
DR VIBHA S VAISHNAV

Associate Professor

(selected as Professor on 03-6-2022, yet to join)

Post Graduate Department of Electronics



Hon. Director

Anand District Community Science Centre

Sardar Patel University

Vallabh Vidyanagar -388 120, Gujarat, India

Mobile: 94275 47671, 8469580703

e-mail: vaishnavvibha@spuvvn.edu, VaishnavVibha@gmail.com

Dr Vibha Suryakanat Vaishnav, an academician and an Electronics Scientist, was born on June 30, 1970 at Anand, Gujarat in a family dedicated to Education, Spirituality and Service, settled in **Vallabh Vidyanagar**, Gujarat since 63 years - a township, that is a successful experiment of Rural regeneration through Education in post Independent India, envisioned by **Sardar Patel**.

Dr Vibha Vaishnav is a young, dynamic and hardworking Female Researcher and a Teacher with multifarious personality **having a bent of mind for Spiritual, Nationalistic, Academic and Socio-Cultural activities.**

She has been an Alumna (1990) as well as a member of the Faculty of the Post Graduate Department of Electronics (1992 onwards), Sardar Patel University, a premier institute in the field of Electronics, which was established (in 1987) specially to generate manpower having knowledge, expertise and integrated qualities of both scientific as well as technological aspects in the fields of Electronics, by the then Dept. of Science and Technology, Govt. of India, which was only one of its kind in Gujarat and one out of the 11 institutes granted by the Government at that time. (She is the 6th generation Ph.D. student of Sir J Thomson, who invented ELECTRON).

During her tenure of more than 29 years as a Post Graduate Teacher in the Electronics Department of Sardar Patel University, Dr Vaishnav has shown ample evidence of her strong capacity **to integrate spirituality, humanities, science and technology** in a host of diverse academic, research and extramural activities. This has resulted in awakening and stimulating young minds for achieving value based excellence in their works.

She is a student of Sri Aurobindo's and the Mother's teachings and Integral Yoga. She pursued her post doctoral studies in "Science and Spirituality" at Sri Aurobindo's Action, Sri Aurobindo Ashram, Pondicherry under the guidance of a renowned educationist, Prof. Kireet Joshi.

Curriculum Vitae

- (1) **Name :** **VAISHNAV VIBHA SURYAKANT**
(Surname) (Name) (Middle Name)
- (2) **Date of Birth :** JUNE 30, 1970
- (3) **Race and Religion:** Naagar – Hindu
- (4) **Gender:** Female
- (5) **Marital Status:** Unmarried
- (6) **Nationality and : Indian**
Mothertongue Gujarati
- (7) **Present Address:** Ishavasyam
Behind Raghuvir Chambers, Off University Road
Vallabh Vidyanagar- 388120,
Dist. Anand, Gujarat State, India.
Phone ® 0091- 2692 – 237467
Mobile: 94275 47671
- (8) **Home Town:** Wadhwan city, Dist. Surendranagar, Gujarat
- (9) **Present Employment:** **Associate Professor**
P.G. Department of Electronics
Sardar Patel University,
Vallabh Vidyanagar- 388 120
Gujarat, India
Phone : 8469580703
e-mail: vaishnavvibha@spuvvn.edu

[10] Academic Qualifications, Experience and Contribution

1. Qualifications:

- **B.Sc.(Electronics), Sardar Patel University,** Vallabh Vidyanagar, Gujarat, India, 1990, *First class, Distinction (Gold Medallist)*
- **M.Sc.(Electronics), Sardar Patel University,** Vallabh Vidyanagar, Gujarat, India, 1992, *First Class Distinction*
- **Ph. D.(Electronics), Sardar Patel University,** Vallabh Vidyanagar, Gujarat, India, 2001
Title of the Thesis: Development and Applications of Indium Tin Oxide Thin Film Gas Sensors
Guide: Prof. N G Patel
- **Advanced (post doctoral) research : Sri Aurobindo's Action, Sri Aurobindo Ashram,** Pondicherry, India, 2011
Subject: SCIENCE AND SPIRITUALITY: under Professor Kireet Joshi

additional courses:

| Certificate/Grade/ Course | Name of the Institute | Year | Subjects | Class Division Awarded |
|--|--|------------|----------------------------------|------------------------------|
| CCC + | Dr. Babasaheb Open University, Ahmedabad | 28-09-2021 | CCC Plus Theory and Practical | FIRST D 80% |
| Hindi (Vinit) | Gujarat Vidyapeeth, Ahmedabad | 08-04-2021 | Hindi | FIRST 69.78% |
| Diploma in Music | Sardar Patel University | 1989 | Sitar | FIRST |
| B.Mus. (D to D) part -time -special provision | Sardar Patel University | 1995 | Sitar | FIRST D. |
| J-PART-I | National Cadet Corps 4 Gujarat Girls BN : VVN | 1983 | NCC | B |

