

# 2024

# Curriculum vitae

### Prof. R. G. Sonkawade

Senior Professor & Head, **Department of Physics**, Shivaji University, Kolhapur-416 004 **Former Head USIC, CFC & Coordinator SAIF-DST** Centre, Former Dean, School for **Physical Sciences**, Former Head, Dept., of **Applied Physics**, Former Director, RCA **Babasaheb Bhimrao Ambedker University** (Central University) Lucknow-25 **Former Scientist, Inter University Accelerator Center** (IUAC), New Delhi

#### CURRICULUM VITAE

Name	: Dr. Rajendra Girjappa Sonkawade
<b>Current Position</b>	: Senior Professor & Head
	Department of Physics, Shivaji University, Kolhapur-416 004(M.S.).
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<b>Mobiles E-mail</b> Website	: 9763041193 (Maharashtra); 09968314294 (Delhi) : sonkawade@gmail.com : <u>www.sonkawade.com</u>
Last Positions held	<ul> <li>Former Head, USIC, CFC &amp; Coordinator SAIF-DST Centre, Shivaji University, Kolhapur-416 004(M.S.).</li> <li>Former Dean School for Physical Sciences &amp;Professor,</li> <li>Former Head, Dept., Of Applied Physics</li> <li>Former Director, Residential Coaching Academy Babasaheb Bhimrao Ambedkar University (Central University), Vidya Vihar, Rae Bareli Road, Lucknow-226025, Uttar Pradesh.</li> <li>Senior Scientist Inter University Accelerator Centre (Formerly Nuclear Science Centre) [Reserach institute of University Grants Commission] New Delhi-110 067</li> </ul>



#### Academics:

Degree	University		
B. Sc	Dr. Babasaheb Ambedkar Marthwada University, Aurangabad, Maharashtra, India		
M. Sc	Dr. Babasaheb Ambedkar Marthwada University, Aurangabad, Maharashtra, India		
Dip. R. P*	Bombay University, Mumbai, Maharashtra, India		
Ph. D**	Hemwati Nandan Bahuguna University, (Central University), Tehri Grahwal, Srinagar, Uttarakhand, India		

\*Dip. R.P: Post Diploma in Radiological Sciences, conducted by Bhabha Atomic Research Centre (BARC), Mumbai and the degree awarded by Bombay University, Mumbai.

\*\*Radon, thoron and helium studies in air, soil and ground water: Application to Geothermal Resources and Radiation Protection

#### Education:

I was awarded the Degree of Doctor of Philosophy from Hemwati Nandan Bahuguna University, Srinagar (Garhwal), Uttrakhand. I completed my M.Sc. in Physics with specialization in Electronics in the year 1995 from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra State and also acquired my post M. Sc. Diploma in Radiological Physics (DRP) from Bhabha Atomic Research Centre (BARC), Mumbai.

#### Work Experience:

Position	Institution	Tenure
Head	Department of Physics, Shivaji University, Kolhapur- 416 004, Maharashtra	Dec 2023 to till date
Head	USIC & CFC, Shivaji University, Kolhapur-416 004, Maharashtra	Jan 2021 to Dec.2023
Professor	Department of Physics, Shivaji University,Kolhapur-416 004, Maharashtra	September 2014 totill date
Scientist	Inter University Accelerator Centre (Formerly Nuclear Science Centre), New Delhi-110 067	June 2013 to September 2014
Professor (Dean, Head and Director)	Babasaheb Bhimrao Ambedkar University (Central University), Vidya Vihar, Rae BareliRoad, Lucknow- 226025, UP	June 2011 to June2013
Scientist	Inter University Accelerator Centre (Formerly Nuclear Science Centre), New Delhi-110 067	September 1997 to June 2011

Medical	Shri Siddhivinayak Cancer Hospital, Miraj.	February	1997
Physicist		to	
		September 19	997
Medical	Uddhav Memorial Cancer Hospital, Mumbai-Agra	October	1996
Physicist	Road, Adgoan, Nasik.	to	
-		January 1997	

#### Total experience at National Research Institute & University: ~27 Years

#### Expertise/Areas of Specialization:

- Material Sciences (Energy storage technology, gas sensors, Microwave applications)
- Radiation Protection in the Accelerator/Environment.
- Radiation Dosimetry (Neutron and Gamma).
- Radiation Physics/Nuclear Geophysics.
- Medical Physics.

**Patents: 01** (3138/DEL/2010) "Microwave induced chemical etching of LR-115 type II solid state nuclear detector"

#### **Publications:**

120-publications have appeared in many reputed referred journals in the field of material sciences/radiation protection/radiation in environment. Published around 120 research papers in the refereed journals, 24 in the conference proceedings, 5 Book chapter,74 in the book of abstracts and actively delivering invited talks in various academic conference at National and International levels (Please see **Annexure-1**).

#### **Participation:**

Participated in the international and national conferences and delivered various Invited talks related to Material Sciences, radiation physics and environment. Apart from that various popular talks were delivered at Central University and Colleges. Being member on various statutory bodies of Institutes of National Importance, Central Universities, State Universities, Deemed Universities and autonomous colleges contributed a lot for higher education through such bodies. Member, National Consultation Meet on "Improving State Public Universities" organized by Central University of Gujarat, to enable the Ministry of **Human Resource Development** to compile a comprehensive Consultation Document comprising inputs from all such consultations to be placed before National Education Policy (NEP) Task Force.

#### Recognition and Awards:

- International Atomic Energy Agency (IAEA), Vienna, Austria has awarded me a grant of US \$3600 to facilitate the participation at the 10<sup>th</sup> International Conference on Environmental Remediation and Radioactive Waste Management, which was held at Glasgow, Scotland, UK.
- Visiting Scientist Fellowship from Japan Society for Promotion of Sciences (JSPS), Japan. Worked at High Energy Accelerator Research Organization (KEK), 1-1 oho, Tsukuba-Shi, Ibaraki-Ken, 305, Japan from June to September, 2006.
- Recognized guide at Jawaharlal Nehru University (JNU), N. Delhi for guiding Ph.D. students.
- > Recognized Co-guide at various Universities and NITs
- > Ph.D., awarded 10, Submitted 01.
- > Guiding 07-Ph.D. research scholars at present in the capacity of Guide.

#### Membership/Affiliation and Positions held:

#### **Membership of Academic Societies**

- The International Nuclear Track Society (INTS)
- International Radiation Physics Society (IRPS)
- Indian Association of Radiation Protection (IARP)
- Nuclear Track Society of India (NTSI)

#### Positions

- Peer Team Chairman, Member Co-ordinator/Member, National Assessment and Accreditation Council (NAAC), Bangalore for Universities and colleges assessment. From 2009 accredited many Universities, Colleges and Institutes.
- Member, General Council, National Institute for Hearing Handicapped, Mumbai, Govt., of India nominee from Ministry of Social Justice, Delhi [2014-2016]
- > Patron, Nuclear Track Society of India (NTSI) [2013-2015].
- President, Nuclear Track Society of India (NTSI) [two terms for 04 years 2009-2013].

- Have served as the Organizing Secretary, Convener as well as a member of the Organizing Committees of various International & National conferences and workshops.
- UGC nominated member on various committees of different Universities to review the promotion of readers to professors under the Career Advancement Scheme (CAS). Various Universities of the country visited as a UGC observer.
- UGC nominated member of the Governing Board of various autonomous colleges.

#### **Statutory Body Membership:**

- Member of constitution of Facility management committee (FMC) for the sophisticated Analytical Instrument Facility (SAIF) at IIEST, shibpur [2021].
- Member of Constitution of the Third Academic Council of Central University of Gujrat [2017].
- Member of Advisory Committee, Center for climate change at Central University of Gujrat [2016].
- Member, Research and Affiliation committee, Solapur University, Solapur [2015-2016]
- Member, Board of Management at Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow for a period of 3-years from May 2012.
- Member, Finance Committee at Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow for a period of 3-years from 10/07/2010.
- Member, Board of Studies, University School of Basic and Applied Sciences, Guru Gobind Singh Indraprashta University, New Delhi for a period of 2-years from 05/10/2010.
- Member, Planning board at Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow for a period of 3-years from 01/05/2009.
- Member, Governing Council, Inter University Accelerator Centre (formerly Nuclear Science Centre), N. Delhi for a period of 3-years from November 2010.
- > Member, Governing Board, Inter University Accelerator Centre (formerly Nuclear

Science Centre), N. Delhi for a period of 3-years from November 2010.

- Member, Finance Committee, Inter University Accelerator Centre (formerly Nuclear Science Centre), N. Delhi for a period of 3-years from November 2010.
- Member, Scientific Advisory Committee, Inter University Accelerator Centre (formerly Nuclear Science Centre), N. Delhi for a period of 3-yaers from November 2010.
- Member, Accelerator Users Committee, Inter University Accelerator Centre (formerly Nuclear Science Centre), N. Delhi for a period of 3-years from November 2010.
- Member, General council, Netaji Subhas Institute of Technology, N. Delhi-110 078 for a period of 3-years from May 2010.
- Member, Board of Management, Jain Vishva Bharti University (Deemed University), Ladnun, Rajashtan, (UGC nominee) for a period of 3-years from January 2009
- Member, Board of Management of the IIS University (Deemed University), Jaipur, Rajashtan, (UGC nominee) for a period of 3-years.
- Member, Planning & Monitoring Board of Vignan's Foundation for Science, Technology & Research, (Deemed University), Vadlamudi-522 213, Guntur (A.P.) (UGC nominee) for a period of 3-years.
- Member, Governing Council of High-Altitude Plant Physiology Research Centre of Hemwati Nandan Bahuguna Garhwal University, Uttaranchal, (UGC nominee) for a period of 3-years.
- Member, Advisory Committee of Karpagam University, Karpagam Academy of Higher Education, Coimbatore (Tamil Nadu) for a period of 3-years.
- Member, Governing Board, Sadakatappa College (Autonomous College) Tirunelvelli, Tamilnadu, for a period of 6-years from 2006-07.
- Member, Governing Board, Ambah College (Autonomous College) Ambah, Madhya Pradesh for a period of 6-years from 2006-07.
- > Member, Academic Council, Prince Institute of Innovative Technologies,

Gaziabad.

#### **Chairman of Statutory Bodies:**

- Chairman, Board for Post Graduate Studies (BPGS), Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow for a period of 3-years from August 2011.
- Chairman, School Board, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow for a period of 3-years from August 2011.
- Chairman, Research Development Committee, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow for a period of 3-years from August 2011.

#### **Other Assignments:**

- > Head, Department of Physics, Shivaji University, Kolhapur
- > i/c Head, USIC, CFC, & Coordinator SAIF-DST Centre, Shivaji University, Kolhapur.
- Subject expert/nominee in different selection Committees on various academic and administrative posts in various researches institutes/State Universities and Central Universities.
- Nominated member of selection committees in various offices of Maharashtra State Government.
- Chairman, University Level Purchase Committee, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow.
- Chairman, Sports Advisory Committee, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow.
- > Member of SC/ST-roster preparation committees at different institutes.
- > Approved member on various Institutes/Universities as Research Guide.
- Member, Standing Committee on Administration and other committees of Inter University Accelerator Centre, N. Delhi.

#### **Overseas assignments:**

Have visited many countries to present/participate papers and deliver/contribute Lectures on various occasions, like:

- Barcelona, Spain (Europe, 2004) (to attend the 22<sup>nd</sup> International Conference on Solid State Nuclear Track Detectors).
- Glasgow, Scotland (UK, 2005) (to attend the 10<sup>th</sup> International Conference on Environmental Remediation and Radioactive Waste Management).
- Japan (Asia, 2006) (visiting Scientist at High Energy Accelerator Research Organization).
- Belgium (Europe, 2007) (to attend the 11<sup>th</sup> International Conference on Environmental Remediation and Radioactive Waste Management).

