

SBE is dedicated to promoting the integration of biology with engineering and realize its benefits through bioprocessing, biomedical and biomolecular applications.

This students chapter is an ideal platform for students from diverse background to integrate their academic and professional skills.

https://sbemitwpu.wordpress.com/home/

SBE students chapter
MIT-World Peace University



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- **You can join us at any time on :**

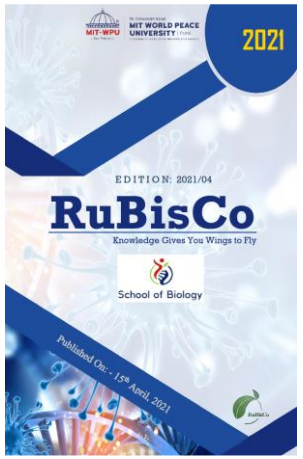
facebook

LinkedIn

YouTube

RuBisCo

Newsletter :
” RuBisCo “



Life @ Campus

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Four Decades of Educational Excellence













Placements Opportunities

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100+
companies participate in placements at MIT-WPU each year

More than 50% students already placed with industry leaders.

Numerous recruiters are being roped in for campus placements

Pursue higher studies in India & abroad

Active tie-ups with industry and premier research institutions

Emphasis to improve your career prospects:

- Training to enhance and improve your skills required for getting placement.
- 100% Placement Assistance
- Assistance to pursue higher studies

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Skill-Based Certifications

Skill based courses in the domain of Biotechnology, Metabolomics, Genomics, proteomics, Computational Biology, Fermentation Technology are under consideration.

- Peace
- Entrepreneurship
- Leadership Development
- Rural Immersion
- National Study Tour
- International Study Tour
- IEEE Computer Society. The Software Engineering Body of Knowledge (SWEBOK)
- Massive Open Online Courses (MOOC)
- Coursera
- NPTEL
- eDx

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Industry/ Research Academia Tie-up

- National Chemical Laboratory, Pune
- Actorius Innovations and Research Pvt. Ltd., Pune
- Amdocs India has setup “AMDOCS Innovation Lab” on campus exclusively for students to work towards making their innovative ideas a reality.
- Member of CISCO Networking Academy. CISCO Certified Network Associate (CCNA) program contains CCNA Exploration Version 4.0.
- IBM has set up “Centre of Excellence” and Business Transformation Program on Campus.
- TATA Honeywell

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Biotechnology

Job Prospects

- Sr. Associate Scientist
- Research Biochemist
- Sr. Regulatory Affairs Associate
- Biotechnology Researcher
- Quality Controller and Regional Manager
- Territory Sales Manger (Pharma companies)
- Biotechnology Business Consultant
- Biotechnology Process Analyst/consultant
- Associate Consultant
- Project Manager
- Process Consultant/Associate Engineer
- University Assistant Professor