2. Experience:

| Sr. No. | Name of the Institution | Designation | Period with Date | | No. of Years Months | | |
|---------|--|---|-------------------|----------------|---------------------|-----------|-----------|
| | | | From | To | | | |
| 1 | P.G.Dept. of Electronics Sardar Patel University | Adhoc Lecturer | 14-07-1992 | 21-03-1994 | 1 | 8 | |
| 2 | P.G.Dept. of Electronics Sardar Patel University | Lecturer | 22-03-1994 | 21-03-2000 | 6 | - | |
| 3 | P.G.Dept. of Electronics Sardar Patel University | Lecturer (Senior Scale) | 22-03-2000 | 21-03-2003 | 3 | - | |
| 4 | P.G.Dept. of Electronics Sardar Patel University | Lecturer(Selection Grade) Reader Designate | 22-03-2003 | 21-03-2006 | 3 | - | |
| 5 | P.G.Dept. of Electronics Sardar Patel University | Associate Professor (DCAS) | 22-03-2006 | Onwards | 16 | 3 | |
| | Got Selected as Professor in Electronics (Open Category) at Department of Electronics on 03-06-2022 (not yet joined) | | | | | | |
| | Total | | | | | 29 | 11 |

Additional Assignments: in Honorary capacity

| | |
|---|---|
| <p>Hon. Director, Anand District Community Science Centre Sponsored by Gujarat Council on Science and Technology (GUJCOST), (DST, Govt. of Gujarat)</p> | <p>15-03-2019 onwards 3 years, 03 months</p> <p>Organized 1115 events to promote Science Awareness No. of beneficiaries: 1,52,800</p> |
| <p>Hon. Director, AuroMa Academy of Education and Research, ॐ पुरि, Matar, a Branch of Sri Aurobindo Society, Puducherry [Sri Aurobindo Society has been recognized by the Government of India as (a) Research Institute under <u>Section 35(1)(iii)</u> (b) an Institution of Importance throughout India under <u>Section 10(23C)(iv)</u>]</p> | <p>April, 2015- December, 2021 6 years, 09 months</p> <p>worked on the Projects: The Renaissance in India Science and Consciousness Integral Education</p> |

3. (a) Academic Contribution: Highlights

| Title | Details |
|---|--|
| PG Teaching | taught 18 different courses at M.Sc. Electronics programme 01 course at M.Sc. (Defence Science) (2014) 01 Pre-Ph.D.Course (2013, 2018) |
| Publications | 25 National/ International publications and 1 book. Highly Cited paper : 325 citations; h-index 9 |
| Academic Foreign Visits | Germany, Poland, England and Spain |
| Ph.D. guidance Ph. D. Thesis evaluated | 01 student 02 |
| Research Projects | Total 09: 07 +2as a special assignment |
| Training Programmes | Attended: 02 Refresher Course, 01 orientation Prog.; Other courses: 11; coordinated: around 10 |
| Talks delivers | Around 70 |
| Workshops conducted | Around 50 |

3 (b) Contribution to the University: in special projects: Highlights

| Title | Details |
|---|--|
| Student Startup Innovation Policy: SPU SSIP Navadhara | Academic Expert (2020-21, 2021-22) |
| Member NAAC- AQAR, SSR | worked for Green Accreditation to University. The University received "Platinum Ranking". |
| Assistant Coordinator, Socio-Cultural Integration Study Centre (SCISC), 1995-98 | Set up to execute a prestigious International, "Campus Diversity initiative project" of \$50,000, sponsored by Ford Foundation, New York. Organized around 100 activities |
| Community Radio Station | Member, Advisory Board, for setting up the Station (2003-4) |
| Member, Core Group, Celebration of 150 th Birth Anniversary of Sri Aurobindo | Sri Aurobindo Chair of Integral Studies (also worked as a Member, Advisory committee, Sri Aurobindo Tatvgnan Vyakhyanmala, Member, Integral Studies association and Coordinator, Integral Education Workshops) |

