AMBIKA TUNDWAL

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Objective:

A dynamic young researcher in physics, offering a wealth of talent in the development and implementation of educational technology tools and applications in the classroom. In-depth knowledge of Applied Physics; adept in creative teaching strategies that fully engage students in the learning process and an accomplishment-oriented approach to teaching.

Educational Qualifications:

- **Ph.D.** in **Physics** **(Topic: A Monte Carlo code for radiation damage of reactor fuel cells, steel and polyethylene by high energy Gamma and Electrons)** from Guru Gobind Singh Indraprastha University, Delhi in 2016.
- **M. Tech** in **Engineering Physics** from Guru Gobind Singh Indraprastha University, Delhi in 2011 with 80.22 CGPA at a scale of 100.

Key Skills:

- Lectures
- Student mentoring
- Conference participation
- Curriculum development
- Research
- Learning strategies
- Management of material resources

Experiences:

- Present : As Assistant professor of physics at Guru Teg Bahadur Institute of Technology, Rajouri Garden, New Delhi (Affiliated with GGSIPU, Delhi) (2017-till date)

Subjects Taught:

- Theory and Technology of semi conduter (BA 105)
- Applied Physics – I
- Applied Physics – II

Awards / Fellowship:

- Awarded Indraprasth Research Fellowships from GGSIPU (2013-2016)
- Annual Topper of M.Tech – Engg Physics (2010-2011)
- GATE-2010 & 2007 score card holder.

Experience Highlights as Assistant Professor:

- Prepare course materials such as syllabi homework assignments and handouts
- Deliver lectures to undergraduate students on topics of applied physics
- Evaluate and grade students' class work assignments and papers
- Initiate facilitate and moderate classroom discussions
- Challenged and motivated students through in-depth lectures and discussions
- Maintain regularly scheduled office hours to advise and assist students

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Other Qualifications:

- Advanced diploma in computer application (ADCA).
- DOEACC 'O' level certificate.

Publications:

1. **"Measurement of high disorder state of high-density polyethylene (HDPE) on irradiation by gamma rays"**
   V Kumar, A Tundwal , N S Raghaw , U Das and S Kumar
   Indian Journal of Physics (September 2021) 95(9):1757–1762
   https://doi.org/10.1007/s12648-020-01838-9

2. **"Monte Carlo simulation of radiation damage produced in iron and vanadium by primary knock on atom 'PKA' "**
   A. Tundwal,V. Kumar,N. S. Raghaw and A. Datta
   Radiation Effects & Defects in Solids 171(7-8) (2016) 658-667
   https://doi.org/10.1080/10420150.2016.1241784

3. "**Gamma radiation induced resistivity changes in Iron**"
   A. Tundwal, V. Kumar and A. Datta
   Indian Journal of Physics (March 2017) 91(3):293–298
   https://doi.org/10.1007/s12648-016-0915-9

4. "**Investigation of defect production in iron on gamma irradiation using the positron Doppler broadening technique**"
   V. Kumar,A. Tundwal, Y. K. Vijay and H. S. Palsania
   Indian Journal of Pure and Applied Physics 54 (January 2016) 51-55
   http://nopr.niscair.res.in/handle/123456789/33603

5. "**A Monte Carlo Simulation of Radiation Damage of SiC and Nb using JA-IPU Code**"
   N. S. Raghaw,V. Kumar,A. Tundwal, Y. Korovin and J. Adam
   Journal of Energy and Power Engineering 9 (2015) 967
   http://doi.org/10.17265/1934-8975/2015.11.005

6. "**Estimation of Radiation Damage of Iron by a Reactor Gamma spectrum**"
   Ambika Tundwal and V. Kumar
   Kerntechnik 80(5) (November 2015) 476-480
   https://doi.org/10.3139/124.110540

7. **"Electronic properties and Compton profiles of molybdenum dichalcogenides"**
N.L. Heda, Ambica Marwal, Yamini Sharma, S.K. Srivastava, Gulzar Ahmed, Rajesh Jain, B.L. Ahuja.
Journal of Physics and Chemistry of Solids 71 (3) (March 2010)187–193
https://doi.org/10.1016/j.jpcs.2009.11.002

