

## **ONE-YEAR ADD-ON CERTIFICATE COURSE IN WORKSTATION DESIGN AND APPLIED ERGONOMICS (2023 - 2024)**

Since its inception in the academic year 2010-11, the One-Year Add-on Certificate Course in Workstation Design and Applied Ergonomics, under the specialization of Community Resource Management, has been meticulously structured to provide students with a deep understanding of workplace ergonomics and its practical applications across various demographics. This specialized program not only encompasses coursework but also integrates hands-on experiences, allowing students to apply their knowledge to real-world workplace scenarios within their chosen areas of interest.

Dr. Roopa Rao has skilfully coordinated the program, inviting subject matter specialists and organizing field and industrial visits to facilitate immersive learning experiences throughout the course duration.

Designed to accommodate students' existing academic commitments, the Add-on Course in Workstation Design and Applied Ergonomics features a flexible schedule, enabling participants to effectively balance their certificate coursework with their ongoing graduation lectures.

By completing this course, students gain specialized knowledge and practical skills that significantly enhance their job prospects across various industries. They acquire the expertise to design ergonomic workspaces, improve workplace safety standards, and prioritize individual well-being, thereby fostering both personal and professional growth.

Upon successful completion of the "Workstation Design & Applied Ergonomics" Add-on Course, graduates are presented with a multitude of career opportunities in the occupational health and safety sector. Potential career paths include:

- Ergonomics Consultant: Graduates can offer consultancy services to organizations seeking to optimize work environments, minimize workplace injuries, and enhance employee well-being.
- Ergonomics Specialist: Specializing in various industries such as healthcare, manufacturing, or office settings, graduates can assess workplace designs, propose enhancements, and implement ergonomic solutions.
- Occupational Health and Safety Officer: Graduates may pursue roles as occupational health and safety officers, ensuring adherence to ergonomic guidelines and implementing measures to mitigate workplace hazards.
- Researcher or Educator: Opportunities abound for graduates in research institutions or educational settings, where they can conduct research in ergonomics and educate future professionals in the field.

Exclusive to students enrolled in T.Y.B.Sc. CRM due to its technical complexity, the ergonomics course attracted 29 participants. Subject experts including Ms. Ashwini Gaikwad, Ms. Sakina Chhatriwala, Ms. Arundhati Dolas, and Ms. Sneha Chamola-Mankikar were enlisted to deliver theoretical components. Dr. Roopa Rao guided the research and in-depth studies, offering comprehensive support to student groups from topic selection through the final report writing stage.

The details of their research and in-depth studies are as follows:

Group	Students	Title of the research project
1.	Kameswari Ushasree, Charisma Thampy, Aqsa Khan, Vidhi Gada.	Creating a Safe and Healthy Learning Environment: A Study on Ergonomic Safety in Preschools.
2.	Humaira Jasnak, Amithi Jawalekar, Janhavi Kamerkar, Amatullah Filwala, Iqra Kasbekar.	Occupational Health and Well-Being of Junior College Teachers.
3.	Miloni Shah, Akanksha Sharma, Sakshi Zinjad, Sadaf Shaikh.	Ergonomic Evaluation of Breastfeeding Positions and Maternal Health: A Comprehensive Study on Lactating Mothers
4.	Aafiya Shaikh, Tahira Ticlo, Niyati Sanghvi, Aruba Shaikh.	Optimizing Firefighter safety in PPE Ergonomics and Rehabilitation Facilities
5.	Avandhika Shaju, Shruti Sawant, Zeenat Siddiqui, Sheetal Vishwas.	Analysis of Prevalence and Classification of Work-Related Musculoskeletal Disorders among Physiotherapists.
6.	Krishna Shah, Rashida Badri, Khadija Jawadwala, Asmita Birwatkar.	Enhancing Charging Infrastructure for 2-Wheeler EV Users in Mumbai.
7.	Dyuti Panwala, Kritika Ratnkr, Arwa Chawniwala, Sakina Mandasaurwala.	Evaluating Ergonomic Fit – A Comparative Study of Students Anthropometric Measurements and Furniture Dimensions in the School Computer Lab.

**Brief description of each project:**

- Group 1: A comprehensive safety audit was conducted in preschools to bridge the gap between ideal safety measures and their actual implementation. The focus was on assessing risk factors among preschool teachers, recognizing their pivotal role as the initial gateway to formal education. The study aimed to ensure a safe learning environment for both teachers and children, laying the foundation for lifelong learning.
- Group 2: This study underscored the paramount importance of prioritizing the occupational health and well-being of junior college teachers, directly correlating it with effective teaching practices and teacher retention. Stressors impacting educators were thoroughly examined, alongside an evaluation of teachers' awareness of the National Education Policy (NEP). The research proposed solutions to alleviate workload stress and promote overall well-being within the teaching profession, thereby enhancing educational outcomes.