3(c) Pioneering Contribution to eminent institutions for academic excellence

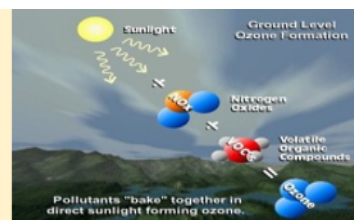
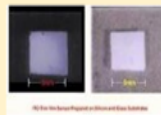
- Worked as a **Member, Task Force, constituted to develop SICART**, a western regional sophisticated Instrumentation Laboratory for advanced research and testing, funded by DST, India initially through the support of Rs. 5.5 crores
- Working as a **Reviewer for many International Journals: IEEE Sensors, Journal of Royal Society Interface, Sensors, Materials Science and Engineering, J. of alloys and comp. etc.**
- **Member, International Programme Committee, International Conference on Sensors and Electronic Instrumentation Advances**– since last 5 years.
- **Member, Editorial Advisory Board of Cambridge Scholars Publishing for 'Semiconductor Sensors' as well as for 'Science and Spirituality'.**
- **Member, Board of Management, C U Shah University, Wadhwan City, Gujarat**
- **Member, Core Group, International Centre for Synthesis of Science and Spirituality, a project by Tapovan Open University of Yoga and Ayurveda, France**
- Was invited by the Commissioner of Higher Education, Govt. of Gujarat and CEO, Children's University (on September 15, 2011) to work as **an Honorary Consultant for Research on the theme of Science and Spirituality for the Children's University, Indian Institute of Teacher Education (IITE) and Commission for Innovations in Education.** (contributed by developing theme papers under the guidance of Prof. Kireet Joshi).
- **Worked as a member, Internal Quality Assurance Cell (IQAC), VP & RPTP Science College, Vallabh Vidyanagar – (Accredited grade A by NAAC), the prestigious first college on the campus;** (the foundation stone was laid by Sardar Vallabhbhai Patel)

(4) Areas of Research Activity:

- a. Semiconductor Gas/Vapor Sensor – Fabrication & Characterization
- b. Electronic Nose
- c. Integral Education
- d. Climate Action and Green Technology
- e. Electron and Consciousness
- f. Renaissance of India
- g. Science and Spirituality

[11] Scholarly/Innovative Contribution:

(1) Teaching, Research and Development



GROUND OZONE CAN BE HARMFUL TO HUMAN HEALTH. IMAGE CREDIT: NASA

(i) Semiconductor Vapour Sensors : VoCs

| VoC citations | Device/range | Uniqueness of the Research / Innovation | Hazard/Importance | STEL ppm |
|------------------------|---------------------------------|--|--|----------|
| Methanol 324 | ITO/Cu : RT 200 -1800 ppm | Enhancement in response: ~60 times Stimulating layer : Germany, UK | Carcinogenic, Severe health effects | 250 |
| Ethanol 151 | ITO/MgO: 7323K 200-2500ppm | Enhancement in resistance: ~23 times Selectivity with stimulating layer: Poland, IIT | Responsible for generation of Bad Ozone | 1000 |
| Formaldehyde 18 | Cu/ITO : RT 10-1900ppm | Enhanced speed of response ~54%, sensitivity 2.4 times : catalytic layer | and Greenhouse gases: | 2 |
| Benzene 80 | Cr/ITO:483K 30ppm to 1000ppm | Enhanced selectivity w.r.t.toluene Electronic promoter | Carbon dioxide Methane and Water vapours.. | 2.5 |
| Toluene 37 | Cu/MnO/ITO:373K 10-1000ppm | Enhancement in sensitivity 5 times higher, speed of response, 2 layers | | 500 |

(ii) Newer Areas: Development of e- Nose:

Guided Ph.D. student for development of an e-Nose to discriminate O₃ vapours with different odours

(2) Community Service : with a solution for Sustainable Development

Guided several Innovative projects to M.Sc. (Electronics) students for the benefit of community, e.g.

- (i) For maintenance of Covid 19 protocol (Low cost automatic hand-santitizer dispenser and social distancing cap)
- (ii) Automatic, Timer based Fooger system for animals. Parks/zoo/outdoors areas to deal with the problems of heat wave as well as air pollution

(3) Innovative Multidisciplinary Research :

(i) Cognitive Psychology, Artificial Intelligence and Electronics Education

- (a) Taking up cognitive analysis of students and faculty
- (b) Using Fuzzy- Neuro approach to selection of e-learning material for students of Electronics based on their cognitive ability/capacity (right brain/left brain dominance)

presented Research work at an international conference on Cognitive Psychology and a symposium on metacognition at Barcelona, Spain (2016)

(ii) Multidisciplinary Research on synthesis of science and spirituality on the premise of Consciousness

(iii) to explore the possibility of proving consciousness in electron

(iii) Study on Effect of Yog- Nidra – as a tool to develop manpower with intuitive faculty like Rishi scientists

