

Dr. Namrataa Kkommineni
Research Coordinator, Assistant Professor Physics
Shah & Anchor Kutchhi Engineering College, Mumbai.

+919730608148
namrata201284@gmail.com



Academic Qualifications:

1. **Ph.D. in Theoretical High Energy Particle Physics (2013-2018) from University of Mumbai** under the supervision of **Prof. Anuradha Misra (UDP)**, and **Prof K. Sridhar (TIFR)**.
Thesis : Searches for Extra Dimensions at the Large Hadron Collider and Beyond.
2. **M.Sc. in Physics (2005-2007)- 76% with Third Rank** at the Sant Gadge Baba Amravati University, from Shri Shivaji Science College Amravati, Maharashtra, India.
3. **B.Sc. (2002-2005) -85% with First Rank** at the Mumbai University, Mumbai, India.
4. **Qualified the CSIR-National Eligibility Test** for lectureship in Physical Science (2010).

Appointments:

1. Assistant Professor at **Shah & Anchor Kutchhi Engineering College, Chembur, Mumbai** since 2010- till date.
2. Lecturer at **KVCT ARMIET, Asangaon, Maharashtra** (Aug' 08 to Aug' 10)
3. Lecturer at **SSJCET, Asangaon, Maharashtra** (Aug' 07 to Aug' 08)

Current Research Interest:

My research interest is broadly in the High Energy Particle Physics Phenomenology. In particular the collider implications of extra dimensional models including Randall-Sundrum model and models with the deformed geometry are of my interest. These models not only solve the gauge hierarchy problem but also offer a solution to the Yukawa hierarchy problem, In addition to having intriguing flavor structures.

The LHC has collected the largest ever dataset, which is around 135/fb in Run II, which is expected to rise to 300/fb by Run III and further to 3000/fb at HL-LHC which is expected to start in 2023. This proposed plan of runs at the LHC provides a unique opportunity to confirm any hints on these signatures if observed in Run II or Run III datasets.

Schools Attended:

1. Course in Quantum Field Theory by Prof. Sridhar K., Physics Department, University of Mumbai. August 2012- November 2012.
2. Attended SERC PREPARATORY SCHOOL in Theoretical High Energy at Department of Physics, Tezpur University from June 17, 2013 to July 13, 2013.
 - a. Quantum Field Theory by Dr. V.S. Nemani
 - b. Group Theory by Dr. Anindya Datta
 - c. Particle Physics and Standard Model (PPSM) by Prof. Probir Roy
 - d. General Theory of Relativity (GTR) by Dr. Tirthankar Roy Choudhury
 - e. Statistical Methods in Physics (SMP) by Prof. Satyaki Bhattacharya
3. Short Term Training Programme (STTP) on "Research Methodology and Current Trends" organized by Shah and Anchor Kutchhi Engineering College from December 16, 2013 to December 20, 2013.
4. Course in Quantum Field Theory by Prof. Sreerup Raichoudhuri., CEBS-MU, University of Mumbai. January 2014- April 2014.

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Teaching Experience: More than 15 years

1. Solid State Physics, Electronics,
2. Semiconductors,
3. Dielectrics and Magnetic Materials
4. Acoustics and Ultrasonics.
5. Interference and Diffraction,
6. Fiber Optics and Lasers
7. Quantum Mechanics
8. Electron optics.
9. Superconductivity.
10. Nano Science and Nano Technology etc

Software Skills:

1. Python 2.7 , c++
2. Feynrules 2.0 & Madgraph 5 & Pythia 8 & Fastjet3 & Root 5.34
3. Mathematica 9
4. Matlab
5. LaTeX
6. MOPAC 2009 Release & Chimera 1.6.1 & Avogadro
7. Lab View 2008 Release
8. Atomistix Toolkit (ATK) 2008 Release & Virtual Nanolab 2008 Release
9. Material Studio
10. General Atomic & Modular Electronic Structure System (GAMESS)

List of completed Projects Mentored:

1. SAKEC Physics Video Repository Project
<https://www.youtube.com/playlist?list=PLgsCVqf2bw9bHjpJtog31n7wYUAtfIQ74>
2. Launch of Engineering Physics I mobile application
https://play.google.com/store/apps/details?id=com.physics.mu_applied_phy
3. Launch of Engineering Physics II mobile application
<https://play.google.com/store/apps/details?id=com.muphy2.muappphy2>
4. Launch of Philo Physics Mobile application:
<https://play.google.com/store/apps/details?id=com.philophysics.ephysicsapp>
5. SAKEC fun with Physics Video Repository
<https://www.youtube.com/playlist?list=PLgsCVqf2bw9YISq35FRFOHBM6KDF0mUM>
6. Incharge of Virtual Labs project at SAKEC
<https://www.shahandanchor.com/VLab/>

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List of Ongoing Projects:

1. **Thickness and wear calculation module** for Surface modification technologies Pvt. Ltd. Vasai Unit.
2. **Measurement of tools using computer vision** for Surface modification technologies Pvt. Ltd. Chinchwad unit.
3. **Web Development for the center of excellence for theoretical and computational Science(CETACS)** at University of Mumbai.
4. Physical vapor deposition simulations for uniform coating prediction using NASCAM software developed by Prof. S. Lucas from the University of Namur, Belgium as a guideline.
5. Web Development of "Website for Physics Solutions" 25000 Rs received for Minor Research Project from Mumbai University for the academic year 2019-20.