- Group 3: Exploring the ergonomics of various breastfeeding positions adopted by lactating mothers, this study evaluated the effectiveness, comfort, and impact on both mother and baby. By enhancing the breastfeeding experience and promoting the health and well-being of the mother, the research aimed to contribute to maternal and infant health outcomes.
- Group 4: Focusing on the well-being and safety of firefighters, this study delved into the ergonomics of personal protective equipment (PPE) and the effectiveness of rehabilitation facilities. By identifying areas for improvement, the research aimed to enhance the protection, comfort, and recovery support for firefighters, ensuring their safety and health during emergency responses and post-incident rehabilitation.
- Group 5: This ergonomic study explored the field of posture analysis and its relevance in crafting injury prevention strategies tailored for physiotherapists practicing in Mumbai's urban environment. By understanding ergonomic principles, physiotherapists can mitigate injury risks and optimize their practice environment, ultimately improving patient care and outcomes.
- Group 6: A detailed study was conducted to enhance the accessibility and efficiency of Electric Charging stations for 2-wheeler EVs, aiming to facilitate seamless integration into city life. The research focused on empowering eco-conscious riders with convenient, reliable, and widespread charging solutions for their sustainable mobility needs, thereby promoting the adoption of electric vehicles and reducing carbon emissions.
- Group 7: This study compared students' body measurements with computer lab furniture dimensions to assess ergonomic compatibility. By examining the fit between students and their workspace furniture in a school computer lab, the research aimed to identify potential ergonomic issues and propose adjustments to optimize students' comfort and productivity while using computer facilities.

This year witnessed an impressive display of academic excellence as our students actively engaged in numerous research competitions, collectively presenting almost 29 papers. Their unwavering dedication and scholarly pursuits culminated in notable achievements, with many prestigious prizes claimed along the way. Notably, the students showcased their research studies at various inter-collegiate and university-level competitions, demonstrating their scholarly prowess on broader platforms. It is with great pride that we announce the acclaim our students have received, including the esteemed "Best Research Prize" in several competitions, reaffirming their commitment to excellence and scholarly endeavours. The details of their participation and the accolades they have earned serve as a testament to their hard work, creativity, and academic prowess.

Throughout the year, students have showcased an extraordinary commitment to academic excellence, actively participating in a multitude of research competitions at various levels. Collectively, they presented 29+ papers, spanning from local to university, state, and even national platforms. Their dedication and scholarly pursuits have yielded remarkable achievements, with numerous prestigious prizes garnered. Of pride is the recognition the students have received, several "Best Research Prizes" in competitions, serving as a validation of their unwavering commitment to excellence and scholarly endeavours. The comprehensive details of their participation and the accolades they have earned stand as a resounding testament to their tireless efforts, boundless creativity, and exceptional academic capabilities.

The specific details of their remarkable achievements are as follows:

S. No.	Full Name of the author/s	Mode of Presentation	Title of the Paper/Poster	Name of the Conference/ Seminar/ Competition	Theme of the Competition	Organized by	Place and Date	Result
<b>Group – I: Creating A Safe and Healthy Learning Environment: A Study on Ergonomic Safety in Preschools.</b>								
1.	<b>Kameswari Ushashree Mangipudi,</b> Charisma Thampy, Aqsa Khan, Vidhi Gada, and  Guide: Dr. Roopa Rao	Poster	Ensuring Safety for Early Learners- Designing Ergonomic Preschool Environment.	18 <sup>th</sup> Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round)	Zone 1: Mumbai  Category 2 – Commerce, Management and Law	Department of Students' Development, University of Mumbai	16 <sup>th</sup> Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, 'B' Road, Churchgate, Mumbai - 20	
2.	<b>Aqsa Khan</b> Vidhi Gada Kameshwari Ushashree Mangipudi Charisma Thampy  Guide: Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Building Blocks of Safety: Protecting Children in Preschool Environments	AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate Research Competition	Innovation, Ideas, and Research Transforming Life	College Of Home Science Nirmala Niketan Affiliated to University of Mumbai	28 <sup>th</sup> February 2024  Online mode	

3.	Aqsa Khan, Charisma Thampy, Kameshwari Ushashree Mangipudi, Vidhi Gada, and  Guide: Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Creating a Safe and Healthy Learning Environment: A Study on Ergonomic Safety in Preschools	ErgoQuest 2024 - An Intra-class Research Competition	Intra-class Research Competition	Dept. of Community Resource Management, College of Home Science Nirmala Niketan, Mumbai - 20	22 <sup>nd</sup> April 2024	3 <sup>rd</sup> Prize Rs. 1500/-
<b>Group – II: Occupational Health and Well-Being of Junior College Teachers</b>								
4.	<b>Amithi Javalekar,</b> Humaira Jasnak, Amatullah Filewala, Janhavi Kamerkar, Iqra Kasmani, and  Guide: Dr. Roopa Rao	Poster	Assessing NEP Awareness, Challenges, And Impact on Junior College Teachers	18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round)	Zone 1: Mumbai  Category - 1: Humanities, Languages, & Fine Arts	Department of Students’ Development, University of Mumbai	16 <sup>th</sup> Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, ‘B’ Road, Churchgate, Mumbai – 20	
5.	<b>Humaira Jasnak</b> Amatullah Filewala Janhavi Kamerkar	Oral / Podium Presentation	Empowering Minds, Shaping Futures Unveiling The Work-Related	URJITA Inter- Collegiate Undergraduate	Breaking Barriers: Women’s	Smt. P. N. Doshi Women's College	Smt. P. N. Doshi Women's College 3rd	3 <sup>rd</sup> Prize Rs. 1500/-