#### **Research Projects:**

- Principle Investigator of Research Project entitled "Synergistic training program Utilizing the Scientific & Technological Infrastructure" Department of Science and Technology, Ministry of Science and Technology, GoI, New Delhi, February 2022, (DST/RND/STUTI/2021/38 (c)), Rs. 2.24 crore.
- Principal investigator of Research Project entitled "Synthesis and Characterization of Zn<sub>x</sub>Co<sub>3-x</sub>O<sub>4</sub> flexible thin film for supercapacitor application and its performance studies using synchrotron radiation" UGC-DAE Consortium from Scientific Research, Rs.1,35,000 /- April, 2019.
- Principal investigator of Research Project entitled "Effect of Swift Heavy Ion irradiation on Supercapacitor properties of Manganese Oxide/Conducting polymer thin film" Inter University Accelerator Center, Delhi, Rs.5,79,000 /-F. No. IUAC/XIII.7/UFR-60326 2<sup>nd</sup> August, 2016.
- Principal Investigator of Research Project entitled "Effect of low and high energy Irradiation on metal conducting polymer composite films synthesized by electrochemical route" Inter University Accelerator Center, Delhi- University Grants Commission, N. Delhi-02 Rs.5,79,000/-F. No. IUAC/XIII.7/UFR-57320 February 23<sup>rd</sup>,2015.
- Principal Investigator of Research Project entitled "Estimation & Evaluation of Radon, Thoron in the Soil, Fly Ash and Radiation shielding materials and its systematic analysis with Gamma Spectrometry", (University Grants Commission, N. Delhi-02 RS. 11,98,800, F.No.42-813/2013(SR) 21st March 2013).

- Principal Co-Investigator of Research Project entitled "Characterization of Conducting Polymers and their Structural, Electrical, Optical Properties by using swift heavy ions", Nuclear Science Centre, New Delhi, 2004 (UGC Funded University Projects).
- 7. Principal Co-Investigator of Research Project entitled "Development and Applications of Nuclear Track Filters using swift heavy ions" Inter University Accelerator Centre (UGC Funded University Projects)
- Principal Co-Investigator of Research Project entitled "The study of Electrical, Optical and Structural properties of Irradiated Conducting Polymers" Inter University Accelerator Centre (UGC Funded University Projects)
- Principal Co-Investigator of Research Project entitled "Study of Nano Scale Voids and free volume in heavy ion induced in conducting Polymers By-positron Annihilation Spectroscopy" Inter University Accelerator Centre (UGC Funded University Projects).
- Principle Co-Investigator of Research Project entitled "Seismo-Tectonic Studies and Health Risk Assessments in the Himalayas with special emphasis on Radon and Helium Emission". Department of Science and Technology, New Delhi, 2005. (DST/23(476)/SU/2004).

#### (Annexure-1)

#### LIST OF PUBLICATIONS

#### **Papers in Refereed Journals:**

- Pradnya G. Raje, Maqsood R. Waikar, Sourabh S. Kulkarni, Sunny R. Gurav, Umesh V. Shembade, Azeem M. Bagwan, Satyashila G. Ghongade, Aniket R. Sonkawade, Annasaheb V. Moholkar, Tukaram D. Dongale, Rajendra G. Sonkawade\*, " Elevated Asymmetric Supercapacitor with the Nickel-Metal Organic Framework derived Nickel oxide/Nickel composite: designed to optimize efficiency and reliability" Electrochimica Acta, Vol 507, 145134, [Impact Factor: 5.5] https://doi.org/10.1016/j.electacta.2024.145134
- Ashwini V. Patil, Sunny R. Gurav, Rajendra G. Sonkawade, Rajiv S. Vhatkar\*, 2024 "Unlocking the electrochemical potential of carbon aerogels: Tailored performance via controlled carbonization and activation process" Energy, Vol. 307, 132471, [Impact Factor- 9] https://doi.org/10.1016/j.energy.2024.132471
- Aniket R. Sonkawade, Sumedh S. Mahajan, Anjali R. Shelake, Shubham A. Ahir, Maqsood R. Waikar, Santosh S. Sutar, Rajendra G. Sonkawade, Tukaram D. Dongale, 2024"The g-C3N4/rGO composite for high-performance supercapacitor: Synthesis, characterizations, and time series modeling and predictions" International Journal of Hydrogen Energy, Vol. 87, 1416-1426, 0360-3199, [Impact Factor- 8.1] https://doi.org/10.1016/j.ijhydene.2024.09.129
- Tushar T. Bhosale, Umesh V. Shembade, Meenal D. Patil, Nishigandha B. Chougule, Mayuri G. Magadum, Suprimkumar D. Dhas, Maqsood R. Waikar, Tukaram D. Dongale, **Rajendra G. Sonkawade**, Annasaheb V. Moholkar\*, 2024 "EXlporing the electrochemical and electrocatalytic performance of bismuth oxide and bismuth manganese oxide nanostructures for supercapacitor and water splitting" Colloids and Surfaces A: Physicochemical and Engineering Aspects, Vol. 703, Part 1, 135228, 0927-7757 [Impact Factor-5.2], Publisher: Elsevier, https://doi.org/10.1016/j.colsurfa.2024.135228
- T. K. Nanditha, Shreepooja Bhat, Sebghatullah Amini, Rumana Farheen S. M., Maqsood R. Waikar, Rajendra G. Sonkawade, Sangamesha M.A., Mamatha Ballal, Krishnaveni s, Gurumurthy S. C. 2024"Robust Ag-Co bimetallic nanoparticles: Dual role in catalytic and triboelectric performance" Materials Research Bulletin, Vol.180, 113061, 0025-5408 [Impact Factor: 5.3] Publishier: Elsevier, https://doi.org/10.1016/j.materresbull.2024.113061
- Satyashila G. Ghongade, Meenal D. Patil, Maqsood R. Waikar, Aniket R. Sonkawade, Azeem M. Bagwan, Shital J. Shinde, Annasaheb V. Moholkar, Rajendra G. Sonkawade\* 2024" Unveiling Elegant In-Situ Properties: Structure and Vibrations of the Polymer Solution Synthesised BaFe<sub>12</sub>O<sub>19</sub>" Surfaces and Interfaces, Vol. 53, 105005, 2468-0230 [Impact Factor: 5.7], Publisher-Elsevier, https://doi.org/10.1016/j.surfin.2024.105005
- Pradnya G. Raje, Sunny R. Gurav, Maqsood R. Waikar, Gayatri R. Chodankar, Umesh V. Shembade, Annasaheb V. Moholkar, Tukaram D. Dongale, Rajendra G. Sonkawade\* 2024 "Exploring the role of metal concentration on the chemically synthesized Ni-MOFs nanostructures for asymmetric supercapacitor" Journal

of energy storage, 112617, [Impact Factor-9.4], Publisher-Elsevier, https://doi.org/10.1016/j.est.2024.112617

- 8. Umesh V Shembade, Sunny R Gurav, Ankita N Gurav, Sandeep B Wategaonkar, Navnath S Padalkar, Rajendra G Sonkawade, Jong Pil Park, Annasaheb V Moholkar, 2024 "Exploring the effect of concentration on hydrothermally synthesized mesoporous spherical nanoflowers of bismuth tungstate for hybrid supercapacitor and water-splitting applications" Journal of energy storage, 111679, [Impact Factor- 9.4], Publisher-Elsevier. https://doi.org/10.1016/j.est.2024.111679
- Sunny R. Gurav, Umesh V. Shembade, Gayatri R. Chodankar, Suman A. Sawant, Maqsood R. Waikar, Annasaheb V. Moholkar, Rajendra G. Sonkawade, 2024 "Unlocking the potential of optimal etching and ion exchange concentration in post-synthesis of binder-free NiCo-MOFs for high-performance supercapacitors" Materials chemistry and physics, 0254-0584, [Impact Factor- 4.6], Publisher; Elsevier. https://doi.org/10.1016/j.matchemphys.2024.129326
- 10.Shital J. Shinde, Maqsood R. Waikar, Sunny R. Gurav, Snehal L. Patil, Satyashila D. Ghongade, Azeem M. Bagwan, Aniket R. Sonkawade, Rakesh K. Sonker, Rajanish K. Kamat, Tukaram D. Dongale, Rajendra G. Sonkawade, 2024 "Unlocking the potential of effect of gamma irradiation on α-Fe<sub>2</sub>O<sub>3</sub> nanoparticles for high-performance resistive switching applications", Materials Science in Semiconductor processing, 1369-8001, [Impact Factor- 4.1], Publisher Elsevier. https://doi.org/10.1016/j.mssp.2024.108298
- 11.Gayatri R. Chodankar, Maqsood R. Waikar, Suman A. Sawant, Nilesh R. Chodankar, Suprimkumar D. Dhas, Umesh V. Shembade, Aniket R. Sonkawade, Annasaheb V. Moholkar, **Rajendra G. Sonkawade**, 2024 "Tailoring the electrochemical performance of monoclinic Ni<sub>2</sub>P<sub>2</sub>O<sub>7</sub> microstructure across different alkaline electrolytes", International Journal of Hydrogen Energy, 0360-3199, [Impact Factor- 7.2], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.ijhydene.2024.02.153
- 12.Gayatri R. Chodankar, Suman A. Sawant, Sunny R. Gurav, Maqsood R. Waikar, Annasaheb V. Moholkar, Rajendra G. Sonkawade, 2024 "Enhanced electrochemical performance: Synergetic effect of timedependent synthesis and redox additive concentration on ammonium nickel phosphate hydrate", Electrochimica Acta, 0013-4686, [Impact Factor – 6.6], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.electacta.2024.143834
- 13.Aditi D. Yadav, Rutuja B. Patil, Rutuja Gurav, Sanket Mali, Maqsood Waikar, Sambhaji Pawar, Rajendra G. Sonkawade, Sarita P. Patil, 2024 "Hydrothermally grown net-like interconnected nanoflakes and microflowers of vanadium oxide for supercapacitive applications", International Journal of Ionics-The Science and Technology of Ionic Motion, [Impact Factor- 2.8], Publisher: Springer, DOI:https://doi.org/10.1007/s11581-024-05430-7
- 14.M. P. Shilpa, B Chethan, S. J. Shetty, M. S. Murari, M. R. Waikar, R. G. Sonkawade, S. C. Gurumurthy, 2024 "Highly responsive reduced graphene oxide embedded PVDF flexible film-based room temperature operable humidity sensor", Sensors and Actuators A: Physical, [Impact Factor- 4.6], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.sna.2024.115011
- 15.Suman A. Sawant, Maqsood R. Waikar, Gayatri R. Chodankar, Sunny R. Gurav, Ashwini V. Patil, Rajiv S. Vhatkar, **Rajendra G. Sonkawade**\*, 2024 "A redox additive electrolyte boosted supercapacitive energy density of wrinkled RGO sheets", Journal of Energy Storage, [Impact Factor- 9.4], Publisher: Elsevier, DOI:

https://doi.org/10.1016/j.est.2023.109739

- 16.Sunny R. Gurav, Gayatri R. Chodankar, Suman A. Sawant, Umesh V. Shembade, Annasaheb V. Moholkar, Rajendra G. Sonkawade\*, 2023 "Exploring the potential of simultaneous nanoarchitectonics and utilization of Co-MOFs electrode as well as powder for aqueous supercapacitors" Journal Of Energy Storage, [Impact Factor- 9.4], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.est.2023.109254
- 17.Umesh V. Shembade, Suprimkumar D. Dhas, Sunny R. Gurav, Sandeep B. Wategaonkar, Suhas R. Ghatage, Mayur A. Gaikwad, Vinayak G. Parale, **Rajendra G. Sonkawade**, Jin Hyek Kim, Hyung-Ho Park, Annasaheb V. Moholkar\*, 2023" Chemically synthesized graphene oxide nanosheet (GONs) is an efficient electrode material for supercapacitor: Effects of current collectors" Diamond and Related Materials, [Impact Factor- 4.1], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.diamond.2023.110602
- 18.Sunny R. Gurav, Aniket R. Sonkawade, Maqsood R. Waikar, Umesh V. Shembade, Annasaheb V. Moholkar, Shiv K. Chakarvati, **Rajendra G. Sonkawade**\*, 2023" Fine-tuning interconnected leaf-like architecture of Co-MOFs by varying linker concentrations for solid-state supercapacitors" Colloids and Surfaces A: Physicochemical and Engineering Aspects, [Impact Factor-5.2], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.colsurfa.2023.132843
- 19.U. V. Shembade, S. R. Gurav, M. A. Gaikwad, S. B. Wategaonkar, Suhas R. Ghatage, R. G. Sonkawade. J. H. Kim, Annasaheb V. Moholkar\*, 2023, "Hydrothermal synthesis of graphene oxide interspersed in non-uniform tungsten oxide nanorod and its performance towards highly efficient hybrid supercapacitor" Ceramics International, 0272-8842, [Impact Factor- 5.2], Publisher: Elsevier. DOI:https://doi.org/10.1016/j.ceramint.2023.10.107
- 20.Satish A. Mahadik,\* , Rajendra G. Sonkawade, Fernando Pedraza, Lahu B. Phadatare, Akshy K. Bhagate, Maqsood R. Waikar, 2023 "Enhancing photoelectrochemical performance through surface engineering of CdSe and Al-doped CdSe nanoparticles on ZnO/FTO photoanodes", International journal of hydrogen energy, 0360-3199, [Impact Factor – 7.139], Publisher: Elsevier. DOI:<u>https://doi.org/10.1016/j.ijhydene.2023.08.299</u>
- 21.Umesh V. Shembade, Suprimkumar D. Dhas, Mayuri G. Magadum, Sunny R. Gurav, Pradyna G. Raje, Rajendra G. Sonkawade, Sandeep B. Wategaonkar, Suhas R. Ghatage, Mayur A. Gaikwad, Jin Hyeok Kim, Vinayak G. Parale, Hyung-Ho. Park, Annasaheb V. Moholkar\*, 2023 "Investigating the effect of electrolyte and its concentration dependence on WO<sub>3</sub> nanosheet as an efficient electrode for supercapacitors: Effect of Redox Additive", Journal of Physics and Chemistry of Solids, 0022-3697, [Impact Factor – 4.383], Publisher: Elsevier. DOI:<u>https://doi.org/10.1016/j.jpcs.2023.111609</u>
- 22.Sunny R. Gurav, Suman A. Sawant, Gayatri R. Chodankar, Umesh V. Shembade, Annasaheb V. Moholkar, Rajendra G. Sonkawade\*, 2023 "Exploration of aqueous electrolyte on the interconnected petal-like structure of Co-MOFs for high-performance paper-soaked supercapacitors", Electrochimica Acta, 0013-4686, [Impact Factor – 6.6], Publisher: Elsevier. DOI:<u>https://doi.org/10.1016/j.electacta.2023.143027</u>
- 23.Umesh V. Shembade, Suprimkumar D. Dhas, Sunny R. Gurav, Rajendra G. Sonkawade, Sandeep B. Wategaonkar, Suhas R. Ghatage, Mayur A. Gaikwad, Jin Hyeok Kim, Vinayak G. Parale, Hyung-Ho Park, Annasaheb V. Moholkar\*, 2023 "Acid substitutions for WO<sub>3</sub> nanostructures synthesis by the hydrothermal route and its effect on physio-chemical and electrochemical properties for supercapacitors", Journal of Energy

Storage, 2352-152X, [Impact Factor – 9.4], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.est.2023.108432

- 24.Ashwini V. Patil, Suman A. Sawant, Rajendra G. Sonkawade, Rajiv Vhatkar, 2023 "Green synthesized carbon aerogel for electric double layer capacitor" Journal of Energy Storage, 2352-152X, [Impact Factor 9.4], Publisher: Elsevier. DOI: <u>https://doi.org/10.1016/j.est.2023.108533</u>
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#### Papers in Proceedings:

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#### **BOOK Chapters:**

- Satyashila D. Ghongade, Pradnya G. Raje, Maqsood R. Waikar, Rakesh K. Sonker, Rajendra G. Sonkawade (2023): An Introduction: Advanced Functional Materials for Sensing Application, Publisher: Springer Nature, DOI: 10.1007/978-981-99-6014-9 1
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#### **Published contributions in academic conferences**

- R. G. Sonkawade (2024): "Radiation-induced Modifications in Supercapacitor Electrode Materials: A Multifaceted Exploration", International Conference on nanotechnology Addressing the Convergence of Materials Science, Biotechnology and Medical Science organized by D. Y. Patil Education Society, Kolhapur on 12-14 Feb, 2024. [Invited Talk]
- 2. R. G. Sonkawade (2023): "Ionizing Radiation effects on the Electrochemical behavior of MOFs based Electrodes for Supercapacitors", International Conference on Chemical and Biological Sciences organized by Atma Ram Sanatan Dharma College, University of Delhi, Delhi. [Invited Talk]
- 3. R. G. Sonkawade (2023): "Ionizing Radiation Effects on the Electrochemical Behaviour of MOFs based Electrode for supercapacitors", 28<sup>th</sup> international Conference on Nuclear Tracks & Radiation Measurements organized by Gurugram University, Sector-51, Gurugram, Haryana. [Invited Talk]
- <u>4.</u> <u>R. G. Sonkawade</u> (2023): Supercapacitors: Harnessing Renewable Energy For A Sustainable Future, International Conference of Designing A Sustainable Future: Advances And Opportunities in Green Chemistry, University of Ladakh, Ladakh on 3 July 2023. [Invited Talk]
- 5. R. G. Sonkawade (2023): Operational Parameters of XRD (Powder and Thin Films), Workshop on Advanced Characterizations techniques in science and technology, SAIF-DST-CFC, Shivaji University, Kolhapur, 30 Jan. to 5 Feb. 2023. [Invited Talk]
- <u>6.</u> <u>R. G. Sonkawade (2023)</u>: TEM Instrumentation Parameters, Operational Parameters of XRD and uses of I-STEM, Workshop on Sophisticated Instrumental Analysis for Biological and Materials Characterization, Sri Venkateswara University, Tirupati, AP.,25 to 31 Jan. 2023. [Invited Talk]
- <u>7.</u> <u>R. G. Sonkawade (2023)</u>: TEM Instrumentation Parameters and use of I-STEM, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Sant Gadge baba Amravati University, Amravati, 17 Jan. 2023. <u>[Invited Talk]</u>
- <u>8.</u> <u>R. G. Sonkawade (2023)</u>: X-ray Diffractometry of Powder and Thin Films : Instrument Operational Parameter, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Sant Gadge baba Amravati University, Amravati, 17 Jan. 2023. [Invited Talk]
- 9. R. G. Sonkawade (2023): TEM Instrumentation Parameters and use of I-STEM, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Manipal Institute of Technology, Karnataka, 5 to 13 Jan. 2023. [Invited Talk]
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- **<u>11.</u> <u>R. G. Sonkawade (2022): XPS, TEM Instrumentation Parameters and use of I-STEM, Workshop on</u> Advances in Engineering, IIT, Indore, 19 to 25 December 2022. [Invited Talk]**
- 12. R. G. Sonkawade (2022): XRD, TEM Instrumentation Parameters and use of I-STEM, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, The Maharaja Sayajirao University of Baroda, Gujrat, 11 to 17 December 2022. [Invited Talk]
- 13. R. G. Sonkawade (2022): XRD, TEM Instrumentation Parameters and use of I-STEM, Workshop on Advanced Instrumentations in Materials Science and technology, SAIF-DST-CFC, Shivaji University, Kolhapur, 5 to 11 December 2022. [Invited Talk]
- 14. R. G. Sonkawade (2022): Operational Parameters of XRD (Powder and Thin Films, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Nagpur University, Nagpur, 1 December 2022. [Invited Talk]
- <u>15.</u> R. G. Sonkawade (2022): Operational Parameters of TEM Instrument and use of I-STEM, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Nagpur University, Nagpur, 2 December 2022. [Invited Talk]
- 16. R. G. Sonkawade (2022): XRD, TEM Instrumentation Parameters and use of I-STEM, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Gauhati University, Gauhati, 24 to 30 Nov. 2022. [Invited Talk]
- <u>17.</u> R. G. Sonkawade (2022): XPS Instrumentation Parameters and use of I-STEM, Workshop on Challenges and Opportunities for Innovative Research using Sophisticated Instruments, SAIF-DST-CFC, Shivaji University, Kolhapur, 1 to 7 Nov. 2022. [Invited Talk]
- <u>18.</u> <u>R. G. Sonkawade (2022)</u>: X-ray Diffractometry of Powder and Thin Films : Instrument Operational Parameter, Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Kerala University, Kerala, 10 to 16 Oct. 2022. [Invited Talk]
- 19. R. G. Sonkawade (2022): XPS Instrumentation Parameters, , Workshop on Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, Kerala University, Kerala, 10 to 16 Oct. 2022. [Invited Talk]
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[Invited talk]



(R. G. Sonkawade)

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THE IS	Department of Physics, <u>Shivaji University</u> , Kolhapur-416 004, Maharashtra Verified email at unishivaji.ac.in - <u>Homepage</u>	State			All	Since 20
	Research			Citations	3503	1
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## Sonkawade, Rajendra G.

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Professor Varun Sahni Vice-Chancellor



03 April, 2018

GU/VC/7/2018/ 4-01

#### Reference Letter

It is with considerable pleasure that I am writing this reference letter in support of Professor R. G. Sonkawade, Professor of Physics at Shivaji University, Kolhapur who is applying for the post of Vice-Chancellor of University of Mumbai.

I have known Professor Sonkawade since February 2009, when he visited the University of Jammu as a Member of the Peer Team of National Assessment and Accreditation Council (NAAC) to assess my University. I was then Vice-Chancellor of the University of Jammu and thus got the opportunity to interact closely with all members of the NAAC Peer Team. I was most impressed with the seriousness of purpose exhibited by Professor Sonkawade, who was easily the youngest member of that NAAC Peer Team. I remember well the care with which he inspected our reservation rosters and pointed out some minor errors, while being scrupulously fair in his overall assessment of the University. A few months later, he prevailed upon me, an international relations scholar, to become Member of the Advisory Committee to organise a three days National Conference on "Accelerator & Low-Level Radiation Safety (NCALLRS)" at the Inter-University Accelerator Centre (IUAC), New Delhi. The hugely productive and successful conference, organised in November 2009, was attended among others by Dr A.P.J. Abdul Kalam, former President of India and Dr Anil Kakodkar, Chairman, Atomic Energy Commission. Even as a young scientist, Dr Sonkawade's ability to bring together some of the senior most people was impressive.

Over the ten years that I have known him, Professor R. G. Sonkawade has built an enviable track record of scholarship and service. As a Professor of Physics, he has contributed hugely to IUAC, New Delhi, Babasaheb Bhimrao Ambedkar University, Lucknow and more recently Shivaji University, Kolhapur. He has twice been President of the Nuclear Track Society of India and has served on important committees of the University Grants Commission and Ministry of Social Justice, Government of India. He is the recipient of the Visiting Scientist award under Japan Society for the Promotion of Sciences (JSPS). The Ministry of Social Justice and Empowerment, Government of India, New Delhi nominated him to General Council of National Institute for the Hearing Handicapped, Mumbai. He is also actively involved in two NGOs that are doing wonderful work in the areas of educational and social development in Ratnagiri region of Maharashtra State. Of his leadership qualities and administrative acumen there can be no doubt: he has both in abundance.

It can be seen that I have a very high opinion of Professor R. G. Sonkawade's abilities and potential to lead University of Mumbai. I am supporting his application with a strong sense of conviction that he is the right person for the job. I am confident that University of Mumbai would flourish under his stewardship.

Yours sincerely,

Varun Sahni VICE CHANCELLOR GOA UNIVERSITY

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Prof. S. A. Bari Vice Chancellor

F.No. 1-3/VC/Gen./2018/60

Date: 05/04/2018

#### To Whom It may Concern (Letter of Reference)

This is a letter of reference in support of Prof Dr. R. Sonkawade for the position of Vice-Chancellor, University of Mumbai, Mumbai.

I have known Prof. R. Sonkawade as a committed researcher and academician in Higher Education circles and I have come across highlights of his achievements and contributions while he was with Inter University Accelerator Centre (IUAC, Research Centre of UGC), New Delhi. As a senior scientist. While at Babasaheb Bhimrao Ambedkar University, (A Central University), Lucknow his acumenship and administrative capabilities came to the light while discharging several duties assigned to him. His performance was absolutely flawless and he excelled in handling Govt., and UGC related matters.

He has the unique credit of being a singular case of holding two-term tenures as the president of Nuclear Track Society of India (NTSI), which speaks promptly of his credibility and popularity in the NTSI society. The NTSI is a very prestigious society of the country, with head office at Bhabha Atomic Research Centre, Mumbai.