[12] Research/Educational Projects undertaken/completed:

| SR. NO. | TITLE | AGENCY | GRANT/AMOUNT MOBILIZED (RS.) | PERIOD |
|--|--|----------------------|---|---|
| On Semiconductor Sensors and Electronic Device Characterization | | | | |
| 1. | Fabrication of Gas Sensor and its Electronic alarm system | UGC | Rs. 11,000/= (Minor Research Project) | 1994-95 |
| 2. | Fabrication of in-built miniature heater and thermocouple for thin film semiconductor gas sensor | UGC | Rs.15,000/= (Minor Research Project) | 1988-89 |
| 3. | Fabrication of Electroluminescent Devices Sanction Letter No.F.14.6/97(SR-I) dt. 9-7-97 | UGC, NEW DELHI | Rs.2,47,408/= (Major Research Project) | 1997-2000 |
| 4. | “Development of Selective and Sensitive Gas Sensors Using Indium Oxide and Indium Tin Oxide Materials to Detect Volatile Organic Compounds (VOCs)” | UGC NEW DELHI | Rs. 8.008 lacs With Rs.50,000/- Additional grant and extension of 1 year (Major Research Project) | 2004-07 + Extension of 1 year i.e. 31-03-2008 |

| | | | | | |
|---|---|---|--|---|---|
| Interdisciplinary Research work in Electronics | | | | | |
| 5. | “Interdisciplinary Research work on Development of Gas / Vapour Sensors using the Oxide Semiconductors with possible extended study of the response of Tin Metal to Mechanical and Electrical Stimuli” | Sardar Patel University under PURSE DST Project | Rs. 1 lac (Seed Money Project) | 19-09-2013 to 31-03-2014 | |
| Special Project of setting up a Research Laboratory | | | | | |
| 6. | Establishing a State of the art Instrumentation and Research Centre, later termed as “Sophisticated Instrumentation Centre for Advanced Research and Testing (SICART)” Worked as one of the 04 members of the Task Force | DST, New Delhi | Rs. 5,50,00,000 | 1998-2000 | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">As an outcome of the project, SICART was funded phase wise and was officially recognized as a Western region Sophisticated Laboratory by the Department of Science and Technology (DST), Govt. of India, New Delhi.</td> </tr> </table> | | | | | As an outcome of the project, SICART was funded phase wise and was officially recognized as a Western region Sophisticated Laboratory by the Department of Science and Technology (DST), Govt. of India, New Delhi. |
| As an outcome of the project, SICART was funded phase wise and was officially recognized as a Western region Sophisticated Laboratory by the Department of Science and Technology (DST), Govt. of India, New Delhi. | | | | | |
| Project on e-waste management, education and leadership training, and creating audio-book for blind institute | | | | | |
| 7. | “Pilot Project of Sardar Patel University Community Outreach and Extension Programme” | Sardar Patel University Seed Money Grant | Rs. 1 lac | 23/10/2013 to 31-03-2014 | |
| Project for Enhancing the memory capacity and well being of students | | | | | |
| 8. | “Effects of <i>Yoga Nidra</i> on Well Being of School Children” Co-Investigator | H M Patel Centre for Medical Education and Research (Karamsa d) | No Financial Assistance was asked (All expenditure borne by P.I.) | February 21, 2017 onwards For 1 year | |

[13] Refresher / Advanced courses attended:

(i) UGC sponsored Refresher / Orientation Programmes:

1. U.G.C. sponsored Refresher Course in Computer Science, organized by the Department of Computer Science, Sardar Patel University, Vallabh Vidyanagar during 22nd February, 1999 – 12th March, 1999.
2. U.G.C. sponsored Refresher Course in Electronics, organized by the Academic Staff College, Gujarat University, Ahmedabad at Department of Electronics, Sardar Patel University, Vallabh Vidyanagar during 1st December to 21st December, 2000.
3. An Orientation Programme organized by Academic Staff College, Gujarat University, Ahmedabad during 14-05-2001 to 6-6-2001 under the UGC scheme.
Presented a paper on “ Holistic Approach to Learning ” during the course

ii) Advanced Courses in the Subject / Soft Skill:

4. Training course on “C Programming” conducted by Data Pro, Bombay, Microsoft Ltd. During Nov.-Jan. 1993-94.
5. ISTE Sponsored Summer School on “Fiber Optics and its Applications” Dept. of Electronics and B.V.M. Engineering College, Vallabh Vidyanagar May 30 – June 11, 1994. (Also worked as Resource Person)
6. International School on “Advanced Electronic Materials” Crystal Growth Centre, Anna University, Madras February 6-15, 1995.
7. ISTE sponsored special Short Term Training Programme (STTP) on “ Human Values in Technical Education” Organized by B V M Engineering College, Vallabh Vidyanagar and ISTE Chapter, BVM Engineering College, Vallabh Vidyanagar, March 23-28, 2002
8. DST, New Delhi sponsored National Workshop on Solid State Sensors: Theory and Applications Organized by the Department of Electronics, Shivaji University, Kolhapur, 16 June- 28 June 2003
9. DST sponsored National Workshop on “Sensor Instrumentation” organized jointly by CGCRI, Kolkata and IIT, Kharagpur during 3 - 15 Nov., 2003
10. AICTE-ISTE sponsored One Week Short Term Training Programme (STTP) on “Advances in Neuro-Fuzzy Systems and Their Applications” Organized at A D Patel Institute of Technology, New Vallabh Vidyanagar, March 19th, 2007 to March 23, 2007
11. Certificate Course in French Level -1 (80 Hours) organized by H M Patel Career Development Centre, 2018
12. Sanskrit Sambhashan Shibir organized by Sanskrit Bharati, Anand and Sri Aurobindo Sadhana Kendra, Vallabh Vidyanagar, during 03-07-2018 to 08-08-2018
13. 3rd Faculty Development Programme (Under RUSA through KCG): Motivation for Quality and Impactful Research (Science) during 3-12-2018 to 7-12-2018
14. Lead Auditor Course on “Environment Management System, Green Campus Audit, Energy Audit and Hygiene Audit” to Educational Institutions and Industries Organized by Nature Science Foundation, an ISO 9001:2015 Certified Organization, Coimbatore, May 31st to June 4th, 2021