	Amithi Javalekar Guide: Dr. Roopa Rao	(PPT Presentation)	Challenges Of Women Educators	Research Competition 2024	Journey from the past, present and future	affiliated with SNDT Women's University	February 2024 Auditorium on 4th floor	
6.	<b>Humaira Jasnak,</b> Amithi Javalekar, and Dr. Roopa Rao (Guide)	Poster Presentation	Exploring MSDs In Junior College Teachers	SRIJNA 5th National Level Poster Presentation Competition	Sustainable Future (Sub-theme)	28 <sup>th</sup> February 2024  Guru Nanak Institute of Research and Development	Guru Nanak Institute of Research & Development (GNIRD), Guru Nanak Khalsa College, Matunga	Won Best Sustainable Science Project in UG, PG, and PPG
7.	<b>Amatullah Filewala,</b> Janhavi Kamerkar, Iqra Kasmani, Amithi Javalekar, Humaira Jasnak, and  Guide: Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Unraveling The Complexities Faced By Junior College Teachers Due To NEP 2020	AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate Research Competition	Innovation, Ideas, and Research Transforming Life	College Of Home Science Nirmala Niketan Affiliated to the University Of Mumbai	28 <sup>th</sup> February 2024  Online mode	Presented

8.	<b>Humaira Jasnak, and Tahira Ticlo</b>  Mentored by: Dr. Roopa Rao and Dr. Vishaka Karnad	Oral / Podium Presentation (PPT Presentation)	Innovative Ideas/ Practices at the College of Home Science Nirmala Niketan, Mumbai - 20	A Youth-Centric Convention on the theme Visionary Youth For Viksit Bharat: - Ideas, Innovations, And Institutions As Enablers	Theme: Trailblazers	22 <sup>nd</sup> & 23 <sup>rd</sup> March 2024  organized by Carmel College of Arts, Science, and Commerce for Women Nuvem - Goa 403 601 in collaboration with Xaverian Educational Society Fr. Agnel College of Arts & Commerce Pilar - Goa 403 203	Oral Presentation	1 <sup>st</sup> Prize for Best Presentation
9.	<b>Amatullah Filewala,</b> Janhavi Kamerkar, Iqra Kasmani, Amithi Javalekar,	Oral / Podium Presentation (PPT Presentation)	Occupational Health and Well-Being of Junior College Teachers.	ErgoQuest 2024 - An Intra-class Research Competition	Intra-class Research Competition	Dept. of Community Resource Management, College of Home Science	22nd April 2024	

	Humaira Jasnak, and Guide: Dr. Roopa Rao					Nirmala Niketan, Mumbai – 20		
<b>Group – III: Ergonomic Evaluation of Breastfeeding Positions and Maternal Health: A Comprehensive Study on Lactating Mothers.</b>								
10.	<b>Miloni Shah,</b> Sakshi Zinjad, Sadaf Shaikh, Akansha Sharma, and  Guide: Dr. Roopa Rao	Poster presentation	Ergonomic Strategies for Alleviating Postural Discomfort During Breastfeeding	18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round)	Zone 1: Mumbai  Category - 6: Medicine & Pharmacy	Department Of Students' Development, University of Mumbai	16 <sup>th</sup> Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, 'B' Road, Churchgate, Mumbai – 20	
11.	<b>Akansha Sharma,</b> Miloni Shah, Sakshi Zinjad, Sadaf Shaikh, and  Guide: Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Breastfeeding Positions and Musculoskeletal Health: A Comprehensive Ergonomic Study	AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate	Innovation, Ideas, and Research Transforming Life	College of Home Science Nirmala Niketan Affiliated to the University of Mumbai	28 <sup>th</sup> February 2024  Online mode	



				Research Competition				
12.	<b>Sadaf Shaikh,</b> Akansha Sharma, Miloni Shah, Sakshi Zinjad, and Dr. Roopa Rao (Guide)	Poster Presentation	Maternal Comfort And Posture During Breastfeeding: An Ergonomic Approach	SRIJNA 5th National Level Poster Presentation Competition	Sustainable Future (Sub-theme)	28 <sup>th</sup> February 2024  Guru Nanak Institute of Research and Development	Guru Nanak Institute of Research & Development (GNIRD), Guru Nanak Khalsa College, Matunga	
13.	Akansha Sharma Miloni Shah Sakshi Zinjad Sadaf Shaikh  Guide: Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Ergonomic Evaluation of Breastfeeding Positions and Maternal Health: A Comprehensive Study on Lactating Mothers	ErgoQuest 2024 - An Intra-class Research Competition	Intra-class Research Competition	Dept. of Community Resource Management, College of Home Science Nirmala Niketan, Mumbai – 20	22nd April 2024	Consolation prize
<b>Group – IV: Optimizing Firefighter Safety: PPE Ergonomics &amp; Rehabilitation Facilities</b>								
14.	<b>Shaikh Aafiya,</b> Sanghvi Niyati,	Poster Present	Firefighter Safety - PPE, Ergonomics,	18th Aavishkar: Inter-Collegiate / Institute /	Inter Zonal (Final) Round	Department Of Students' Development	17 <sup>th</sup> December 2023 at	