He has a very impressive career as nuclear scientist and researcher that adds another vibrant feather to his cap. I quote he is a strong researcher with a patent to his credit also. He has extremely good academic track record with publications having high citations, indices and impact factors. He is the recipient of the Visiting Scientist award under Japan Society for the Promotion of Sciences (JSPS). He has visited various countries for his research pursuits. He is involved in National Assessment and Accreditation Council (NAAC) as a member coordinator of peer team for assessing universities and colleges. Apart from that he has been involved in various assignments of University Grants Commission (UGC), New Delhi as a UGC observer, member Governing Board, Finance Committee, Planning Board etc., of various deemed, state/central universities and autonomous colleges. Ministry of Social Justice and Empowerment, Government of India, New Delhi nominated him as General Council of National Institute for the Hearing Handicapped, Mumbai. She or he will need to know what is necessary to sustain and develop research that is truly exceptional and what is also required to enable the University to attract and retain the world's best academics. The Vice-Chancellor will be expected to have a deep commitment to the University's students, to their education and to their development as individuals. She or he must share the belief in the importance of education as a means by which lives may be changed, and of the role of the University as an environment for developing the intellectual ability, character, aspiration, and values for the good of society. The Vice-Chancellor must be committed to ensuring that the University admits students with outstanding academic potential and the ability to benefit from the education being provided. I am sure that Prof Sonkawade understands how to establish and maintain the conditions that encourage academic endeavour to flourish within University's unique environment and finally, in Prof Sonkawade I see a right candidature for the post.

I am sure the University of Mumbai will be highly benefited and progress very well under his leadership.

With best wishes

Truly



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#### International Conference on Materials Science and Ionizing Radiations Safety and Awareness (ICMSIRSA-2016) from 28-30 January 2016

Chief Guest honorable Prof. Rajkumar, Director, All India Institute of Medical Sciences, RushikeshUttrakhand. Guest of Honor Dr. Ramdas Bhattacharya, Former Vice Chairman, Atomic Energy Regulatory Board, Mumbai.



#### International Conference on Radiation International Conference on Radiation Environment Assessment, Measurement and its Impact (RADENVIRON-2012) held on April 12-14, 2012 at Babasaheb Bhimrao Ambedkar University, Lucknow.Organizing Secretary, RADENVIRON-2012, Prof. R . G. Sonkawade,

Chief Guest honorable Prof. NarendraJadhav, Member, Planning Commission, Government of India, New Delhi. Honorable Maj. Gen (Dr) J. K. Bansal, Member, National Disaster Management Authority of India (NDMA), New Delhi, as a guest of honor.



#### National Conference on Accelerator and Low Level Radiation safety organized by Inter University Accelerator Centre, New Delhi during November 18-20, 2009 by Prof. R . G. Sonkawade, Organizing Secretary, NCALLRS-09

Chief Guest Honorable Dr. A. P. J. Abdul Kalam, Former President of India, inaugurating NCALLRS-09



Chief Guest on dias Honorable Dr. A. P. J. Abdul Kalam, Former President of India, Dr. Anil Kakodkar, Former Chairman, Atomic Energy Commission, Mumbai as a guest of honor, presided by Prof. S. K. Thorat, the then Chairman, University Grants Commission, New Delhi during inaugural function of NCALLRS-09



#### Conference on Accelerator and Low Level Radiation Safety (ALLRS-09) organized by Inter University Accelerator Centre, New Delhi held on April 26-27, 2007; Organizing Secretary Prof. R . G. Sonkawade, ALLRS-07

Chief Guest on dias Honorable Prof. B. L. Mungekar, Member, Planning Commission, Government of India, New Delhi, Dr. B. Bhattacharya, Member, National Disaster Management Authority of India (NDMA), New Delhi



#### MEDIA CLIPPINGS

### hindustantimes | metro | 03

# Now, Lucknow is under BARC eye

UP'S FIRST Bhabha Atomic Research Centre has set up state's first radiation detection station at BBA university

#### HT Correspondent

LUCKNOW: Bhabha Atomic Research Centre (BARC) has set up a radiation monitoring network station at Bahasaheb Bhimrao Ambedkar University Lucknow this month.

It is the first in Uttar Pradesh. The station is like a high-tech mini-lab armed with equipment to sense harmful radiations and automatically send an alert signal with radia-tion-level details to BARC in Mumbui for the required help. The centre has been named Indian Environmental Radiation Monitoring Network (IERMON) station. BBA university in the first contral university in the

hirse contrat university in the country to have been picked for the purpose by BARC. Addressing media persons on Wednesday, university officials asid the technology involves detection of garma radiations through the Goger Multer Tube.

Excessive gamma radiations cause biological damages and lead to abnormalities. "The network is being expanded and upgroded in order to meet the different objectives of the mon-itoring network," said head of the applied physics department RG Sonkawade and added, the detection network system has been indigenously developed by BARC. "It is a solar- powered radiation monitoring system with GSM-based data commu-nication. The wireless sensor in stworks play an important role in stworks play an important role in stworpincy defection," he said and credited the vice chancel-for B Hamumaiah for support-tion the action scales

ing the entire project. Why radiation studies are important? Radiation and radioactive

materials are today widely used in industry, medicine, agricul-ture, food preservation etc. Due to the deleterious effects of radiation on man, the radiation



#### **EXT NDMA CENTRE**

Management Authority (NDMA) has agreed in principle to set up a radiation e and training ity for military forces police at saheb Bhimrao edkar University now. NDMA has ed to fundi the senditavour



 It is importative to have such systems across the country for prompt radiation detection, especially when the country is switching to nuclear power programme to tide over the energy



- R G Sonkawade

sources need to be handled with respect and safety. Just like elec-tricity, if handled safely, it is an extremely helpfui tool. So it is nece ssary to educate



- Babasaheb Bhimrao Ambedkar University (BBAU) hes transformed itself into a unique aca-dentic centre of excellence under its vice chancellor B Harumaiah's leadership during past five years.
- The university has eight schools of occellence and 22 departments now. There are plans to add 23

people about radiation and its

"Radiation can damage to biological systems if suitable safety norms are not adopted.

more departments and six schools of excellence by 2017. The total teaching faculties are

- 180 . Registrar SK Singh says the uni-
- versity aims to add 315 more fac-uity members by 2017.
- . It has 1510 Ph.D scholars and 400 research scholars.

Therefore, it is necessary to spread awareness about radia tion and radioactive materials through educational institu-tions," said registrar SK Singh.





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4 दिनिक जागरण लखनक. 22 दिसंबर 2011

# भाभा एटॉमिक रिसर्च सेंटर से जुड़ा अंबेडकर विवि

 इंडियन इनवायरमेंटल रेंडिएशन मानीटरिंग नेटवर्क सिस्टम ने मिलेगी खतरनाक किरणों की जानकारी

लखनऊ 21 विसंबर (जास): बाबा साहेव भीमराव अंबेदकर केंद्रीय विव्यविद्यालय में एक नया अध्याय जुढ़ने का शा है। नेमनल विजास्टर मैंनेजमेंट एषांटों ने विश्वविद्यालय के अंदर राजरंगक किरणों सी जानकारी देने के लिए इंडियन इनवायरमेंटल रेडिएलम मान्डेटरिंग नेटवर्क सिस्टम मुरू करने की हरी होडी दे दी है। यह सिस्टम मौचे घामा घटीमिक स्सिर्च सेंटर से जुढ जाएगा। नेटवर्क लगा दिया गया है और अगले महीने से सिस्टम काम करने लगेगा।

रविस्ट्राग एसके मिह ने बताया कि कुल्पति प्रो वी इनुमैध्या के प्रथास से वह संभव हो सका है। इस सिस्टम के शुरू होने में न केवल कैसर वैसी बोमरियों के जारे में सैंव में रिसर्च किया जा सकेया बल्कि पेड-पौथों पर पड़ने वालो खेतरनाक किरणों से भी उन्हें बचाया जा सकेया। गाना किरणों के रेडिएसन की जानकारी के साथ ही पुलिस व पैसमिलिडी फोर्स को खतरनाक किरणों की जानकारी देने के लिए भी विधि में सेंटर बनेगा। रेडिएसन सेंटर खुलने के बाद अंबेडकर लिंग देश का पतला केंद्रीय विधि बन गया है जिसकी मॉनीटरिंग भाभा एटीमिक रिसर्च सेंटर करेगा।

अंग्रेडकर विधि में 23 वर्ग विभाग:

#### ऐसे काम करेगा 'सिस्टम'

पिक्रिकेकल साइस के विमानायक भी आरसी सोनवायर ने बतवा कि इस सेंटर के स्वाधित होने से परिसर के अंदर सिसर्ज के दौरान वदि खतरनाक विजये निकल्डी हैं तो इसकी जनकारी कुछ ही संकेंद्रों में पामा पटोमिक रिसर्व सेंटर को ही जपनी। का दुख ही पत्ने में सभी को अलर्ट कर देगा। बगैर तान के सीचे नैटेलाइट सिस्टम से जुडे इस नेटकक के जरिए लोगों को जागरक भी किया जपना। नेतनल डिजस्टन एफॉटी के स्टरमों के साथ साल ही हुई वार्व के बाद अब भीघ ही थिंदी में सिज्यान देनिंग सेटर खोला जापना, जरा जरूरत पाने पर सुरक्षधार्मीयों को प्रशिक्षण दिवा जागा।

विवि के प्रवत्ता प्रो. वीवी मॉलक ने बताया कि आगामी पंचवर्षीय केंडना के तहत 23 नए विभागों के साथ ही छह स्कूल खुलेंगे। उसमें शिक्ष, साइकोलॉजी, बेनेॉटक व फ्लंट ब्रॉडिंग, संगीत, इलेक्ट्रॉनिक्स, बॅकिंग एवं एकाउटेंसी, संगीत, इलेक्ट्रॉनिक्स, बॅकिंग एवं एकाउटेंसी, संगीत वर्क व डिपार्टमेंट ऑफ एशियन सैंग्वेज विभाग मुख्य है।

मैडिया सेटर का प्रस्ताव पासः अवेडकर विदि में मीडिया सेटर की स्वावना की जाएगी। जहा राष्ट्रीय स्तर के कार्यक्रमों के साव ही छान्चे करे लापू प्रिश्म मेकिंग की भी जानकारी दी जाएगी। विभागतथाब डो.गाविंद पांडेय ने बताया कि कुलपति प्रो.जी हनुमैदा और प्रो.गोपाल सिंह के जयानों से युजीसी ने प्रस्ताव को हरी झडी दी।



LUCKNOW THURSDAY I DECEMBER 22, 2011

#### HUJJAT RAZA E LUCKNOW

Any type of radiation in around Lucknow can now be detected. Babasaheb Bhimrao Ambedkar University (BBAU) has installed the Indian Environment Radiation Monitoring Network (IERMON) system in the campus.

The system has been sanctioned and backed by Bhabha Atomic Research Centre (BARC). Fortunately, BBAU is one of the first universities in which this system has been installed and it will monitor the radiation levels in the surrounding areas.

Dean of Applied Physics Department, BBAU and expert in radiation, RG Sonkawde said: "BBAU is the first university in which this IERMON system has been installed by BARC, which will help in monitoring the radiation level in the surrounding areas. If the threshold monitors increased level of radiation it will send any alarm to BARC. From there, I will receive a message specifying the location of increased radiation and I will then go to the spot to check it manually," he added.

He said soon after the spot of radiation would be located, a team of experts would come here to vacate the radiation from there so that people do not come in contact with it. "The system will keep on sending the monitored report to BARC. and it will also shows the data of several other IERMON system, which have been installed in other parts of the country. It will help the research students who want some data for their research." he added.

Speaking more about the system, Sonkawde said the station delivered environment radiation levels around the nuclear power plants online from across the country. Its another speciality is that it will give alarm signal even in case any radioactive material is moved in any nearby area.

leer.

Meanwhile, National Disaster Management Authority (NDMA) has decided to open a specialised radiation calibration training centre at Babasaheb Bhimrao Ambedkar University (BBAU) soon.

He said this decision was taken in a meeting with NDMA member, Major General Bansal, police officials and Vice-Chancellor of BBAU, B Hanumaiah. The training centre would be established in the university campus.

"In the centre, the police officials and para-militay forces would be taught several things related to radiation calibration. It includes precautions to be taken during relocation of any radioactive substance," he added.

"For imparting training to the police personnel and para-military forces, we have trained people in the university and some others would join from NDMA and other related agencies," he said.