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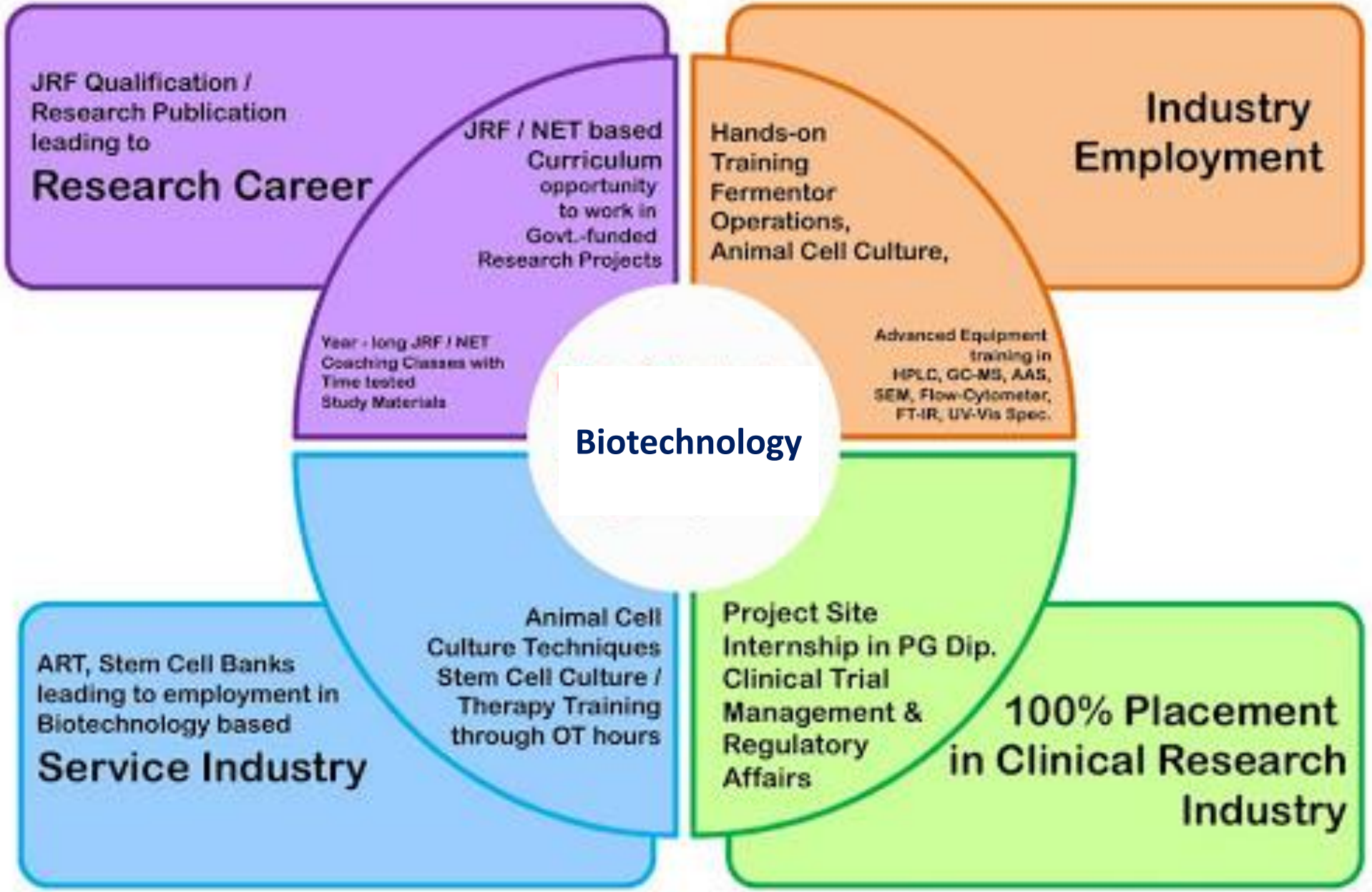
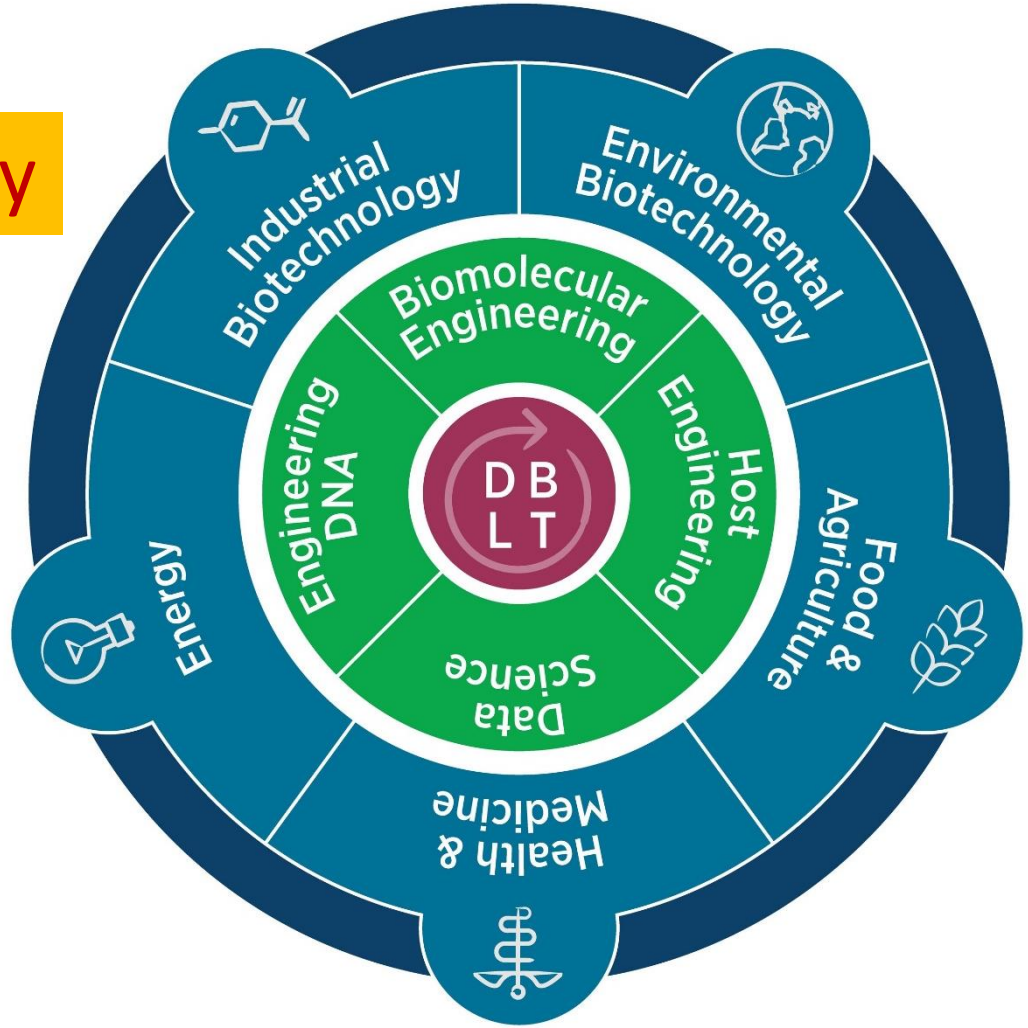