	Tahira Ticlo, Shaikh Aruba, and  Guide: Dr. Roopa Rao		and Rehabilitation Facilities	Department Research Convention (Zonal Round	Category 2 – Commerce, Management & Law	, University of Mumbai	Vinayak Ganesh Vaze College of Arts, Science and Commerce, Mulund, Mumbai	
15.	<b>Shaikh Aafiya,</b> Sanghvi Niyati, Tahira Ticlo, Shaikh Aruba, and  Guide: Dr. Roopa Rao	Poster Present	Firefighter Safety - PPE, Ergonomics, and Rehabilitation Facilities	18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round	Zone 1: Mumbai  Category 2 – Commerce, Management & Law	Department Of Students' Development , University of Mumbai	16 <sup>th</sup> Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, 'B' Road, Churchgate, Mumbai – 20	Selected to present in the Final Round

16.	Sanghvi Niyati, Shaikh Aruba, Shaikh Aafiya, Tahira Ticlo, and Guide: Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Firefighter safety: Evaluating fatigue and environmental impact	AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate Research Competition	Social sciences	College of Home Science Nirmala Niketan	28th February 2024  Online mode	Presented At intercolleg iate level
17.	Shaikh Aafiya Mohd Anwar Tahira Marie Menezes Ticlo	Poster presentation	Evaluating Firefighter Safety: Innovation in PPE, Ergonomics and Rehabilitation Facilities	SRIJNA 5th National Level Poster Presentation Competition	Sustainable Future (Sub- theme)	28 <sup>th</sup> February 2024  Guru Nanak Institute of Research and Development	Guru Nanak Institute of Research & Development (GNIRD), Guru Nanak Khalsa College, Matunga	Won 1st place at national level

18.	Shaikh Aafiya Mohd Anwar Tahira Marie Menezes Ticlo Shaikh Aruba Shabuddin Sanghvi Niyati Manish	Oral / Podium Presentation (PPT Presentation)	Optimizing Firefighter Safety in PPE Ergonomics and Rehabilitation Facilities	ErgoQuest 2024 - An Intra-class Research Competition	Intra-class Research Competition	Dept. of Community Resource Management, College of Home Science Nirmala Niketan, Mumbai – 20	22nd April 2024	1st prize Rs. 3000/-
<b>Group – V: Analysis of Prevalence And Classification of Work-Related Musculoskeletal Disorders among Physiotherapists.</b>								
19.	<b>Avandhika Shaju</b> Sheetal Vishwas Shruti Sawant Zeenat Siddiqui	Poster Presentation	Analysis on Prevalence and Classification of Work-related Musculoskeletal Disorders among Physiotherapists.	18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round)	Zone 1: Mumbai  Category - 6: Medicine & Pharmacy	Department Of Students' Development , University of Mumbai	16 <sup>th</sup> Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarathi Bhavan, 'B' Road, Churchgate, Mumbai – 20	Presented at zonal round
20.	<b>Avandhika Shaju</b> Sheetal Vishwas Shruti Sawant	Oral / Podium Presentation	Investigating the Impact of Ergonomics on	URJITA Inter- Collegiate Undergraduate	Breaking Barriers: Women's	Smt. P. N. Doshi Women's	3rd Feb 2024 at Smt. P. N. Doshi	

	Zeenat Siddiqui	(PPT Presentation)	Occupational Health in Women Physiotherapists	Research Competition 2023 - 2024	Journey from the past, present and future	College affiliated with SNDT Women's University	Women's College	
21.	<b>Avandhika Shaju,</b> Shruti, Sawant, and Dr. Roopa Rao (Guide)	Poster Presentation	Musculoskeletal Wellness Among Mumbai's Physiotherapists	JIGYASA 2024	Humanities and Languages	13th March 2024  Mini-Auditorium, SIES College of ASC (Autonomous), Sion (W), Mumbai	SIES College of Arts, Science & Commerce (Autonomous) Sion (West), Mumbai - 22	Won 1 <sup>st</sup> Prize for Best Research
22.	Avandhika Shaju Sheetal Vishwas Shruti Sawant Zeenat Siddiqui	Oral / Podium Presentation (PPT Presentation)	Analysis of Prevalence And Classification of Work-Related Musculoskeletal Disorders among Physiotherapists.	ErgoQuest 2024 - An Intra-class Research Competition	Intra-class Research Competition	Dept. of Community Resource Management, College of Home Science Nirmala Niketan, Mumbai – 20	22nd April 2024	2nd prize Rs. 2000/-