# 23 नये विभाग और 6 संस्थान खुलेंगे

लखनक (एसएनबी)। बाबासहहेब भीमराव अग्वेडकर केन्द्रीय विश्वविद्यालय (बीबीएय्) के कुल्लजी प्रो. बे हनुमैच्या ने जपने पांच वर्ष के कार्यकाल को उपलच्चिया गिनायों और अगले पांच वर्ष के लिए लघर रुप किया है। इसके शहत विधि में वर्ष 2017 तक 23 नये विभाग और आधा दर्जन नये संस्थान खोले वाएंगे। इसके साथ ही वा. बीजार जान्वेडकर व जनजीवन राम पीठ भी विधि में स्थापित करायों जाएगे। उनोंने कहा कि पराल्ततक व क्षेत्र में न्ये आयाम हास्लि अरना ही उनका लघर है। इसके लिए भरसक प्रवास किये या रहे हैं।

विश्वविद्यालय में 2017 (12वीं पंखवर्धीय योगना) के अंत तक 23 नये विषार्थे व 6 गये स्वुत्त (इंस्टीट्यूट जोड़े जाएंगे। वर्ष 2007 में 39 फ़िक्षकों से सफत शुरू करने वाले विश्वविद्यालय में अब 110 निस्तुकि कर दी जाएगी। परायनातक व शोध छात्रों बधे संख्या भी 2011-12 में पीजी में 1510 व पीएयटी में 400 छात्र-छावाएं हो गयी। इनमें 50 परिसद से ज्यादा विद्यार्थी अरसिस्त कर्ग के हैं।

विश्वविद्यालय में रात पांच वर्ष में प्रो. हनुमेध्य के कार्यकाल में मूलपूत सुविधाओं में व्यापक इवाप्स हुआ हैं। विवि परिसर में स्कूल बिहिदन जॉफ आन्बेडकर स्टडोंज (फेज 2), अतिथि गृह को उपयोगी बनावा जान, कुलपति निवास संग कैम्प कश्र्यालय प्रधान कडे आंधकृत बरना, स्कूल भवन पर्यावरण विज्ञान, 60 टॉर्मनल वाला कम्प्यूटर सेन्टर, विवि सोइस इन्ट्रमेंट सेन्टर (यूरसआइसी), 200 धामता वाला खबावास, वर्चुआल क्लास रूम, के साथ मिनिस्ट्री ऑफ सोक्षल अस्टिस एवं इम्पावरमेन्ट को जोर से अनुमुचित जाति के छात्र-खाताओं अनुमोदित 2 खकवास, केन्द्रीय पुस्तकालव फेस 1, आडीटोरियम, सहफ्र निर्माण सावन्यों कार्य के साथ तीन कार्फेस हाल का निर्माण, स्वारस्य प्रवन, महिलाओं के लिये मुलपुत सुविधायें तथा आरसीए प्रवन

#### बीआर अम्बेडकर विवि

प्रो. वी हनुमैय्या ने पांच वर्ष के कार्यकाल की गिनायीं उपलब्धियां

निर्माण कार्य अनिम चरण में है और वर्ष 2012 में झुरू कर दिया जाएग।

251 एकड़ में फैले बाबासहोब भीमग्रव आमेठकर विश्वविद्यालय में अनुसूचित जाति एव जनजाति के छाउँ को उच्च शिक्षा के प्रवेश में 50 परीसर अरुप्राण तय है विक्वविद्यालय के कुलरपति प्रो. ही, हनुमैभ्य के 2007 से अब कह के कार्यकाल में तीन स्वृत्त और 12 विष्पण खोले वये हैं।

धो. स्नुमीम्या में 2008 में पहला दीसांत समारीह आयोजित कराया और अब तक तीन बैंध निवला चुके हैं। नये पीएचडी रेम्युलेशन तथा परीक्षा नियमों को बनाकर लागू कराजा खामिल हैं। विश्वविद्यालय में उत्तरहिक मूल्योकन व्यवस्था के साथ प्रेडिंग सिस्टम व खाहस बेस केडिट सिस्टम लागू किया गया है। जावें एवं विधाकों के लिये वर्वचूवल क्लास रूप सुविधा, सोध कार्य को कड़ावा देने के लिए पीजीआई, आइब्पूएसी दिल्ली, तथा एफजीआर के साथ एमओपू टीविंग एवं नान-टीविंग पदी को भर्ती के साथ ही विंवि ने आर्थी मेडिकल कोर सेन्टर से संचालित पीठजीठ डिप्लोमा / सटिंपिकेट कोर्स को मान्यता दी है।

उन्होंने बतावा कि विवि की योजना स्कृत फार लैखेज एवं लिट्रेचर, स्कृल फार परफार्मिंग आर्ट्स, स्कृल फार सोमल साइंस एण्ड ल्यूमेन्टिज, स्कृल फार एर्जिकलचरल सोइसेंस, स्कृल फार कार्यस, स्कूल फार स्पेस सहस एण्ड टेक्नोलॉजों की स्थापना। विश्वविद्यालय ने त्रये पल्टी डिम्प्लेगरी सेन्टर आफ स्टडी एवं स्कूल फार आस्बेडकर स्टडी साथ में सेन्टर ऑफ दलिव स्टडी, सेन्टर फार जनरल स्टडी एवं सेन्टर फार स्टडी एवं ब्रैक्कड क्लास, माधनारटिज एवं इन्हीजिन्स पोपल में करस लप्डन प्रस्तवित है।

इनके अगिरिका विवि वस्ट इंडियम इन्करमेट रेडिएशन मानिटरिंग नेटकर्क (आईइआरएमओएन) सिस्टम भाषा एटामिक रिसर्च सेन्टर मुम्बई की मदद से रेडिएशन को मनिटरिंग कर छात्रों को जावरूक करेगा और यह स्टेसन किसों भी रेडियो एक्टिव पदार्थ के विस्वविद्यालय प्रानंग एवं अस-पास की जाहों से किक्टनों पर अलाम सिमतल देगा। मिनिस्टों ऑफ सेनान जस्टिम एण्ड इम्प्रावरमेन्ट ने 4 करोड़ रुपये छात्राव्यस के हिन्ये दिं। विवि को 42 जन-टोंगिंग पद यूवीसी से मिली हैं, इनकी मांग काफी लाम्बे समय से चल रही थे। अम्बेडकर विवि रखेगा रेडिएशन पर नजर

लखनऊ •गुरुवार •22 दिखनार २०११

हिन्दुस्तान

लखनऊ। बाब साहेब मॉम राव अंबेहकर (बीवीएष्) केंद्रीय विषि अब रेतिएसन पर नजर रखेगा। रेडिएसन का पता लगने पर उन्नके स्रोत को मन्ट करने और रेडिएसन को कम करने के लिख भी उपाय किए जाएंगे। विश्वविविद्यालय पुलिस और पैरा मिलिट्री कोर्म को विकिरण से निपटने के लिए ट्रेंड भी करेगा। यह जानकारी जिवि के एप्लाइड किजिक्स विभाग के प्रो. आरजी सोनकल्वडे ने बुखवार को दी।

वीवीएव में भी रेडिएशन छलटे सिस्टम लगाया गया है जो भाषा एटमिक रिसर्च सेंटर से जुड़ा हुआ है। इस इलाके के पांच किमा के क्षेत्र में कोई भी रेडिएशन होने पर सिस्मल मिलेगा। राजधानी की पुलिस की गाड़ियों में एलटे सिस्टम लग रहा है, लेकिन कितना रेडिएशन है यह वीवीएयू ही बताएगा। रजिस्ट्रार एसके सिंह ने 11 जी पंचवर्षीय योजना में जियि में हुए विकास के बारे में जानकारी ही।

मास कम्युनिकेशन विभाग के डॉ. गोपाल जो पाण्डेय ने बताया कि यूनीसी विभाग में मल्टी मीडिया सेंटर स्थापित करने जा रहा है जहां पर साल में 52 एनुकेशनल फिल्म तैयार होगी।



लखनऊ

#### बाबा साहेब भीमराव अंबेडकर केंद्रीय विश्वविद्यालय में खुला इरमान सेंटर

#### भांपे जा सकेंगे रेडिएशन के खतरे 215

#### 🌕 अमर उजाला ब्यूरो

लखनक। राजधानी में न्यूक्लियर रेडिएशन के किसी भी संभाषित खतरे का चक्त से पहले ही पता चल सकेगा। यदि रेडिएशन का स्तर सामान्य से अधिक होगा तो उससे निपटने के फौरी उपाय भी किए जा सकेंगे, जिससे किसी भी बड़ी दुर्घटना को टाला जा सके। इसके लिए बाबा साहेब भीमराव अंबेडकर केंद्रीय विश्वविद्यालय (अभिएयू) में इंडियन इनवायरमेंटल रेडिएशन मॉनीटरिंग नेटवर्क सिपटम (इस्मान) की स्थापना की गई है।

देश में परमाणु विकिरण के संभाषित खतरों से निपटने के लिए पहल की जा सर्दि है। ऐसे में देश के



इरमान सेटर के बारे में बताते थी. आरजी सीनकोते

ग्रीजेक्ट के लिए चुना है। यह देश कि आम तौर 96 फीसदी रेडिएशन रेंज में होने वाले परमाणु विकिरण का पहला केंद्रीय विश्वविद्यालय है जहां उच्च तकनीक से लैस राज्वों की राजधानी पर सरकार का मॉनीटरिंग नेटवर्क सिस्टम स्थापित हैं। साथ ही परमाणु ऊर्जा उत्पादन सबसे अधिक ध्यान है। इसी कड़ी किया गया है। रजिस्ट्रार संजीय केंद्र भी दो फीसदी ऐंडिएशन के में भाभा प्रटॉमिक रिसर्च सेंटर, मुंबई कुमार सिंह एवं अप्लाइड फिनिक्स निम्मेदार होते हैं। विश्वविद्यालय से तुरंत भाभा एटॉमिक रिसर्च

ने अंबेडकर विश्वविद्यालय को इस के प्रे. आरजी सोनकोडे ने बताया विधत सेंटर से पांच किलोमीटर की सेंटर, मुंबई और विश्वविद्यालय प्राकृतिक होते हैं जबकि दो प्रतिशत रेडिएशन मेडिकल इंस्ट्रमेंट से होते

#### सरशा बलों को मिलेगा प्रशिक्षण

विषयविद्यालय के खाते में इरमाने सेटर के साथ ही एक और महत्वपूर्ण उपलबिध अर्थ है। पिछले दिनी सालूपि अपने प्रवंधन प्रधिकरण के सदस्ती

न वीत्रीएम् का विजित किया था। यहां मौजुद इस्मान सुविध करे देखते हुए प्राधिकाण ने प्रदिसर में रेजिएफन केल्डिबेयानं देनिंग संदर खोलने का फैसल किया है। ट्रेनिंग सेंटर में पुलिस एवं अवयेगैनिक बले के जवानी की रेडिएलन के खतरों से निपटने के तरीके बतार जाएंगे।

> का इरमान से पता चल सकेगा। यदि नेटवर्क सिस्टम में रेडिएशन इस दूरी में कोई रेडिएशन होता है तो इरमान का अलाम बज उठेगा। साथ ही उसके सिग्नल के माध्यम

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एडवांस रिसर्च के लिए गामा चेंबर

विश्वविद्यालय को डिपार्टमेंट ओप पटीमिक प्रजी में प्रायय वयूरी न्युट्रीन सोनी एवं गाम चीवर निःशुल्क उपलब्ध कराय है। दिल्ली विषयविद्यालय में हुए लीक के चलते मयापुरी में रहिएलन के बाद पटर्मिक एनजी रेगुलेटरी बोर्ड ने विषयविद्यालय में इनके प्रयोग पर रोक लगा ये है। जालकि विश्वविद्यालय में इसका प्रवेश को पण तमा थे। जातन यो सोनावे का यहा है कि कैंबीएयू के केंदार सुरक्ष उपयों को देखते सुए सहुति सोने एवं साम योग विश्वविद्यालय की विश्वन में सि पुल्का उपलब्ध कराय है। इनाफी मच्चू में किसर धरेबें, प्रवेट साईस, जिनोम साईस उनीय क्षेत्री में एडवरेंस दिसार्च को बढावा जिलेका सामकर

मामा रेज एवं ब्युट्रॉन वा मध्यम वो कैंसर थेरेंचे के प्रमय, क्रिसर के स्तर इत्याज के प्रभाग और कारगर बनाए जाने के लरीकी के बारे में बेस्टर देन में कार्य किन्द्र जा संकेशा