8. **"Electronic properties and Compton profiles of silver iodide"**
Alpa Dashora, Ambica Marwal, K.R. Soni and B.L. Ahuja
PRAMANA – Journal of Physics74(6) (September 2010) 1017-1027
https://link.springer.com/article/10.1007/s12043-010-0077-9

Research Papers in Conferences

1. **"A review of nuclear waste transmutation using accelerator beams up to several GeV"**
V. Kumar, A. Tundwal, Karel Katovski and Manish Sharma
IEEE Xplore, **DOI:** 10.1109/EPE.2016.7521826 (2016).
2. "**Monte Carlo simulation of radiation damage by gamma rays**"
A. Tundwal, V. Kumar and N.S. Raghaw
IEEE Xplore, DOI:10.1109/EPE.2014.6839457, 749 - 752 (2014).
3. "**Study of spent fuel management by transmutation in an accelerator driven subcritical system**"
IEEE Xplore, DOI:10.1109/EPE.2014.6839458, 681-685 (2014).
4. "**Electronic structure of AgI using Compton scattering**"
A.Marwal, K. R. Soni, A. Rathor and B. L. Ahuja.
Presented at "***National seminar on Radiation and Materials (NSRM08)***" at Punjabi University, Patiala (March 10- 11, 2008).

Workshops Attended:

1. An International workshop on "***Monte Carlo simulation and applications***" organised by GGSIP university, New Delhi, University of Rajasthan, Jaipur, MS university Vadodara and BRNO university of Technology, BRNO during 17 Nov to 6 Dec 2014.
2. A National workshop on ***"Recent Trends in Semiconductor Devices and Technology"*** organised by Aryabhatta Science Forum, Deen Dayal Upadhaya College, University of Delhi and IEEE EDS Delhi Chapter, Department of Electronic Science, University ofDelhi South Campus, New Delhi during Feb 12-13, 2010.
3. A National workshop on ***"Fiber Optics and Applications"***organised by IEEE EDS Delhi Chapter, Department of Electronic Science, University of Delhi South Campus and Aryabhatta Science Forum, Deen Dayal Upadhaya College, University of Delhi, New Delhi during Nov 28-29, 2009.
4. A National seminar on ***"Radiation and Materials (NSRM08)"*** sponsored by Physics department, Punjabi University, Patiala during 10-11March, 2008.

5. A National workshop on ***"Radiochemistry and Applications of Radioisotopes (NWRAR)"*** sponsored by Board of Research in Nuclear Science, DAE & conducted jointly by the Department of Physics, AIM & ACT, Banasthali University; Banasthali during 07 Feb 2008 to 15 Feb 2008.

Invited lectures:

1. A. Tundwal, ***"Interaction of Radiation with material"*** at National workshop on "**Material science and nuclear radiation technology (MSNRT)**" held at Vivekanand Global University, Jaipur, Nov 2016.
2. A. Tundwal, ***"Simulation and Quantification of damage induced by gamma"*** at DAE-BRNS workshop on "**Monte Carlo Nucleon Transport Code (MONC)**" held at HBNI, Anushaktinagar, Mumbai, Oct 2015.
3. A. Tundwal, ***"Monte Carlo technique in radiation transport"*** at International workshop on "**Monte Carlo simulation and applications**" held at MS University Vadodara, Dec 2014.
4. A. Tundwal, ***"Monte Carlo Simulation of radiation Damage by Gamma Rays"***at 15th Scientific Conference "**Electric and Power Engineering (EPE-2014)"** held at conference venue, Hotel Santon, BRNO, Czech Republic, May 2014.

Faculty Development Programs:

1. Completed the AICTE/ICTE approved Orientation/Refresher program on "**Use of AI & ML tools in Engineering Education**" organized by Guru Tegh Bahadur Institute of Technology, Rajouri Garden, from 2 Dec 2021 to 7 Dec 2021.
2. Completed online faculty development program on "**Exploring trends, challenges & perspectives in Engineering Education**" organized by Guru Tegh Bahadur Insititute of Technology, Rajouri Garden, New Delhi, from 19 Apr 2021 to 23 April 2021.
3. Participated in AICTE recognized short term course on "**Nanotechnology: Development & Challenges**" organized by NITTTR, Chandigarh, from 21 May 2018 to 25 May 2018.

Undertaking:

The information stated above is true & authentic to the best of my knowledge.

Ambika Tundwal