Next-generation Biotechnology

Engineering Biology



- Genomics and Genetic Engineering
- Computational Biology
- Bioinformatics
- Nanobiotechnology
- Synthetic Biology
- Systems Biology
- Complexity Biology
- Synthetic Biology
- Stem Cell Technology
- Gene therapy
- Drug discovery
- Clinical research

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M.Sc. Biotechnology

Fee structure and Scholarship

Fees

- Rs. 1, 00,000/- per annum

Eligibility

- B.Sc. (Biotechnology / Biochemistry / Microbiology / Botany / Zoology / Life Sciences / Biomedical Sciences / Chemistry).
- B. Pharm.; B.Sc. Agriculture; B. Tech. (Biotechnology and related stream).

Scholarship

- M.Sc. Biotechnology program has about 10 scholarships for meritorious students. The fellowships amount to total of more than Rs. 5 Lakhs

Scholarships criteria (M.Sc. Biotechnology	2021-22	
	Number of Scholarships	Rs. (Lakhs)
"Dr. Vishwanath Karad 100% Merit Scholarship (Number of Scholarships @ 5% of total intake)for the total duration of the program."	2	1.70
"100% Merit Scholarship (Number of Scholarships @ 3% of total intake) for first year only."	1	0.85
75% Merit Scholarship (Number of Scholarships @ 5% of total intake) for first year only.	2	1.30
"50% Merit Scholarhip (Number of Scholarships @ 7% of total intake) for first year only."	2	0.85
25% Merit Scholarship (Number of Scholarships @ 10% of total intake) for first year only.	3	0.65

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- Eligibility

- B.Sc. (Biotechnology / Biochemistry / Microbiology / Botany / Zoology / Life Sciences / Biomedical Sciences / Chemistry)

- B. Pharm.; B.Sc. Agriculture; B. Tech. (Biotechnology and related stream)

Process	Important Date
Apply Online at MIT-WPU portal	Before 30th of May 2022
Shortlisting of candidates	03rd June 2022
Selection through online interview	5th to 10th June 2022
Declaration of results	15th June 2022
Admission of selected candidates	16th to 25th June 2022
Start of the academic session	1st July 2022

- Selection will be based on academic performance at UG level and performance in the interview.
- We will assess the subject knowledge and career goals of a student in the interview.
- **Note: MIT World Peace University retains the rights of change in schedule**

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Ph.D. program at School of Biology

Ph.D. Program

- Biotechnology
- Microbiology
- Biochemistry
- Nanobiotechnology

Dr. Vishwanath Karad
MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

MIT-WPU: Philosophy

Philosophy and Tenets

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" The Union of Science and Religion / Spirituality alone, will help to bring Harmony and peace to the mankind."

