

## Dr. Jenishkumar Patel

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### Education

Degree	University	Year	Subjects/Title	Marks (%)
BSc	Veer Narmad South Gujarat University, India	March 2007	Physics	73.3%
MSc	The M. S. University of Baroda, India	April 2009	Applied Physics	71.9%
PhD	Ulster University, UK	June 2014	Atmospheric pressure microplasma synthesis of nanoscale-engineered structures	NA

### Work Experience

Designation	Institute	Time Period	Responsibilities/Title
Teaching Assistant	The M. S. University of Baroda, India	Sept. 2009 - May 2010	Taught Physics subject in Engineering, Diploma & MSc (Applied Mathematics) courses
Research Associate	Ulster University, UK	Feb. 2014 – Feb. 2015	A prototype device design for Plasma-induced Liquid Chemistry (PiLC) system
Postdoctoral Scholar	Case Western Reserve University, USA	Mar. 2015 – Dec. 2015	A study of carbon nanotubes growth by floating catalyst method
Head & Assistant Professor	Dept. of Physics, Marwadi University, India	June-2016 – June-2019	<ul style="list-style-type: none"><li>• Academic teaching (Mathematical Physics, Atomic Physics)</li><li>• Syllabus designing of BSc/MSc (Physics) courses</li><li>• Lab. development for academics of BSc/MSc</li></ul>
Teaching Assistant	S V National Institute of Technology, India	July-2019 – May-2020	Taught the following courses: <ul style="list-style-type: none"><li>• Computational Methods in Physics, Mathematical Physics, Laboratory courses of Physics subject</li></ul>

Teaching Assistant	S V National Institute of Technology, India	Aug-2020 – July-2021	Taught the following courses: • Mathematical Physics, courses of Experimental Techniques subject
Assistant Professor	Uka Tarsadia University Bardoli, India	Aug-2021 – July-2022	Taught the following courses: • Mathematical Physics, Atomic & Molecular Physics, Engineering Physics, Laboratory courses of Experimental Techniques subject
Assistant Professor	Sir P T Sarvajani College of Science, India	Aug-2022 - Present	Teaching the following courses: • Mathematical Physics, Atomic & Molecular Physics, Solid State Physics, Laboratory courses

### **Research Grants/Scholarships:**

- Vice-Chancellor Research Scholarship (VCRS) funded by Ulster University, United Kingdom. Amount GBP £40,770 (3 years) (2010-2013)
- Short Term Scientific Mission (STSM) grant funded by COST Action TD 1208, Europe. Amount EUR € 2500 (June-July 2014)

### **Prizes, Awards, Distinctions, etc.**

- Trophy Medal (1<sup>st</sup> rank) in BSc (Physics), 2007
- Summer Training project entitled “Fabrication, testing and integration of 3.5KHz to 54KHz pulsing circuit for 55MHZ VHF power supply”, carried out at FCIPT, Institute for Plasma Research, India, May-June, 2007
- Summer School Programme project entitled “Study of breakdown phenomenon in cylindrical magnetron discharge of argon on copper and its application for sputtering”, carried out at FCIPT, Institute for Plasma Research, India, June-July, 2008
- Master Dissertation project entitled “Designing and development of hydrogen fuelled gas lantern”, carried out at Electrical Research & Development Association (ERDA), India, January-April, 2009
- Gold Medal (1<sup>st</sup> rank) in MSc (Applied Physics), 2009
- 1<sup>st</sup> prize in the Regional Final of *Young Persons' Lecture Competition*, Ireland (YPLC), IOM3, 2013
- 2<sup>nd</sup> runner-up prize in National Final of *Young Persons' Lecture Competition*, Ireland (YPLC), IOM3, 2013
- Awarded for Young Scientist Award (YSA) at International Conference on Functional Materials and Applied Physics at S V National Institute of Technology (SVNIT), India, 2021

### **Research Publications**

#### **(1) Patent**

- **Title:** Method and system for the production of nanoparticles

- **Inventors:** Davide Mariotti, Ashish Mathur, **Jenish Patel**
- **Publication no. & Year :** WO 2014/016439 A1, **2014**
- **International Application no.:** PCT/EP2013/065937