> इनवायरमेंटल रेडिएशन मॉनीटर्नि स्तर मोट हो जाएगा। मामले गंभीरता के आधार पर त्वा कदम सुरक्षा संख्याओं द्वारा उठ जा सरकेंगे।

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को क्षमता पांच किमी के दायरे में है। अगर पांच किमी के दायरे में कहीं रेडियेशन हो रहा है तो उसका पता लगाका इसके बढते प्रभाव को कम किया जा सकता है। पैरामिलिटी फोर्स के टेनिंग के खारे में जानकारी देते हुए देश में फैले विकिरणों के बारे में चानकारी उपलब्ध कराने के लिए 20 में 25 सोटर खोले गये हैं। जिनमें अम्बेडकर विश्वविद्यालय पहला केन्द्रीय विश्वविद्यालय इस उपलब्धि बिवि में तर्य प्रस्तावों के बारे में शामिल है। उल्लेखनीय है कि विश्वविद्यालयों और कालेओं के प्रयोगतालाओं में प्रयोगात्मक कधाओं के तौर पर प्रयोग में लाये जाने वाले रेडियो एक्टिव पदार्थों के हो रहे धदरले स्तेमाल पर विश्वविद्यालय अनुदान आयोग ने हॉल ही में रोक सगा दी है। यूजीसी का कहना है कि प्रयोगशालाओं में रेडिएशन से जुढे सभी क्रियानलाप और इसके लिए नियक्त रेडिएजन स्टाफ तथा एक आरएसओ की निगरानी में ही किया जाना चाहिए। वृत्रीसी द्वारा यह कटम लगभग एक वर्ष पूर्व दिल्ली क मागापुरी कवादी बाजार में कोबाल्ट.60 पापा गवा था, भो दिली

विश्वविद्यालय के रसायन विभाग से

अहर फेंका गया था, उसके बाद-

उठाया गया है।

#### भाभा एटॉमिक रिसर्च सेंटर के सहयोग से रिसर्च को मिलेगी नई दिशा पाचनिवर समाचार सेवा। लवनक

देश के केन्द्रीय विश्वविद्यालयों में रूप से विकिरण हर स्थान पर है। मतिविधियों से विकिरणों के स्तर में विकलीघर के आस-पास रवने वाले शामिल राजधानी स्थित बाबा साहेब इसको नैने ये के माध्यम से माथा बहुत कम खड़ीतरी देखने को मिल लोगों को बहुत कम विकिरण प्रस भीमर्गव अम्बेडकर विश्वविद्यालय जात है। वे पृथ्वी तथा वायुमंडल दोनें रही है। विकिरण के बारे में होता है। रिसर्च के बारे प्री. स्तेनकलेडे देश का पहला विश्वविद्यालय वन स्थानों पर पाये जाते हैं। पुच्चों में पाये उदाहरणस्थरूप उन्होंने बताया कि एक ने बताया कि इसके माध्यम से गया है, जहां पर रेडियेशन ट्रेनिंग सेंटर जाने वाले प्राकृतिक विकिरणों में मरीज का एक्सरे काने पर म<sup>3</sup>ज को कोशिकाओं पर पड़ने कले प्रधानों कर उन्होंने बत्तव्या कि नैसनल डिजास्टर खोला जावेगा। इस ट्रेनिंग सेंटर के प्रेरियम और पोर्टसियम है। लगभग मझीन द्वारा 200,000 हे ये भी अध्ययन किया जायेगा। वहीं मैनेजमेंट के सहयोग से प्रशिक्षण को माध्यम से रिसर्च घर काम काने के उन्होंने कताया कि मानवीस धिकिरण प्राप्त होती है। खबकि अगणु उन्होंने बताण कि इस रेडियेशन सेंटर भी सुविधा विवि में उपलब्ध है। पूरे

साथ हाँ आस-पास वातारण में फैले विकिरणों के बारे में भी जानकारी आपदा प्रबन्धन के तहत पैरामिलिटी मोस को भी ट्रेनिंग दी जा सकेगी।

पर पाभा एटॉमिक रिसर्च सेंटर के साहेब भीमरॉव जम्मेडकर कि विकिरण की आएकारी होने घर

वाकरण के बार म भा जानका अज्ञा 2000 करोड़ का प्रस्ताव

यह रेडिवेशन ट्रेनिंग सेंटर प्रयाणु 1996 में केन्द्रीयकृत विश्वविद्यालय शिक्षण संकाय ये और आज के देते हुए उन्होंने बताणा कि प्राकृतिक को उपलब्धियों पर प्रकार इल्लो हुए शिशकों के लिये वर्षकार कतास रूम मलिक भी उपस्थित थे।

लखनऊ। वर्ष 1989 में स्थापना और बताया कि वर्ष 2007 तक केवल 39 को भी सुविधा उपलब्ध है।

उर्जी नियासक अप्रोग को अन्यपति का दर्जी हॉसित करने वाले बाबा तारीख़ में बहकर 110 हो गये है। में जानकारी देते हुए उन्होंने बताया विश्वविद्यालय में सन् 2017 तक कि कुछ नये प्रस्तावित स्कूल जैसे सहयोग से खोला गया है। इस कोरे में विश्वविद्यालय ने 12 में वित आयोग 315 शिक्षकों की नियुक्ति प्रस्ताबित स्कूल फार लेखिज एवं लिट्रेचर, वानकारी देते हुए अप्लाइड फिजिसर के हितए 2000 करोड़ रूपये का है। सन् 2007 में परासातक एवं शोध स्थूल फार परफॉमिन आर्टस, के प्रो.आरजी.सीनकावेडे ने बैतावा कि प्रस्ताव भेजा है। इस बात की छात्रों की संख्या 442 एवं 95 भी जो स्कूल कार सोसल साइंस एण्ड रेडिएमन सेंटर के माध्यम से रिसर्च जानकारी देते हुए जिनि के कि सन् 2010-11 में बहकर 1179 हर्ष्मोन्टिक, स्कूल फार को गई दिशा मिलेगी। उन्होंनें बताचा कुलसचिव एस.के.सिंह ने बताया कि पराख्यतक खत्र एवं 217 शोध छात्र एग्रीकल्वरल साइसेंस, स्कूल फार कि इस रेडिवेशन सेंटर के माध्यम से 11 वें वित आयोग के तहत विकि को हो गयी और सन् 2011-12 में कार्मस, स्कूल फार स्पेस साइस यांच किमी के दायरे में चातावरण और मिले 145 करोड़ रूपये से विवि में परावांतक की संख्या और कड़कर एण्ड टेक्नालियों खोलने की मोजना पृथ्वी पर पाये जाने वाले विकिरणों का कई नये विभागों को स्थापना के साथ 1510 एप शोध छात्रों की संख्या है। इसके अलावा बिश्वविद्यालय में अध्ययन किया जायेगा। उन्होंने बताया ही अन्य पोजनाएं ऑतम दौर में हैं। सड़कर 400 हो यथी है। उन्होंने नये मल्टी डिस्प्लेनरी सेन्टर आफ विवि परिसर में आयोजित ग्रेम बताया कि जिबि में नवे पीठाएकाडीठ स्टडी एवं स्कूल फार अन्वेडकर विवि द्वारा इसको जलेकारी नेहनल वातां के दौरान जो सिंह ने बतत्या कि रेगुलेशन एवं इण्यापिनेशन रूल्स को सटढी साथ में सेन्टर ऑफ दलित डिजास्टर मैनेक्सेंट और भाषा 12वें वित्र आयोग के तात विवि में लागू किया गया है। इसके साथ ही स्टडी, सेस्टर फार जगरत स्टडी एटॉमिक रिसर्च सेंटर को जानकारी दी 26 मये विधाणों की स्थापना के माथ इन्टरनल इयेल्यूएशन सिस्टम, ग्रेडिंग एवं सेन्टर फार स्टडी एवं सेकवर्ड आयेगी। रेडियेशन मेंटर को लेकर ही 4 अन्य स्कूलों को भी जोड़ने को सिस्टम एवं ज्याइस बेस केडिट क्लास प्रस्ताचित है। इस अवसर परमाण जिकिरणों के बारे में जानकारी योजना है। इस दौरान उन्होंने संस्थान सिस्टम लागू किये मये हैं। इसमें एवं पर विवि के प्रवानप्र डा. विभूति

# Ypioneer

## Ambedkar varsity to have 23 new departments

#### PIONEER NEWS SERVICE LUCKNOW

The Babasaheb Bhimrao Ambedkar University has proposed to add 23 new departments from next academic session. Presently, there are 22 departments already running in there university. This information was given by BBAU registrar SK Singh to press persons at BBAU on Wednesday.

He said that the 11th Five Year Plan would come to an end with the end of the current academic session and in the 12th Five Year Plan the university had proposed to open 23 new departments and six new schools. "The Genetics and Aromatic Plants, Family Resources Management, Department of Asian Electronics and communica- the university, there were only tion and also Space Sciences are 39 teaching faculties in 2007, added. He stated that the new schools proposed from the next academic session includ-



ed School for Language and Literature, School for Performing Arts, School for Social Science and Humanities, and School for Agricultural Sciences.

Recalling achievements since 2007, Singh said: "Earlier, and Plant Breeding, Medicinal there were five schools and 10 departments but now with the efforts of our Vice-Chancellor, there are now eight schools and Languages. Department of 22 department running suc-English, Music, Dance, cessfully in the university. In on the list of new departments which has drastically been proposed to be added," he increased to 110 so far. We are proposing to have 315 more faculty members by March 2017," he added.

He also disclosed that there was a significant increase in the total strength of post-graduate students and PhD scholars from 2007 to 2011-12 admitted through All India entrance examination conducted at various centres. Besides, he said, there was noticeable upgradation of infrastructure facilities during the last five years. He pointed out that a building for the School of Ambedkar Studies (Phase-II), Computer Centre for students equipped with 60 terminals, University Science Instrumentation Centre (USIC), Virtual Class Rooms, two hostels sanctioned by Ministry of Social Justice and Empowerment for Schedule Cast (SC) boys and girls and Remedial Coaching Academy's (RCA) building were on the verge of completion and would be made functional by April-end. Singh hinted that soon

they would be conducting online entrance examination for students desiring to enroll. We have started working on it. and it is likely to begin from the session 2013-2014," he said.





# बीबीएयू में प्रवेश परीक्षा को ऑनलाइन करने की तैयारी

#### युनाइटेड समाचार सेवा

की स्थापना भारत सरकार मिनिस्टी ऑफ उन्होंने बताया कि विवि की १२ पंचवर्षीय क्षुमन रिसोर्स डेवलपमेंट ने शिक्षा का योजना में विवि में २३ नये विभाग और ६ प्रोत्साहन, उच्च कोटि की शोध व शिक्षा जये स्कूस खोलने की योजना है। व्यायज लिए की गई थी। सन १९९७ में मात्र २ काम जल रहा है। पराम्नातक और ४ पराम्नातक डिप्सोमा कर रहे थे। निकट धविष्य में प्रवेश परीक्षा मलिक मौजुद थे।

को भी ऑनलाइन करने को घोषणा थी सिंह ने की। ११वीं पंचलपोंच योजना के लखनऊ, २१ दिसम्बर। बाबा साहेब अंत में बिवि को अब तक की उपलब्धियों भौमराव अम्बेहकर केंद्रीय विश्वविद्यालय और पविष्य में लक्ष्यों की व्याख्या की। को मुखियायें झात्रों का मुहैया करने के और गल्स हास्टल को नवीन इमारतों में

विवि में ज्यादातर सुविधाओं को पाठ्यक्रम शुरू हुआ विधि तत्त्व कोर्टेट के ऑनलाइन छात्रों को उपलब्ध कर दिया पाल्पक्रम की शंखला मौजूद है। विवि ने गया है। इसके अतिरिक्त विवि में छात्रों एक दशक में १० डिपार्टमेंट से २२ जिपित्र की सुविधा के लिए वर्षुआल क्लास का पालचक्रमों के हिपार्टमेंट खोले गये है। लाभ भी छात्र और शिक्षक उठा रहे है। वहां वर्तमान में पारमालक के १५१० और इंटरनल इसैल्युप्शन सिस्टम, ग्रेडिंग ४०० छात्र शोध कार्यों में संलग्न हैं। बाबा सिस्टम एवं ज्याइस बेस क्रेडिट सिस्टम साहेब भीमराज अम्बेडकर विश्वविद्यालय पूर्व विवि में लागू किया जा चुका है। इस के कुलसचिव एस.के.सिंह प्रेसवातों के दौरान विवि के पत्रकारिता विचाग के विश्वविद्यालय को उपलब्धियों को साम्ना गौपाल पोण्डे, मीडिया संयोजक बो.बी



कोल्हापूर : म्हैसूर येथील परिषदेत अनिस शेख यांना गौरविताना मान्यवर.