Dr. Vishwanath D. Karad
Founder - President & Director General , World Peace Centre
MAEER's MIT Pune, India

Partnerships
- Partner with all individuals and organizations who can help students realize their fullest potential

Social Innovations
- Inspire students to come up with innovative solutions for our world family

Research
- Foster the spirit of scientific inquiry in students, to push the envelope of human knowledge and wisdom

Technology
- Nurture the ability of students to apply scientific knowledge for the well-being of the world

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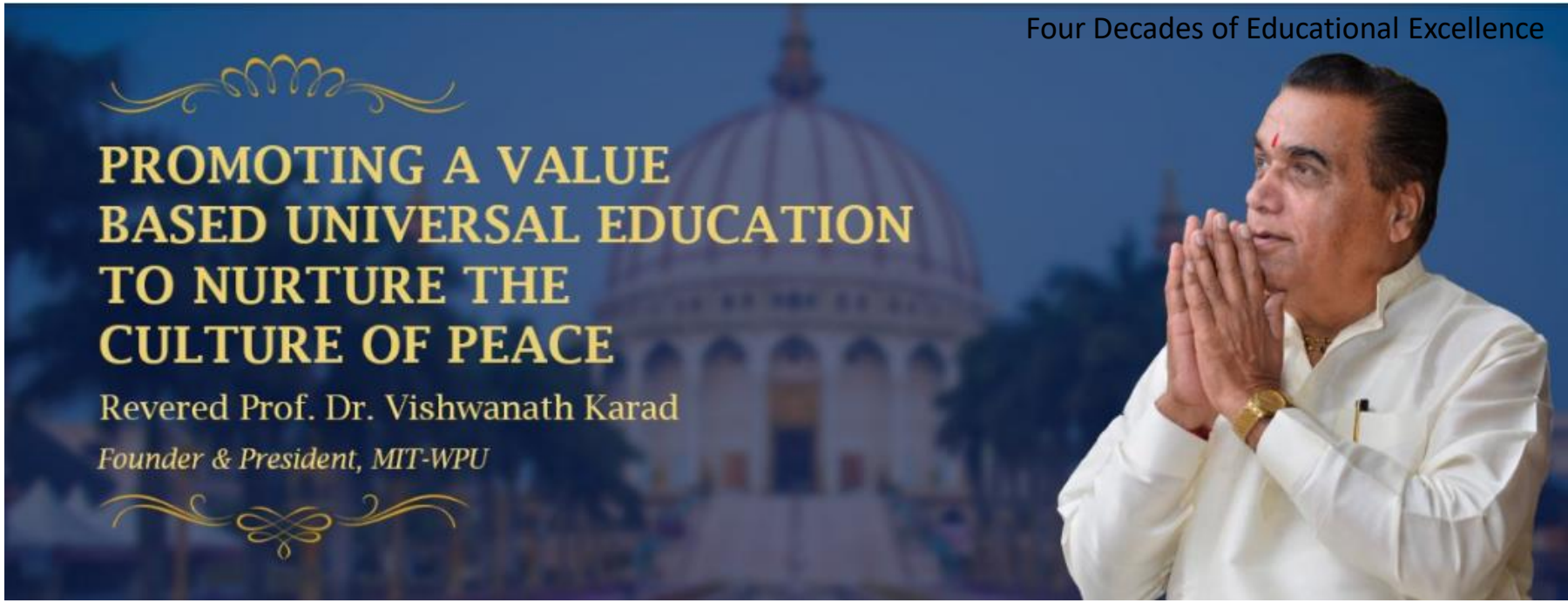
Four Decades of Educational Excellence

MIT-World Peace University



Worlds first University for Life Transformation

MIT-WPU: Legacy

Legacy and Launch of MITWPU

Dr. Vishwanath Karad
Founder & President
MIT-WPU

1981

The Seed Thought

When scarcity of Engg. Colleges lead to transform the adversity into opportunity for young aspirants