**Group – VI: Enhancing Charging Infrastructure for 2-Wheeler EV Users in Mumbai**

23.	<b>Krishna Chheda</b> Rashida Badri Khadija Jawadwala Asmita Birwatkar  Guide - Dr. Roopa Rao	Poster Presentation	Enhancing electric vehicle charging infrastructure for 2-wheeler EV users in Mumbai	18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round)	Zone 1: Mumbai  Category - 5: Engineering & Technology	Department Of Students' Development , University of Mumbai	16 <sup>th</sup> Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, 'B' Road, Churchgate, Mumbai – 20	
24.	<b>Asmita Birwatkar,</b> Khadija Jawadwala, Rashida Badri, Krisha Chheda, and Guide - Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Sustainable urban mobility: Enhancing electric vehicle charging infrastructure for 2-wheeler users in Mumbai	AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate Research Competition	Innovation, Ideas And Research Transforming Life	College Of Home Science Nirmala Niketan, Mumbai -20	28 <sup>th</sup> February 2024  Online mode	
25.	<b>Rashida Badri,</b> Krisha Chheda, Asmita Birwatkar,	Poster Presentation	Powering Tomorrow: Enhancing Mumbai's EV	SRIJNA 5th National Level Poster	Sustainable Future (Sub-theme)	28 <sup>th</sup> February 2024	Guru Nanak Institute of Research & Development	

	Khadija Jawadwala, and Guide - Dr. Roopa Rao		Infrastructure for Greener Journeys	Presentation Competition		Guru Nanak Institute of Research and Development	(GNIRD), Guru Nanak Khalsa College, Matunga	
26.	<b>Rashida Badri,</b> Krisha Chheda, Asmita Birwatkar, Khadija Jawadwala, and Guide - Dr. Roopa Rao	Poster Presentation	Powering Up: Assessing Awareness of Charging Infrastructure among 2-wheeler EV users	Elysium 2024	Ek Bharat Shreshtha Bharat	Department Of Life Long Learning and Extension (DLLE) University of Mumbai in collaboration with B.L. Amlani College Of Commerce And Economics M.R. Nathwani College Of Arts	04th February 2024 B.L. Amlani College of Commerce and Economics M.R. Nathwani College of Arts	Consolation Prize

27.	Asmita Birwatkar, Khadija Jawadwala, Krisha Chheda, Rashida Badri, and Guide - Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Enhancing Charging Infrastructure for 2-Wheeler EV Users in Mumbai	ErgoQuest 2024 - An Intra-class Research Competition	Intra-class Research Competition	Dept. of Community Resource Management, College of Home Science Nirmala Niketan, Mumbai – 20	22nd April 2024	
<b>Group – VII: Evaluating Ergonomic Fit – A Comparative Study of Students Anthropometric Measurements and Furniture Dimensions in the School Computer Lab</b>								
28.	<b>Dyuti Panwala,</b> Kritika Ratnakar, Arwa Aliasger, Sakina Mandasaurwala, and Guide: Dr. Roopa Rao	Poster	Furniture For Thought: Assessing Anthropometric Compatibility	18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round)	Zone 1: Mumbai Category 2 – Commerce, Management & Law	Department Of Students' Development , University of Mumbai	16 <sup>th</sup> Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, 'B' Road, Churchgate, Mumbai – 20	Presented Poster at zonal round and selected for PPT presentation at zonal round.



29.	<b>Arwa Aliasger,</b> Sakina Mandasurwala, Dyuti Panwala, Kritika Ratnakar, and  Guide: Dr. Roopa Rao	Oral / Podium Presentation (PPT Presentation)	Evaluating Furniture For The Bloomers	AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate Research Competition	Innovation, Ideas, and Research Transforming Life	College Of Home Science Nirmala Niketan	28 <sup>th</sup> February 2024  Online mode	3rd Prize 1500/- Cash Prize
30.	Arwa Aliasger Dyuti Panwala Kritika Ratnakar Sakina Mandasurwala	Oral / Podium Presentation (PPT Presentation)	Evaluating Ergonomic Fit – A Comparative Study of Students Anthropometric Measurements and Furniture Dimensions in the School Computer Lab	ErgoQuest 2024 - An Intra-class Research Competition	Intra-class Research Competition	Dept. of Community Resource Management, College of Home Science Nirmala Niketan, Mumbai – 20	22 <sup>nd</sup> April 2024	

## **Prizes/Awards Won:**

### **ErgoQuest 2024 - Intra-class Research Competition on 22<sup>nd</sup> April 2024.**

- Shaikh Aafiya, Tahira Ticlo, Shaikh Aruba, Sanghvi Niyati, and Roopa Rao, presented “Optimizing Firefighter Safety in PPE Ergonomics and Rehabilitation Facilities,” Judged the 1<sup>st</sup> Best Research. Awarded merit Certificates, and Rs. 5000/- cash prize.
- Avandhika Shaju, Sheetal Vishwas, Shruti Sawant, Zeenat Siddiqui, and Roopa Rao, presented “Analysis of Prevalence and Classification of Work-Related Musculoskeletal Disorders among Physiotherapists,” on 22<sup>nd</sup> April 2024.
  - Judged the 2<sup>nd</sup> Best Research. Awarded merit Certificates, and Rs. 3000/- cash prize.
- Aqsa Khan, Charisma Thampy, Kameshwari Ushashree Mangipudi, Vidhi Gada, and Roopa Rao, presented “Ergonomic Evaluation of Breastfeeding Positions and Maternal Health: A Comprehensive Study on Lactating Mothers,” on 22<sup>nd</sup> April 2024.
  - Judged the 3<sup>rd</sup> Best Research. Awarded merit Certificates, and Rs. 2000/- cash prize.
- Akansha Sharma, Miloni Shah, Sakshi Zinjad, Sadaf Shaikh, and Roopa Rao, presented “Creating a Safe and Healthy Learning Environment: A Study on Ergonomic Safety in Preschools,” on 22<sup>nd</sup> April 2024.
  - Awarded Consolation Prize for Best Research. Merit Certificates were won.