**(2) Publications in Journals (total citations = 774)**

- **Patel, J.** A Commentary on Plasma-liquid Interactions, *Russ. J. Phys. Chem. B* (ACCEPTED) **2024**  
*Journal Impact factor – 1.500*  
*No. of Citations – 0*
- **Patel, J.;** Tailor, J. P. Role of plasma-induced liquid chemistry for the reduction mechanism of silver ions to form silver nanostructures. *Materials Research Proceedings* **2022** 22, 40  
*Journal Impact factor – NA*  
*No. of Citations – 0*
- **Patel, J.;** Keshvani, M. Study of plasma-water interactions: effect of plasma electrons and production of hydrogen peroxide. *Russ. J. Phys. Chem. A* **2021** 95, 147  
*Journal Impact factor – 0.691*  
*No. of Citations – 3*
- Zhang, Ri-C.; Sun, D., Zhang, R.; Lin, W-F.; Macias-Montero, M.; **Patel, J.;** Askari, S.; McDonald, C.; Mariotti, D.; Maguire, P. Gold nanoparticle-polymer nanocomposites synthesized by room temperature atmospheric pressure plasma and their potential for fuel cell electrocatalytic application. *Sci. Rep.* **2017** 7, 46682  
*Journal Impact factor – 4.379*  
*No. of Citations – 89*
- Liu, Y.; Sun, D.; Askari, S.; **Patel, J.;** Macias-Montero, M.; Mitra, S.; Zhang, R.; Lin, W.-F.; Mariotti, D.; Maguire, P. Enhanced dispersion of TiO<sub>2</sub> nanoparticles in a TiO<sub>2</sub>/PEDOT: PSS hybrid nanocomposite via plasma-liquid interactions. *Sci. Rep.* **2015** 5, 15765  
*Journal Impact factor – 4.379*  
*No. of Citations - 73*
- **Patel, J.;** Němcová, L.; Maguire, P.; Graham, W.; Mariotti, D. Synthesis of surfactant-free electrostatically stabilized gold nanoparticles by plasma-induced liquid chemistry. *Nanotechnology* **2013** 24, 245604.  
*Journal Impact factor – 3.874*  
*No. of Citations - 224*
- Mariotti, D.; **Patel, J.;** Švrček, V.; Maguire, P. Plasma–Liquid Interactions at Atmospheric Pressure for Nanomaterials Synthesis and Surface Engineering. *Plasma Processes Polym.* **2012** 9, 1074.  
*Journal Impact factor – 3.872*  
*No. of Citations – 313*
- McKenna, J.; **Patel, J.;** Mitra, S.; Soin, N.; Švrček, V.; Maguire, P.; Mariotti, D. Synthesis and surface engineering of nanomaterials by atmospheric-pressure microplasmas. *Eur. Phys. J.: Appl. Phys.* **2011** 56, 24020.  
*Journal Impact factor – 0.843*  
*No. of Citations – 67*

**(3) Publications in Conference papers**

- Sun, D.; Zhang, R.C.; Wylie, A.; Mira, M.D.; **Patel, J.**; Manuel-Macias, M.; Askari, S.; Rutherford, D.; Spence, S.; Mariotti, D.; Maguire, P. A facile method for synthesizing PVA/Au, PVA/Ag and PVA/AuAg nanocomposites. **2015 10th International Conference on Composite Science and Technology ICCST/10**. Lisbon, Portugal.
- **Patel, J.**, Maguire, P.; Mariotti, D. Microplasma-liquid interactions for nanomaterials synthesis. **2012 65th APS Gaseous Electronics Conference (GEC)**, University of Texas, US. 57, 8

### **Teaching Skills**

- Six basic pillars of teaching: Understanding teaching-learning process, Fundamentals of course-design, Creating the dynamic classroom, Harnessing the power of technology, Collaborative learning, Effective assessment
- ARCS model, JIGSAW method, Project-based learning, Flipped Classroom, Teacher-centered instructions (Chalk-Talk), PowerPoint Presentation

### **Research Skills**

- Synthesis of metal nanoparticles (e.g. Au, Ag) colloids & surface-treatment of nanomaterials (e.g. graphene oxide, BaTiO<sub>3</sub>, silicon nanocrystals) by plasma-induced liquid chemistry, Study of plasma-water reactions, Gas-phase synthesis of nanostructures by RF plasma at atmospheric-pressure

### **Administrative Services**

<b>Name of the Assignment</b>	<b>Duration</b>	<b>Responsibilities/Services offered</b>
Head of Department Physics Dept., Marwadi University, Rajkot. India.	04-07-2016 to 29-06-2019	<ul style="list-style-type: none"><li>• Lab. development for academics of BSc/MSc</li><li>• Syllabus designing</li><li>• Faculty mentoring</li><li>• Students mentoring</li></ul>

### **Memberships of Professional Bodies**

- Life member of Materials Research Society of India (MRSI), Membership no. LMB3143