[14] Details of Research work Published/Presented:

[a] Research Papers published:

| Research Papers Published in Journals | | | | |
|--|---|-----------------|-------------|--|
| | Title | Cited by | Year | Journal Indexing Status: Present |
| 1. | Indium tin oxide (ITO) thin film gas sensor for detection of methanol at room temperature NG Patel, PD Patel, VS Vaishnav Sensors and Actuators B: Chemical 96 (1-2), 180-189 | 325 | 2003 | UGC listed IF:7.460 Cite score:15.0 |
| 2. | Indium Tin Oxide thin film gas sensors for detection of ethanol vapours VS Vaishnav, PD Patel, NG Patel Thin solid films 490 (1), 94-100 | 152 | 2005 | UGC listed IF:2.183 Cite score:4.3 |
| 3. | Preparation and characterization of indium tin oxide thin films for their application as gas sensors VS Vaishnav, PD Patel, NG Patel Thin Solid Films 487 (1-2), 277-282 | 88 | 2005 | UGC listed IF:2.183 Cite score:4.3 |
| 4. | Development of ITO thin film sensor for detection of benzene VS Vaishnav, SG Patel, JN Panchal Sensors and Actuators B: Chemical 206, 381-388 | 80 | 2015 | UGC listed IF:7.460 Cite score:15.0 |
| 5. | Fabrication of carbon tetrachloride gas sensors using indium tin oxide thin films NG Patel, KK Makhija, CJ Panchal, DB Dave, VS Vaishnav Sensors and Actuators B: Chemical 23 (1), 49-53 | 60 | 1995 | UGC listed IF:7.460 Cite score:15.0 |
| 6. | Indium tin oxide thin-film sensor for detection of volatile organic compounds (VOCs) VS Vaishnav, P D Patel, N G Patel Materials and Manufacturing Processes 21 (3), 257-261 | 41 | 2006 | UGC listed IF:4.616 Cite score:6.7 |
| 7. | Development of indium tin oxide thin film toluene sensor VS Vaishnav, SG Patel, JN Panchal Sensors and Actuators B: Chemical 210, 165-172 | 37 | 2015 | UGC listed IF:7.460 Cite score: 15.0 |

| Research Papers Published in Journals | | | | |
|--|---|-----------------|-------------|--|
| | Title | Cited by | Year | Journal Indexing Status: Present |
| 8. | Development of ITO thin film sensor for the detection of formaldehyde at room temperature VS Vaishnav, SG Patel, JN Panchal Sensors and Actuators B: Chemical 202, 1002-1009 | 18 | 2014 | UGC listed IF:7.460 Cite score: 15.0 |
| 9. | Detection and classification of volatile organic compounds using Indium Tin Oxide sensor array and artificial neural network HJ Pandya, VS Vaishnav International journal of intelligent systems technologies and applications, 7-1,72-79, 7-4, 1 | 6 | 2009 | UGC listed IF: 1.194 Citations Score: 1.2 |
| 10. | Fabrication and Application of Thin Film Semiconductor Sensors for the detection of Volatile Organic Compounds VSVaishnav S G Patel JN Panchal Advanced Materials Research 665, 85-92 | 4 | 2013 | UGC listed |
| 11. | Room Temperature Detection of Benzene Vapours by Tin Oxide Nano Clusters J N Panchal, S G Patel, V S Vaishnav Sensors and Transducers Journal 190 (7), 35-39 | 1 | 2015 | UGC listed IF:0.115 |
| 12. | Semiconductor Gas Sensors- An overview Journal of Engineering and Technology, Sardar Patel University, March 2001, 47-54 | | 2001 | Peer Reviewed |
| 13. | An Approach to the Pursuit of Supramental or Integral Knowledge Kireet, Joshi, and Vibha Vaishnav Sri Aurobindo's Action 42 (8), 10-12 | | 2011 | Peer Reviewed |
| 14. | Combination of Science and Spirituality: Meaning Kireet Joshi and Vibha Vaishnav The Advent, 69-3, August, 2012, 19-29 | | 2012 | Peer Reviewed |
| 15. | Consciousness & Evolution Vibha Vaishnav & Kireet Joshi Journal of Consciousness Exploration & Research 5 (8) | | 2014 | Peer Reviewed |
| 16. | A Novel Three Tier Education and Leadership Training Programme for National Resurgence | | 2016 | Peer Reviewed |