### **Youth-Centric Convention on the theme Visionary Youth For Viksit Bharat: - Ideas, Innovations, And Institutions As Enablers on 22 – 23<sup>rd</sup> March 2024**

- Humaira Jasnak, Tahira Ticlo, Vishaka Karnad, and Roopa Rao, presented “Innovative Ideas/Practices at the College of Home Science Nirmala Niketan, Mumbai – 20,” at the National Level Conference A Youth-Centric Convention on the theme Visionary Youth For Viksit Bharat: - Ideas, Innovations And Institutions As Enablers, under the theme: Trailblazers, organized by Carmel College of Arts, Science, and Commerce for Women Nuvem - Goa 403 601 in collaboration with Xaverian Educational Society Fr. Agnel College of Arts & Commerce Pilar, Goa 403 203 on 22<sup>nd</sup> & 23<sup>rd</sup> March 2024.
  - Judged 1<sup>st</sup> prize for the Best Research Presentation under Trailblazers theme. Awarded merit certificates, and trophies

### **JIGYASA on 13<sup>th</sup> March 2024**

- Avandhika Shaju, Shruti Sawant, and Roopa Rao delivered a presentation titled “Musculoskeletal Wellness Among Mumbai’s Physiotherapists,” at JIGYASA 2024 organized by SIES College of Arts, Science & Commerce (Autonomous) Sion (West), Mumbai - 22 on 13<sup>th</sup> March 2024.
  - Their research was recognised as the 1<sup>st</sup> Best Research, earning them merit Certificates and trophies fro their achievement.

### **SRIJNA 5th National Level Poster Presentation Competition on 28<sup>th</sup> February 2024**

- Shaikh Aafiya, Tahira Ticlo, Shaikh Aruba, Sanghvi Niyati, and Roopa Rao, presented “Evaluating Firefighter safety: Innovation in PPE, Ergonomics and Rehabilitation Facilities,” at the SRIJNA 5th National Level Poster Presentation Competition, organised and hosted by

Guru Nanak Institute of Research & Development (GNIRD), Guru Nanak Khalsa College, Matunga on 28th February 2024.

- The team was honoured with the 1st prize for their outstanding Research Project.
- Amithi Javalekar, Humaira Jasnak, and Roopa Rao presented “Exploring MSDs In Junior College Teachers,” at SRIJNA 5<sup>th</sup> National Level Poster Presentation Competition, organised by Guru Nanak Institute of Research & Development (GNIRD), Guru Nanak Khalsa College, Matunga on 28th February 2024.
  - Awarded a special prize “Best Sustainable Science Project” across all levels - UG, PG and PPG

#### **URJITA Inter-Collegiate Undergraduate Research Competition 2024 on 3<sup>rd</sup> February 2024**

- Amithi Javalekar, Humaira Jasnak, Amatullah Filewala Janhavi Kamerkar, and Roopa Rao, presented “Empowering Minds, Shaping Futures Unveiling The Work-Related Challenges Of Women Educators,” at URJITA Inter-Collegiate Undergraduate Research Competition 2023 - 2024, theme Breaking Barriers: Women’s Journey from the past, present and future organised by Smt. P. N. Doshi Women's College, Ghatkopar affiliated with SNDT Women's University on 3<sup>rd</sup> February 2024.
  - Judged the 3<sup>rd</sup> Best Research. Awarded merit Certificates, and Rs. 1500/- cash prize.

#### **AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate Research Competition on 28th February 2024**

- Arwa Aliasger, Sakina Mandasaurwala, Dyuti Panwala, Kritika Ratnakar, and Roopa Rao, presented “Evaluating Furniture For The Bloomers,” at AARYA 2024 Awareness and Action Research For Youth Awakening Virtual National Interdisciplinary Undergraduate Research Competition, organised by College Of Home Science Nirmala Niketan on 28th February 2024.
  - Judged the 3<sup>rd</sup> Best Research. Awarded merit Certificates, and Rs. 1500/- cash prize.

#### **Elysium 2024 on 4<sup>th</sup> February 2024**

- Rashida Badri, Krisha Chheda, Asmita Birwatkar, Khadija Jawadwala, and Roopa Rao, presented “Powering Up: Assessing Awareness of Charging Infrastructure among 2-Wheeler EV users,” at Elysium 2024 on the theme Ek Bharat Shreshtha Bharat, organised by Department Of Life Long Learning and Extension (DLLE) University of Mumbai in collaboration with B. L. Amlani College Of Commerce And Economics M.R. Nathwani College Of Arts, Vile Parle on 4th February 2024.
  - Awarded Consolation Prize for Best Research.