1983 - 1995

- Establishment of MIT
- Management Education under MAEER's MIT
- MIMER
- MIT Polytechnic

1996 - 2003

- World Peace Centre
- MIP
- UNESCO Chair at WPC
- MITAOE
- MIT-College of Engineering

2004 - 2014

- MAEER's College of Arts, Commerce & Science
- MITSOM
- MIT School of Government
- Vishwashanti Gurukul
- MITSOT

2015 onwards

- **MIT-WPU, Kothrud-Pune Flagship University, 1800 Staff (700 Teaching, 800 Non-teaching), 15000 Students, Over 1 Lakh Alumni in Higher Education**
- Avantika University, Ujjain
- Public Dedication ceremony of 'World Peace Dome

Mr Rahul V Karad
Executive President
MIT-WPU

Worlds first University for Life Transformation

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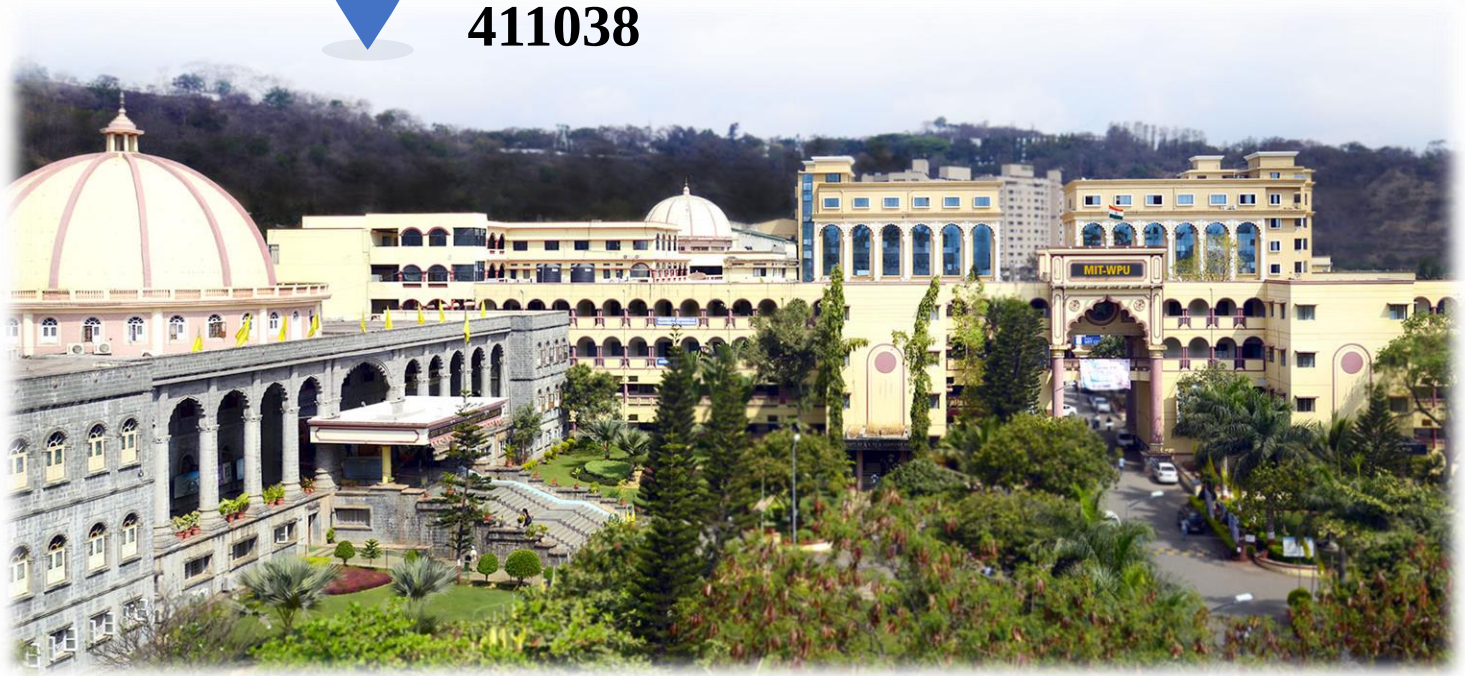

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