| Research Papers Published in Journals | | | | |
|--|--|-----------------|-------------|---|
| | Title | Cited by | Year | Journal Indexing Status: Present |
| | Vaishnav Vibha Sathaye Swati, Raithatha Shyamsunder, Padh Harish University News 54 (22), 3-9 | | | |
| 17. | Education for New India: Insights from Gandhian teachings Vibha Vaishnav University News 57 (39) | | 2019 | Peer Reviewed |
| 18. | Effects of Yoga-nidra on Adolescents Well-being: A Mixed Method Study Jagdish R. Varma Bhale du S. Vaishnav, Smruti B. Vaishnav, Vibha S. Vaishnav International Journal of Yoga 11 (3), 245-248 | 12 | 2018 | UGC listed |
| 19. | Transformative effects of yoga nidra on hedonic and eudemonic dimensions of well-being: A qualitative study in trainee teachers Bhalendu Suryakant Vaishnav, Smruti Bhalendu Vaishnav, Vibha Suryakant Vaishnav, Neepa D Bharucha, Jagdish R Varma International Journal of Yoga-Philosophy, Psychology and Parapsychology 7,1,17 | 1 | 2019 | Peer Reviewed |
| 20. | Effects of yoganidra on well-being of trainee teachers Dr. Bhalendu S Vaishnav, Dr. Neepa D Bharucha, Dr Smruti B Vaishnav, Dr. Vibha S Vaishnav, Dr. Jagdish R Varma Journal of Health Sciences and professions Education 1 (1), 1-6 | | 2021 | Peer Reviewed |

| Research Papers Published in Proceedings | | Year | National/ International |
|---|--|-------------|--------------------------------|
| 21. | Fabrication of gas sensors using Indium tin oxide thin films N.G.Patel, K.K.Makhija & V.S.Vaishnav National Seminar on Physics & Technology of Sensors, Pune, Feb. 1-3, 1995, Proceedings : Sensors - 2 pp C 17-1 | 1995 | N |
| 22. | Fabrication of Hydrogen Sulphide gas sensor using Indium tin oxide thin films and its electronic alarm system (I) | 1996 | I |

| | | | |
|-----|---|------|---|
| | N.G.Patel, K.K.Makhija & V.S.Vaishnav “Semiconductor Devices” - Narosa Publishing House 1996 pp 439 | | |
| 23. | Preparation of Indium tin oxide thin film gas sensors for autoexhaust gases N.G.Patel, K.K.Makhija, V.S.Vaishnav & S.S.Patel National Seminar on Physics & Technology of Sensors, Pune, Feb. 1-3, 1996, Proceedings : Sensors - 3 pp C 34 –1 | 1996 | N |
| 24. | Autonomy and accountability in technical education : Role and responsibility of stakeholders Dr.V.S. Vaishnav and Dr.S.V.vaishnav Proceedings, 38 th ISTE National Annual Convention, Kalinga Institute of Industrial Technology, Bhubaneshwar, Dec. 19-21, 2008 | 2008 | N |
| 25. | Virtual Universities and their Role in Strengthening the Education and Studies of Electronics Vaishnav Vibha S Proceedings, 17th ISTE Gujarat Convention and a Seminar on Technology Enabled Technical Education : Issues and Perspectives, held at 20th October, 2012 at Bardoli, Gujarat. | 2012 | S |

[b] Books Published/ Journals Edited/Compiled

(i) Book in the Value Oriented Education Series: (Introductory Articles followed by Compilation)

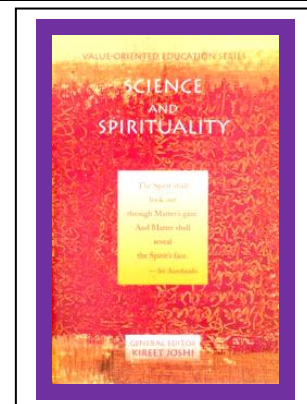
Science and Spirituality (A Monograph)

Author: Vibha, Vaishnav

Editor: Kireet Joshi

No. of Pages:235, First Edition, 2011,

Shubhraketu Foundation and Mother's Institute of Research, New Delhi,
printed at Auroville



(ii) Thesis / Comprehensive volume

Comprehensive Thesis of Advanced (Post Doctoral) Research on Science and Spirituality

Sri Aurobindo's Action, Sri Aurobindo;s Ashram, Pondicherry and Sardar Patel University, 2011