#### **18<sup>th</sup> Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round) on 16<sup>th</sup> December 2023**

- Shaikh Aafiya, Tahira Ticlo, Shaikh Aruba, Sanghvi Niyati, and Roopa Rao, presented “Firefighter safety - PPE Ergonomics and Rehabilitation Facilities,” at the 18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round), organised by the Department Of Students’ Development, University of Mumbai on 16th Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, ‘B’ Road, Churchgate, Mumbai – 20.
  - Selected to present in the Final Round.

- Dyuti Panwala, Kritika Ratnakar, Arwa Aliasger, Sakina Mandasaurwala, and Roopa Rao, presented “Furniture For Thought: Assessing Anthropometric Compatibility,” at the 18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round), organised by the Department Of Students’ Development, University of Mumbai on 16th Dec 2023 at DLLE Audio Visual Hall, Second Floor, Vidyapeeth Vidyarthi Bhavan, ‘B’ Road, Churchgate, Mumbai – 20.
  - Selected to present in the Final Round.

### **Industrial Visit to Bengaluru – Mysuru from 18<sup>th</sup> to 23<sup>rd</sup> February 2024:**

The itinerary of the industrial visit to Bengaluru & Mysuru was meticulously planned, primarily catering to the students of the Add-on Course, to provide them with practical insights into the diverse industrial applications of ergonomics. Several tour operators were approached, including Key Explore. Ultimately, the quote from Key Explore – The World Class Travel Company was accepted, and a six-day tour to Bengaluru – Mysuru was planned from 18<sup>th</sup> – 23<sup>rd</sup> February 2024.

The selection of industries for the visit was carefully curated by Dr. Roopa Rao, the coordinator of the Add-on Course, to encompass both practical and theoretical insights into the subject matter. These visits proved instrumental in equipping students with first-hand knowledge about industrial operations, enabling them to plan, organize, and actively engage in learning experiences both within and outside the classroom. Moreover, it provided them with valuable insights into their potential roles as ergonomists within the industry, while also imparting crucial knowledge regarding industrial best practices. The students expressed their satisfaction with the course content and the research/in-depth studies conducted, emphasizing that it provided them with practical insights into industry dynamics, their potential placements, and the requisite do's and don'ts.

The industries visited during the three days at Bengaluru, and Mysuru were: ISRO (Bengaluru), Nandini Dairy, Mysuru, Coca-Cola, and Karakushala Artesian Village where wood inlay work is made. Students conducted Ergonomic assessments and Hazard analysis on each industry, also OWAS and CMDQ data were inducted to understand MS Discomfort experienced by the employees. Although it was an exhausting day, it offered the perfect blend of industries to gain valuable insights into Occupational Health, HR matters, and TQM. In addition to these enriching industrial visits, the students also had the opportunity to indulge in recreational activities, visiting notable attractions.

The industrial visit organized for students aimed at providing them with industry-specific knowledge in the domains of ergonomics, safety, Total Quality Management (TQM), occupational health, and HR practices. The meticulously planned itinerary commenced with the assembly of students at CST Railway Station to board the Udyan Express bound for Bengaluru on 18<sup>th</sup> February 2024.

Upon arrival in Bangalore on 19<sup>th</sup> February 2024, students were transferred to Hotel Bangalore Gate, where they checked in and refreshed themselves. After a sumptuous lunch, the itinerary kicked off with a visit to the H.A.L. Museum, where students gained insights into aerospace technology and its ergonomic implications. The evening culminated with a lively dance party, fostering camaraderie among the students, and setting the tone for the days ahead.

Day 03 commenced with an early breakfast, followed by departure for Mysore. En route, students engaged in discussions and preparations for the industrial visit. Lunch was served en route, ensuring students were fueled for the day's activities. Upon arrival in Mysore, students checked into their hotel and later visited Vrindavan Garden for a mesmerizing light and sound show, providing a delightful blend of leisure and cultural exploration.

The following day, students embarked on a cultural exploration of Mysore, visiting landmarks such as Mysore Palace, and Philomena Church. These visits were interspersed with industrial insights, with students conducting ergonomic assessments and hazard analyses at each location. The practical application of OWAS and CMDQ methodologies provided invaluable insights into employee discomfort and safety measures in industrial settings.

Day 05 saw students departing for an industrial visit after breakfast, followed by a visit to the Vishveshwariya Museum and leisure time for shopping at the local market. The day concluded with students boarding the Udyan Express for their return journey to Mumbai, filled with reflections on the enriching experiences and learnings garnered during the trip.

Throughout the visit, students gained practical insights into industrial operations across diverse sectors, including ISRO, Nandini Dairy, Coca-Cola, and Karakushala Artisan Village. Dr. Roopa Rao's careful curation of industries ensured students received a comprehensive understanding of ergonomics, safety practices, and HR dynamics. The hands-on experience of conducting ergonomic assessments and hazard analyses empowered students to envision their roles as future ergonomists within the industry.