Miscellaneous Achievements:

1. **Engineering Physics I Notes copyrights registered** on 18-01-2021 with Registration number : **L-98739/2021**
2. **Engineering Physics II Notes copyrights registered** on 8-06-2021 with Registration number : **L-104193/2021**
3. Research Grant of 25000 Rs received for Minor Research Project from Mumbai University for the academic year 2019-20. The sanctioned project was titled "Website for Physics Solutions".
4. Third University topper at Sant Gadge Baba Amravati University MSc. Physics during the year july 2007.
5. University topper Gold medalist Mumbai University B.Sc. Physics Honors during july 2005.

List of research papers :

1. Paper titled "**Kaluza-Klein gluon + jets associated production at the Large Hadron Collider**" published in PLB, Science Direct Elsevier: paper is available at the link <http://dx.doi.org/10.1016/j.physletb.2016.05.090>
2. Paper titled "**A Higgs in the Warped Bulk and LHC signals**" is published with JHEP, can be found at the link : [https://doi.org/10.1007/JHEP11\(2016\)075](https://doi.org/10.1007/JHEP11(2016)075)
3. Paper titled "**Searches for boosted top quarks at the LHC**" is published in the Few body systems , Springer, available at the link: <https://doi.org/10.1007/s00601-018-1425-4>
4. Paper titled "**Bulk higgs in the deformed model**" is published in PLB, Science direct Elsevier, available at the link : <https://doi.org/10.1016/j.physletb.2018.08.007>
5. Paper titled "**KK Higgs produced in association with a top quark pair in the bulk RS model**" is published in EPJC, available at the link : <https://doi.org/10.1140/epic/s10052-019-7487-8>
6. Work titled "**Testing charge-radius coupling of the composite Higgs boson at hadron colliders**" is submitted to PLB and can be found online at <https://arxiv.org/abs/2108.03005.pdf>

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Short List of talks delivered and programs organized:

- Delivered an invited webinar titled “**Particle Physics @ Large Hadron Collider**” at online webinar series on 2nd Sept 2021 conducted by RAIT. Post link : <https://rb.gy/f00mre>
- Organized a workshop on “**Secrets to write a fund fetching research proposal**” 6th-8th September 2021 on behalf of Research Cell SAKEC. Workshop playlist: <https://rb.gy/ij0kdn>
Find the workshop lectures here : Organized a **Hybrid webinar series 2.0 on Machine learning** from 4th sept -23oct 2021 on behalf of SAKEC Research Cell. Series playlist: <https://rb.gy/4mbsqm>
- Delivered a webinar “**Superconductivity**” at hybrid webinar series on 13 June 2020 conducted by SAKEC Research cell. <https://www.youtube.com/watch?v=6lPza1y-Vs>
- Delivered a Talk on “**Adapting to a changing world: Opportunities and Challenges in Physics Education**” 25th June, 2019 at Shri Shivaji Science college Amravati. Post link : <https://cutt.ly/QKQ3krg>

Short List of conference/ workshop/STTPs/FDP attended:

- Attended FDP on “Inculcating Universal Human Values in Technical Education” from 28th July to 1st August 2020 organized online by AICTE.
- Advances in Nanomedicine © 2020 JETIR Namrata Manglani & Ankita Jain Volume 7, Issue 5, (ISSN-2349-5162) May 2020
- Short Term Training Programme (STTP) on “Inclusion of Nanotechnology in various commercial Arena” organized by K. J. Somaiya Institute of Engineering & Information technology, Sion from July 02, 2018 to July 07, 2018.
- Short Term Training Programme (STTP) on “Digital Signal Processing with Image Processing” organized by Shah and Anchor Kutchhi Engineering College from July 09, 2012 to July 13, 2012.
- Published a review titled “ Possibilities and Challenges of nano medicine: A mini review” at International conference on Recent trends of Computer Technology in Academia, ICRTCTA 2012 on April 21, 2012 to April 23, 2012.(Book of Abstracts Pg. 182)
- Short Term Training Programme (STTP) “Advanced Web Technologies” organized by Shah and Anchor Kutchhi Engineering College from January 17, 2012 to January 21, 2012.
- Workshop on “Emotional Intelligence” organized by Shah and Anchor Kutchhi Engineering College on August 20, 2011.
- Short Term Training Programme (STTP) “Presentation and Effective Teaching Techniques” organized by Shah and Anchor Kutchhi Engineering College from July 18, 2011 to July 22, 2011.
- Short Term Training Programme (STTP) on “Virtual Instrumentation” organized by Shah and Anchor Kutchhi Engineering College from July 11, 2011 to July 15, 2011.
- Presented and published a paper titled “ Auras” at National Conference on Emerging Technologies & Applications in Engineering & Sciences (NCETAES – 11), Saraswati College of

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- Engineering on February 03, 2011 to February 04, 2011. ISSN 0974-0678. Pg. 424-426.
- Short Term Training Programme (STTP) on “Accreditation and ISO Certification of Technical Institution” organized by Datta Meghe College of Engineering from July 13, 2009 to July 24, 2009.
 - Workshop on “Virtual Nanolab” organized by Quantum Wise and National Center for Nanomaterials & Nanotechnology, University of Mumbai on October 14, 2009.

Personal Details:

Name: Dr. Namrataa Kkommineni (Maiden name: Namrata Manglani)

Marital Status: Married

Languages Known: English, Hindi, Marathi, Sindhi and Telugu.

Permanent address: Juinagar, Navi Mumbai, INDIA.