Researcher: Dr. Vibha Vaishnav, Guide: Prof. Kireet Joshi

(iii) e-Journal edited

New Horizons :

Convener, Editorial Board,
with Prof. Kireet Joshi
as one of the members

A monthly e- journal of Ishavasyam Centre
of Integral Action (An independent unit of
Sri Aurobindo's Action, Pondicherry,
initiated

in the guidance of Prof, Kireet Joshi,
launched on 24th November, 2012

Total Issues Edited: 21



Focus: 3 Tasks for India as envisaged by Sri Aurobindo

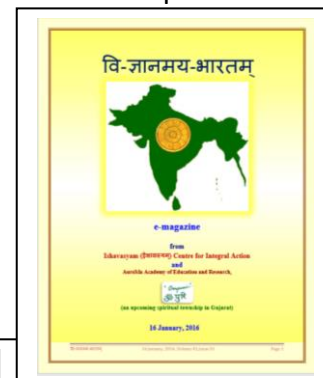
- Recovery of the old spiritual knowledge in its fullness and amplitude,
- To allow the flow of that knowledge to create new forms of philosophy, science and critical knowledge, and
- To deal with problems of India in an original manner in the Indian spirit and to develop a synthesis for a spiritualised society.

(iv) e-magazine edited:

Vi-Jnanmay Bharatam (वि-ज्ञानमय भारतं)
(bi-monthly e-magazine)

Worked as an Editor for 30 issues

Theme: Renaissance of India

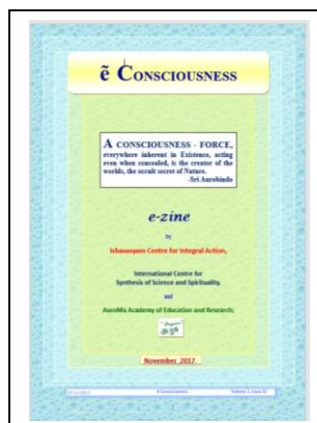


(v) e-zine edited:

e-Consciousness (quarterly)

Worked as an editor – for 14 issues

Theme: Synthesis of spirit of matter,
electron and consciousness
(with Tapovan Open University of
Yoga and Ayurveda, France)



(vi) Reports compiled:

- (1) Sardar Patel University, Gujarat, India- Green initiatives in last 5 years - 2016-2021
- (2) Sardar Patel University,- A March towards Sustainable and Green Initiatives – Azadi ka Amrit Mahotsav Compilation

(vii) e-Publications on Enhancing Scientific Awareness:

Edited : 27 issues

| | |
|-----|---|
| 1. | The World Water Day, 22-03-2019 |
| 2. | The World Health Day, 07-04-2019 |
| 3. | International Mother Earth Day, 22-04-2019 |
| 4. | Gujarat Day: 1st May, 2019, A Scientist Jewel of Gujarat : Dr. Vikram A Sarabhai |
| 5. | World Telecommunication and Information Society Day: 17-05-2019 |
| 6. | World Environment Day: 5-6-2019 |
| 7. | World Pharmacist Day: 25-09-2019 |
| 8. | Diwali: Green Firecrackers: ગ્લોબલ ફાયરવર્કસ : October 2019 |
| 9. | Welcome to the New Millennium : January 2020, - Hon'ble Prime Minister's Address at the 107th Indian Science Congress : 1-1-2020 |
| 10. | Fighting Corona : March 2020 – Prize winning Drawings |
| 11. | Fighting Corona : April 2020 – Earth Day Celebration : 22nd April, 2020 “Points to Ponder for Post Covid Period” |
| 12. | Fighting Corona: July 2020 – Scientific Poetry : વૈજ્ઞાનિક કાવ્ય Best Performances of Scientific Poetry Writing / Reciting- Competition |
| 13. | Fighting Corona : August 2020 – "Best Quotable Quotes on INDIA by well-known scientists" |
| 14. | International Day for the Preservation of the Ozone Layer Celebration: 16-09-2020 |
| 15. | National Science Day Celebration 2021: "Future of Science and Technology, Innovation(STI) : Impact on Education, Skills and Work”, 28-02-2021 |
| 16. | International Women's Day: March 8, 2021 અંતરરાષ્ટ્રીય મહિલા દિવસ ૨૦૨૧ |
| 17. | Honouring the Rishi Scientists of India : 01- આચાર્ય કણાદ, The Father of Atomic Theory : Acharya Kanada, 1-4-2021 |
| 18. | Honouring the Rishi Scientists of India: 02 -મહર્ષિ અગસ્ત્ય ને ક્રિયા થા બિજલી કા આવિષ્કાર, 2-4-2021 |
| 19. | Honouring the Rishi Scientists of India : 03- આર્યભટ્ટ History of Indian Mathematician and Astronomer: Aryabhata, 3-04-2021 |
| 20. | Honouring the Rishi Scientists of India : 04- ભાસ્કરાચાર્ય, Bhaskaracharya : The great Astronomer and Mathematician, 4-4-2021 |
| 21. | Honouring the Rishi Scientists of India :05- The legend of Maharishi Charaka (મહર્ષિ ચરક): The father of Ayurveda, 5-4-2021 |