In conclusion, the industrial visit provided students with a holistic perspective on industrial practices, bolstering their academic knowledge with real-world experiences. The practical insights gained during the visit have equipped students with valuable skills and perspectives, positioning them as adept professionals ready to contribute meaningfully to the field of ergonomics and industrial management

### **Meritorious Students:**

The highly anticipated awards ceremony, where the highest marks, topper, and best research projects were acknowledged, along with the distribution of certificates and appreciation letters, will take place on the Valedictory day. The deserving recipients of the esteemed accolades are:

**Best Project Award:** “Occupational Health & Well-Being of Junior College Teachers” by Amatullah Filewala, Amithi Javalekar, Humaira Jasnak, Iqra Kasmani, and Janhavi Kamerkar.

- **Highest Marks:**

- |                            |                                 |
|----------------------------|---------------------------------|
| - Topper – 1 <sup>st</sup> | Mangipudi Kameswari Ushasree    |
| - Topper – 2 <sup>nd</sup> | Shaikh Aafiya Mohd Anwar Fatima |
| - Topper – 3 <sup>rd</sup> | Thampy Charisma                 |
| - Highest Marks (WD)       | Shaikh Aafiya Mohd Anwar Fatima |
| - Highest Marks (AE)       | Shaikh Aafiya Mohd Anwar Fatima |

- **Appreciation Certificate for 100% Attendance:** Panwala Dyuti  
Ratnakar Kritika  
Mangipudi Kameswari Ushasree  
Shaikh Sadaf

These diligent students have showcased exemplary dedication and expertise in their research endeavors, culminating in an outstanding project that surpassed expectations. Their innovative exploration of the Occupational Health & Well-Being of Junior College Teachers demonstrates their unwavering commitment to enhancing occupational health and safety.

The Add-on Certificate Course in Workstation Design and Applied Ergonomics has undeniably fostered a cadre of skilled professionals poised to make significant contributions to the field. With their research studies receiving recognition at various esteemed platforms, including inter-collegiate competitions, university-level events, and a national conference, these students have not only expanded their knowledge but also made a lasting impact on the academic community.

**Challenges Faced:** The challenges encountered in running the Add-on Course in Workstation Design & Applied Ergonomics are:

1. **Space Constraints:** The college's limited physical space poses a significant challenge for conducting practical sessions and setting up dedicated ergonomics laboratories. Insufficient space restricts the implementation of hands-on activities and limits students' exposure to real-world ergonomic scenarios.
2. **Inadequate Lab Facilities:** The lack of well-equipped ergonomic laboratories hinders the effective delivery of the course. The absence of essential equipment and tools limits students' ability to engage in practical experiments and gain hands-on experience, thus impacting their understanding and skill development.
3. **Understaffing:** Insufficient faculty members specializing in ergonomics impede the comprehensive teaching and mentoring required for the course. Limited staff often leads to a higher workload and compromises individual attention, thereby affecting the overall quality of education imparted.
4. **Inadequate Remuneration for Staff:** The current remuneration of Rs. 250/- provided to faculty members is not proportionate with their expertise and dedication, posing a significant challenge in attracting and retaining qualified professionals in the field of ergonomics. The lack of competitive compensation may deter experienced educators from joining the institution, thereby impacting the quality of instruction and mentorship provided to students.
5. **Limited Computer Lab Facilities:** The absence of well-equipped computer labs further exacerbates the challenges faced by students. Inadequate access to computers and relevant software hinders students' ability to complete their coursework and research projects efficiently. This limitation not only impedes academic progress but also restricts students' exposure to modern technological tools essential for success in the field of ergonomics.

### Future Plans:

- **Infrastructure Development:** The college administration should prioritize allocating additional space for ergonomics laboratories and related facilities. Establishing well-equipped labs with state-of-the-art equipment will provide students with hands-on experience and practical exposure to ergonomic principles.
- **Faculty Recruitment and Training:** Hiring qualified faculty members specializing in ergonomics will alleviate the understaffing issue. Conducting regular training programs and professional development workshops will ensure that faculty members remain updated with the latest advancements in ergonomics, enhancing their teaching capabilities.
- **Collaborations and Partnerships:** The college can explore partnerships with external organizations, research institutes, and industry experts to supplement the existing resources. Collaborations would enable students to access off-campus laboratories and facilities, expanding their learning opportunities beyond the college premises.
- **Guest Lectures and Industry Interactions:** Inviting experts from the industry to deliver guest lectures and share their practical experiences will expose students to real-world applications of ergonomics. Industry interactions, such as internships and industrial visits, will provide students with a deeper understanding of ergonomics in various work environments.

While challenges such as space constraints, inadequate lab facilities, and understaffing pose obstacles in running an Add-on course in ergonomics, the college can overcome them through infrastructure development, faculty recruitment and training, collaborations, and industry interactions. By implementing the plans, students will receive a comprehensive education in ergonomics, enhancing their career prospects in the field of occupational health and safety.

Dr. Roopa Rao  
Coordinator

VAC, Workstation Design & Applied Ergonomics



A handwritten signature in blue ink, appearing to read "Roopa Rao".

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