# म्हैसूर राष्ट्रीय परिषदेत अनिस शेख यांचे यश

सकाळ वृत्तसेवा

कोल्हापूर, ता. ३१ : शिवाजी विद्यापीठाच्या पदार्थविज्ञान विभागातील संशोधक विद्यार्थी अनिस असीफ शेख यांनी म्हैसर येथे झालेल्या राष्ट्रीय परिषदेतील पोस्टर प्रेझेंटेशनमध्ये प्रथम क्रमांक मिळविला. म्हैसुर (कर्नाटक) येथील विद्या विकास इन्स्टिट्यूट ऑफ इंजिनिअरिंग अँड टेक्नॉलॉजी (व्ही. व्ही.आय.ई.टी.) संस्थेत न्युक्लिअर टॅक सोसायटी ऑफ इंडिया यांच्या सहकार्याने सॉलिड स्टेट न्यूक्लिअर डिटेक्टर्स यावर राष्ट्रीय परिषद झाली.

परिषदेत श्री. शेख यांनी सुपर कॅपॅसिटरचे अणुउद्योगातील वाढते महत्त्व यावर पोस्टर प्रेझेंटेशन केले. यामध्ये त्यांनी अणुऊर्जा उद्योगामध्ये ऊर्जा साठवणुकीची वाढीव क्षमता असलेल्या सुपर कॅपॅसिटरचे औद्योगिक महत्त्व स्पष्ट केले. पदार्थविज्ञान विभागातील प्रा. आर. जी. सोनकवडे यांच्या मार्गदर्शनाखाली तयार केलेल्या त्यांच्या या पोस्टरला प्रथम क्रमांक मिळाला. परिषदेचे समन्वयक डॉ. सी. निंगप्पा, आयएनएस म्हैसुरचे सचिव डॉ. धवमणी, डॉ. सोनकवडे यांच्या उपस्थितीत श्री. शेख यांना हा पुरस्कार प्रदान केला.

#### लोकमत

# शिवाजी विद्यापीठात किरणोत्सार मापन होणार; राज्यात प्रथमच सुविधा

अणुसंशोधनातील नवे दालन : 'बीएआरसी'च्या सहकार्याने आयर्मोन कार्यान्वित; शिक्षक, विद्यार्थ्यांना अभ्यास, विश्लेषणासाठी उपयुक्त

#### लोकमत न्यूज नेटवर्क

कोल्हापूर : शिवाजी विद्यापीठाच्या असतो. या किरणोत्सारांच्या पातळीचे आहे प्र-कुलगुरू डॉ. डी. टी. शिर्के

अणुसंशोधन केंद्राच्या (धीएआरसी) सातत्याने नजर ठेवून विशिष्ट सहकार्याने इंडियन एन्ट्रायर्न्मेटल मर्यादेपलीकडे ती गेल्यास त्यावर रेडिएशन मॉनिटरिंग नेटवर्क (आयर्मोन) तातडीने योग्य कार्यवाही करण्याच्या ही सुविधा मंगळवारी कार्यान्वित दृष्टीने ही सुविधा महत्त्वाची असते. केली. त्यामुळे अणुसंशोधनातील नवे अणुसंशोधन क्षेत्रातील संशोधक, दालन खुले झाले आहे. या सुविधा शिक्षक आणि विद्यार्थी यांना या वापरणारे शिवाजी विद्यापीठ माहितीचा अभ्यास व विश्लेषण राज्यातील पहिले विद्यापीठ ठरले यांसाठी अतिशय महत्त्वाचा उपयोग होणार आहे. विद्यापीठीय अणुसंशोधन क्षेत्रात

किरणोत्सार (रेडिएशन) असतात.

त्यामध्ये गॅमा रेडिएशनचाही समावेश

यांच्या हस्ते उद्घाटन झाले. भाभा यानिमित्ताने एक नये दालन खुले अणुसंशोधन केंद्राने ही सुविधा झाले असल्याची माहिती डॉ. शिर्के

- किरणोत्साराची पातळी लक्षात येणार
- पदार्थविज्ञान अधिविभागामध्ये भाभा मापन केल्यानंतर नोंदी घेऊन त्यावर 🔹 जमिनीमधील युरेनियम, योरियम व पोटॅशियम हे पदार्थ सातत्याने किरणोत्सार करीत असतात. युरेनियमचे प्रमाण एक ते पाच पीपीएम व थोरियमचे प्रमाण दोन ते १० पौपीएम असते. जमिनीत एक ते दोन टक्केच पोटॅशियम असते. त्यातीलही ०.०१२ टक्केच पोटॅशियम किरणोत्सारी असते. अवकाश, पर्यावरण व हवेतही विशिष्ट किरणोत्सार असतात.
  - काही विशिष्ट मर्यादेपर्यंत त्यांचा मानवावर अनिष्ट परिणाम होत नाही. मात्र, पातळी ओलांडल्यास ती मानवी आरोग्यास धोकादायक ठरू शकते; म्हणून त्यांचे मापन करीत राहणे गरजेचे असते. अशा किरणोत्साराचे मापन करणे 'आयर्मोन'मुळे शक्य होते. नैसर्गिक किरणोत्साराची पातळी ओलांडली जात असल्याचे वेळीच लक्षात येऊ शकते व त्यावर योग्य उपाययोजना करणेही संशोधकांना शक्य होते. त्यादृष्टीने नैसर्गिक पर्यावरणीय किरणोत्साराच्या अभ्यासाचे महत्त्वाचे दालन विद्यापीठात खुले होत असल्याचे डॉ. आर. जी. सोनकवडे यांनी सांगितले

विद्यापीठामध्ये मोफत सुरु केली आहे. यांनी दिली. यावेळी कुलसचिव डॉ. पाटील, व्ही. जे. फुलारी, एन. व्ही. वही. टाकळे, एन. एल. तरवार, आदी पर्यावरणामध्ये विविध प्रकारचे विलास नांदवडेकर, डॉ. पी. एस. मोहळकर, आर. एस. व्हटकर, एम. उपस्थित होते.

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शिवाजी विद्यापीठात मंगळवारी आयर्मोन सुविधा कार्यान्वित करण्यात आली. प्र-कुलगुरू डॉ. डी. टी. शिर्के यांच्या हस्ते उद्घाटन झाले. यावेळी रोजारी एन. व्ही. मोहळकर, व्ही. जे. फुलारी, पी. एस. पाटील, आर. एस. व्हटकर, आदी उपस्थित होते.



### कोरोना संसर्ग टाळण्यासाठी सॅनिटायझर टनेलची निर्मिती कमी खर्चात गर्दीच्या ठिकाणी लावता येणार

#### मुंबई : पुढारी वृत्तसेवा

कोरोनाचा प्रादर्भाव रोखण्यासाठी गर्दीच्या ठिकाण असलेल्या रेल्वे स्टेशन. वस भाजीपाला स्थानक. मार्केट. शासकीय कार्यालय, विद्यापीठ, हॉस्पिटल प्रवेशद्वार आदी ठिकाणी अत्याधनिक सॅनिटायझर टनेल निर्जतकीकरण उभारणी करून करता येणे शक्य होईल. त्यासाठी मारंगाच्या इन्स्टिट्यूट ऑफ केमिकल टेक्नॉलॉजीने(आयसीटी) टनेलचे निर्माण केले आहे.

देशातील विविध भागांमध्ये अशा प्रकारच्या टनेलचा वापर केला जातोय, ज्यामध्ये दिल्ली, हरियाना, कर्नाटक, तमिळनाड राज्यांचा समावेश आहे. तसेच भारतीय रेल्वेकडन हरियाना येथे अशा प्रकारच्या टनेलची निर्मिती करण्यात आलेली आहे. या टनेलला फुमिगेशन टनेल असे म्हटले जाते. कर्नाटकातील हबळी येथील कृषी उत्पन्न बाजार समितीमध्ये सुद्धा याच उपयोग केला जात आहे. पाण्यात १ टक्के सोडियम हायपोक्लोराईडच्या मिश्रणाचा वापर केला जातो. टनेलमधन जाण्यासाठी कोणत्याही या टनेलमुळे कोरोनाच्या विषाणूचा प्रादुर्भाव रोखला जाणे शक्य होईल, पण ज्या लोकांना काही अलर्जी आहे, त्यांनी यामध्ये प्रवेशास करणे योग्य राहणार नाही, संशोधन करून ह्या उपकरणाचे डिझाईन केले आहे. या अभिनव उपक्रमाबद्दल प्राध्यापक आणि विद्यार्थी यांचे कौतुक आहे. संशोधनासाठी शुभेच्छा. उद्य सामंत, उच्च व तंत्र शिक्षण

व्यक्तीला ४ ते ५ सेकंदाची वेळ लागते. ज्या माध्यमातून निर्जंतुकीकरण केले जाते. अशा प्रकारच्या टनेलच्या निर्मितीसाठी १२ फुट लांबीच्या पोर्टा केबीनचा वापर केला गेला आहे.

या टनलनिर्मिती साठी आयसीटीचे कुलगुरू प्रा.अनिरुद्ध पंडित, पदार्थ विज्ञान विभागाचे प्राध्यापक राजेंद्र सोनकवडे, प्रा. सचिन मठपती व त्यांचे विद्यार्थी विक्रम कोरपाले प्रयत्न केले आहेत.

My Mumbai Edition 9 Apr, 2020 Page No. 2 Powered by : erelego.com

# Kolhapur prof and his children develop 'virus-killing' UV torch

#### TIMES NEWS NETWORK

Mumbai: The state government is promoting the use of an ultraviolet (UV) sanitising device that claims to kill viruses such as the novel coronavirus.

Developed by Auranagabad-based students Aniket and Poonam under the guidance of their father Dr R G Sonkawade, the device. which looks like a torch, can be used to disinfect small objects such as cellphones, computer keyboards, door knobs and even vegetables and fruits, said minister for higher and technical education Uday Samant. "It could be used to kill viruses in a scientific way, using 16-33 watts capacity lights," the minister said.

Production of the device has commenced with the help of a Mumbai-based private firm. Clarifying that vegetables and fruits disinfected by UV light are fit for consumption, Dr Sonkawde, who teaches at Shivaji University, Kolhapur, stressed, "We have taken all precautions. The radiation process used for disinfection will not contaminate food items."

Three years ago, scientists from Washington State University (WSU) had shown that ultraviolet C (UVC) light is effective against foodborne pathogens on the surface of certain fruits. UVC light has a shorter wavelength than ultraviolet A or B light (some UV lights are harmful to humans and known to cause certain cancers).

UVC radiation is present in sunlight, but it is absorbed by the ozone layer and Earth's atmosphere. It has germicidal properties and can be effective against bacteria, mold and viruses. UVClight, which cannot penetrate opaque, solid objects, can be effective in sanitizing surfaces and works on microorganisms by destroying nucleic acid and disrupting their DNA; the light didn't affect the chemical or physical quality of the fruit in the WSU study.

Dr Sonkawde's son Aniket is a first-year student of a vocational course at Din Dayal Upadhyay Kaushalya Kendra in Aurangabad, while Poonam is a second-year science (microbiology) student with Abasaheb Garware college in Pune.



# Maharashtra professor, his kids develop torch to disinfect food

#### MRITYUNJAY BOSE MUMBAI, DHNS

A Kolhapur-based professor has developed a torch that can disinfect food and other articles of daily use.

Prof Rajendra Sonkawade teaches physics at the Shivaji University, Kolhapur. He was assisted by his kids — son Aniket, a student of Deendayal Upadhyay Kaushalya Kendra in Dr Babasaheb Ambedkar University, Aurangabad and biological inputs of his daughter Poonam, a microbiology student at the Abasaheb Garware College, Pune.

"It is a very useful device," said Uday Samant, Minister for higher and technical education in a press statement. The UV sanitising device is being introduced in two compact models—16 watt/1 kg costing Rs 4,500, and 33 watt/1.2 kg costing Rs 5,500.

According to Prof Sonkawade, the UV torch has been tested and now the production will start by Mumbai's Pla Electro Appliances Pvt. Ltd. The cost will get reduced in the time to come."It can be used in homes, shops, offices, stores, hospitals," he said.

The innovation has been inspired by a recent research paper published by Cornell University, New York, which has given details of how to eliminate harmful bacteria and viruses.

According to Samant, the UV torch simply needs to be moved above the target—food packets,

vegetables, milk pouches, currency notes for a couple of minutes. "The UV rays will kill all bacteria or viruses, including Covid-19 and make them safe for use," Prof Sonkawade said.

The UV rays used in the torch are within the normal parameters prescribed by the International Commission for Non-Ionising Radiation, Prof Sonkawade added.

### लोकमत

# राज्यात कमी खर्चात अत्याधुनिक सॅनिटायझर टनल

#### लोकमत न्यूज नेटवर्क

मुंबई : कोरोनाचा संसर्ग रोखण्यासाठी गर्दीच्या ठिकाणीच लोकांचे निर्जतुकीकरण आवश्यक झाल्याने मुंबईतील इन्स्टिट्यूट ऑफ केमिकल टेक्नॉलॉजीच्या पुढाकाराने राज्यात अत्याधुनिक आणि कमी खर्चातील सॅनिटायझर टनलच्या निर्मितीला यश आल्याची माहिती उच्च व तंत्र शिक्षण मंत्री उदय सामंत यांनी आज दिली.

या टनलमुळे रेल्वे स्टेशन, बस स्थानक, भाजीपाला मंडया,शासकीय कार्यालय, विद्यापीठ, हॉस्पिटलच्या प्रवेशद्वारावरच निर्जंतुकीकरण शक्य होणार आहे.

डब्ल्यूएचओच्या मार्गदर्शक सूचनेनुसार इन्स्टिट्यूट ऑफ केमिकल टेक्नॉलॉजीच्या (आयसीटी) पुढाकाराने या टनलची निर्मिती केली आहे. यामध्ये पाण्यात १ टक्के सोडियम हायपोक्लोराईडच्या मिश्रणाचा वापर केला जातो. टनेलमधून जाण्यासाठी कोणत्याही व्यक्तीला ४ ते ५ सेकंदांचा वेळ लागतो. या कालावधीत फवारणीद्वारे निर्जंतुकीकरण केले जाते. या टनेलच्या निर्मितीसाठी १२ फुट लांबीच्या पोर्टा केबीनचा वापर केला गेला आहे.

नोजलद्वारे निर्माण होणाऱ्या धुक्यांचे अधिक चांगल्या वितरणासाठी सॉफ्टवेअरमध्ये डिझाइन आणि सिम्युलेट केले गेले आहे. शिवाय, द्रवरूपातील मिश्रण व्यक्तीच्या सर्व भागांवर पसरेल याची काळजी घेण्यात आली आहे. कोरोनाशी लढा देण्यासाठी कमी खर्चात या अभिनव उपकरणांची निर्मिती करण्यात आलेली आहे.

टनलनिर्मितीसाठी आयसीटीचे कुलगुरू प्रा.अनिरुद्ध पंडित, शिवाजी विद्यापीठातील पदार्थ विज्ञान विभागाचे प्राध्यापक राजेंद्र सोनकवडे, प्रा. सचिन मठपती व त्यांचे विद्यार्थी विक्रम कोरपाले यांनी संशोधन करून डिझाईन केले आहे. आठवडाभरात या टनलची प्रत्यक्ष निर्मिती शक्य होईल.

Mumbai Main Page No. 2 Apr 08, 2020 Powered by: erelego.com

### सकल गर्दीच्या ठिकाणी सॅनिटायझर टनेल उदय सामंत यांची माहिती; आयसीटीद्वारे कमी खर्चात निर्मिती

#### सकाळ न्यूज नेटवर्क

मुंबई, ता. ८ : कोरोनाचा प्रादुर्भाव रोखण्यासाठी राज्यातील रेल्वे व बस स्थानके, भाजीपाला बाजार, सरकारी कार्यालये, विद्यापीठे, रुग्णालयांचे प्रवेशद्वार अशा गर्दीच्या ठिकाणी सॅनिटायझर टनेल उभारले जात आहेत. माटुंगा येथील इन्स्टिट्यूट ऑफ केमिकल टेक्नॉलॉजी (आयसीटी)

#### जंतनाशक फवारा

जागतिक आरोग्य संघटनेच्या मार्गदर्शक सूचनांनुसार आथसीटीने सॅनिटायझर टनेल तयार केले आहे. त्यासाठी पाण्यात एक टक्के सोडियम हायपोक्लोराईड मिसळले जाते. या कमानीखालून अथवा बोगद्यातून जाण्यासाठी एका व्यक्तीला ४ ते ५ सेकंद लागतात. त्या वेळी या मिश्रणाच्या फवाऱ्यांनी निर्जतुकीकरण केले जाते. या टनेलच्या निर्मितीसाठी १२ फूट लांबीच्या पोर्टा केबिनचा वापर करण्यात आला आहे. पंडित, शिवाजी विद्यापीठातील पदार्थ विज्ञान विभागाचे प्राध्यापक राजेंद्र सोनकवडे, प्रा. सचिन मठपती व त्यांचे विद्यार्थी विक्रम कोरपाले यांनी संशोधन केले. फवाऱ्याद्वारे निर्माण होणाऱ्या धुक्यांचे अधिक चांगले वितरण सुनिश्चित करण्यासाठी फ्लूड फ्लो सिस्टम ॲनसिस (ANSYS) या कार्यक्षम सॉफ्टवेअरमध्ये डिझाईन आणि सिम्युलेट केले गेले आहे.

# निर्जंतुकीकरणासाठी नवे उपकरण

#### लोकसत्ता विशेष प्रतिनिधी

मुंबई : राज्यातील करोनाचा प्रादुर्भाव रोखण्यासाठी रेल्वे स्थानके , बस स्थानक, भाजीपाला मंडई, शासकीय कार्यालये, विद्यापीठे, रुग्णालये अशा प्रकारच्या ठिकाणी होणाऱ्या गर्दीत करोनापासून बचाव करण्यासाठी 'इन्स्टिट्युट ऑफ केमिकल टेक्नॉलॉजी'ने निर्जंतुकरणाचे नवे उपकरणाची (टनेल सॅनिटायझरची) निर्मिती केली आहे. अशा इमारतीमध्ये निजैतुकरणाची प्रवेशद्वारावरच व्यवस्था के ली जात आहे, अशी माहिती राज्याचे उच्च व तंत्र शिक्षण मंत्री मंत्री उदय सामंत यांनी दिली.

देशात सध्या अशा प्रकारच्या टनेलचा दिल्ली, हरियाना, कर्नाटक, तमिळनाडू या राज्यांमध्ये काही प्रमाणात वापर के ला जात आहे. भारतीय रेल्वेकडून हरियाना येथे अशा प्रकारच्या टनेलची निर्मिती करण्यात आलेली आहे. कर्नाटकातील हुबळी येथील कृषी उत्पन्न बाजार समितीमध्ये सुद्धा याचा उपयोग केला जात आहे. जागतिक आरोग्य संघटनेच्या (डब्ल्यूएचओ) व्यावसायिक मार्गदर्शक सूचनेनुसार 'इन्स्टिट्यूट ऑफ केमिकल टेक्नॉलॉजी'च्या पुढाकाराने या टनेलची निर्मिती करण्यात आली आहे.

या पद्धतीत पाण्यात एक टक्का सोडियम हायपोक्लोराईंडच्या मिश्रणाचा वापर केला जातो. टनेलमधून जाण्यासाठी कोणत्याही व्यक्तीला ४ ते ५ सेकंदाचा वेळ लागतो. त्या माध्यमातून निजँतुकीकरण केले जाते. अशा प्रकारे करोनाशी लढा देण्यासाठी कमी खर्चात या अभिनव उपकरणांची निर्मिती करण्यात आलेली आहे. यामुळे करोनाच्या विषाणूचा प्रादुर्भाव रोखला जाणे शक्य होईल. मात्र, कोणत्याही प्रकारची अलर्जी असणाऱ्यांनी या टनेलमध्ये प्रवेश करणे योग्य नसल्याचे सामंत यांनी सांगितले.

या टनेल निर्मितीसाठी इन्स्टिट्यूट ऑफ केमिकल टेक्नॉलॉजीचे कुलगुरू प्रा.अनिरुद्ध पंडित, शिवाजी विद्यापीठातील पदार्थ विज्ञान विभागाचे प्राध्यापक राजेंद्र सोनकवडे, प्रा. सचिन मठपती व त्यांचे विद्यार्थी विक्रम कोरपाले यांनी संशोधन करून या उपकरणाचे डिझाईन तयार केले आहे, अशी माहिती सामंत यांनी दिली.

\*टोट्ट्रिया Thu, 09 April 2020 https://epaper.loksatta.com/c/50764145





## कोरोना संसर्ग टाळण्यासाठी सॅनिटायझर टनेलची निर्मिती कमी खर्चात गर्दीच्या ठिकाणी लावता येणार

#### मुंबई : पुढारी वृत्तसेवा

कोरोनाचा प्रादर्भाव रोखण्यासाठी गर्दीच्या ठिकाण असलेल्या रेल्वे स्टेशन, बस भाजीपाला मार्केट. स्थानक. शासकीय कार्यालय, विद्यापीठ, हॉस्पिटल प्रवेशद्वार आदी ठिकाणी अत्याधुनिक सॅनिटायझर टनेल उभारणी करून निर्जंतकीकरण करता येणे शक्य होईल. त्यासाठी मारंगाच्या इन्स्टिट्यूट ऑफ केमिकल टेक्नॉलॉजीने(आयसीटी) टनेलचे निर्माण केले आहे.

देशातील विविध भागांमध्ये अशा प्रकारच्या टनेलचा वापर केला जातोय. ज्यामध्ये दिल्ली, हरियाना, कर्नाटक, तमिळनाडू राज्यांचा समावेश आहे. तसेच भारतीय रेल्वेकडून हरियाना येथे अशा प्रकारच्या टनेलची निर्मिती करण्यात आलेली आहे. या टनेलला फुमिगेशन टनेल असे म्हटले जाते. कर्नाटकातील हुबळी येथील कृषी उत्पन्न बाजार समितीमध्ये सुद्धा याच उपयोग केला जात आहे. पाण्यात १ टक्के सोडियम हायपोक्लोराईडच्या मिश्रणाचा वापर केला जातो. टनेलमधून जाण्यासाठी कोणत्याही या टनेलमुळे कोरोनाच्या विषाणूचा प्रादुर्भाव रोखला जाणे शक्य होईल, पण ज्या लोकांना काही अलर्जी आहे, त्यांनी यामध्ये प्रवेशास करणे योग्य राहणार नाही, संशोधन करून ह्या उपकरणाचे डिझाईन केले आहे. या अभिनव उपक्रमाबद्दल प्राध्यापक आणि विद्यार्थी यांचे कौतुक आहे. संशोधनासाठी शुभेच्छा. उद्य सामंत, उच्च व तंत्र शिक्षण

व्यक्तीला ४ ते ५ सेकंदाची वेळ लागते. ज्या माध्यमातून निर्जंतुकीकरण केले जाते. अशा प्रकारच्या टनेलच्या निर्मितीसाठी १२ फुट लांबीच्या पोर्टा केबीनचा वापर केला गेला आहे.

या टनलनिर्मिती साठी आयसीटीचे कुलगुरू प्रा.अनिरुद्ध पंडित, पदार्थ विज्ञान विभागाचे प्राध्यापक राजेंद्र सोनकवडे, प्रा. सचिन मठपती व त्यांचे विद्यार्थी विक्रम कोरपाले प्रयत्न केले आहेत.

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कोलकात = खंडवा = मंगपुरसिदी = ग्वालियर = येन्मई = छिंदवाड़ = जवलपुर = जवसुर = जवसुर = जवसुर = जवसुर = वालेल - याली = वाक्नीर = वांसवाड़ = विलासपुर = योकानेर = वॅमलूर = विलासपुर = विलासपुर = वाला = विलासपुर = वाला = विलासपुर = वीका = वीका = विलासपुर = वीका = विलासपुर = वीका = विलासपुर = वीका = विलासपुर = वीका = वीका = वीका = वीका = वीका = विलासपुर = वीका = विलासपुर = वीका = वीक
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