| | |
|-----|--|
| 22. | Honouring the Rishi Scientists of India : 06,-महान रसायन शास्त्री : महर्षि नागार्जुन (Nagarjuna), 6-4-2021 |
| 23. | Honouring the Rishi Scientists of India : 7 -Maharshi Sushruta (महर्षि सुश्रुत): Father of Indian Surgery, 7-4-2021 |
| 24. | Honouring the Rishi Scientists of India : 08 - महर्षि भारद्वाज रचित विमान शास्त्र. 8-4-2021 |
| 25. | Honouring the Rishi Scientists of India : 09 - Baudhayana (बौधायन): The Great Indian Mathematician, 9-4-2021 |
| 26. | Honouring the Rishi Scientists of India: 10 - पतंजलि, Patanjali: The Father of Modern Yoga, 10-04-2021 |
| 27. | National Bird Day Celebration: राष्ट्रीय पक्षी दिवस, Salim Ali's Birth Anniversary: The 'Birdman of India', 12-11-2021 |

[c] Creative Articles published:

| | |
|----|---|
| 1. | “Impressions for Spiritual Exploration – A bow to Einstein” Vibha Vaishnav A Research Article published in Education Times (Baroda) Supplement of the Times of India News Paper, Ahmedabad Edition, March 21, 2005. |
| 2. | “The Greatest Event of the World” Vibha Vaishnav In a Book, a Special publication by Sri Aurobindo Society, (recognized as a Research Institute and an Institute of National Importance by Govt. of India) Gujarat State Committee, Vadodara, 2014, 128-136 |
| 3. | “Kena Upanishad and Modern Science” Vibha Vaishnav New Horizons, e- Journal, Volume 1, Issue 5, pg.18-19, 2013 |
| 4. | “Vedanta” Vibha Vaishnav New Horizons, e-journal - Volume 1, Issue 7, Pg.11, 2013 |
| 5. | “Meeting of Science and Spirituality” Dr.Vibha Vaishnav New Horizons, e-journal – 2013, Volume 1, Issue 1, 24 November, 2012 Pg.11-13 |
| 6. | “Science and Spirituality” Vibha Vaishnav New Horizons, e-Journal, Volume 1, issue 3, pg.17, 2013 |

| | |
|-----|--|
| 7. | <p>“Concept and Phenomena of Consciousness” Vibha Vaishnav, Kireet Joshi New Horizons, e-journal, Volume 2, Issue 2 Pg.6-8, 2013</p> |
| 8. | <p>“Science and the Highest Welfare of Society” Vibha Vaishnav, Kireet Joshi New Horizons, e-Journal, Volume 2, Issue 3, Pg.24-30, 2014</p> |
| 9. | <p>“On Consciousness” Kireet Joshi and Vibha Vaishnav Consciousness, Volume 2, Issue 05, 24-11-2018, a quarterly e-zine Tapovan Open University of Yoga and Ayurveda, France</p> |
| 10. | <p>“Gas Sensing: The Need and Importance” Dr. Vibha S. Vaishnav, A series of e-publications on Enhancing Scientific Awareness : 6. World Environment Day, 05-06-2019 C C Patel Community Science Centre, (GUJCOST, DST, Gov of Gujarat) Sardar Patel University</p> |
| 11. | <p>Initiated a Research column “<i>Gujarat Darpan: pragati ane padkaro</i>” in which Prepared and Compiled 3 short articles in the issues of 01-05-2003,15-07-2003, 15-09-2003, Edited 5 short articles. Sheel Shrutam, The Sardar Patel University Newsletter</p> |

[d] Research presentations at Seminars/ Conferences etc.:

1. Preparation of Indium tin oxide thin film gas sensors for autoexhaust gases.
N.G.Patel, K.K.Makhija, V.S.Vaishnav & S.S.Patel
National Seminar on Physics & Technology of Sensors, Pune, Feb. 1-3, 1996
Proceedings : Sensors - 3 pp C 34 –1
2. Growth and Application of ITO thin film devices
N. G. Patel, K.K.Makhija, Basumati Patel & Vibha Vaishnav
National Conference on Advances in Condensed Matter Physics, Pondicherry,
February 26-28, 1998.
3. Need to rejuvenate the Technical Education to establish sustainable development
V.S.Vaishnav and S.V.Vaishnav
One day state level seminar on Role of Technical Education for Sustainable Development
organized by Indian Society for Technical Education (ISTE) Gujarat Section and A D
Patel Institute of Technology, New Vallabh Vidyanagar on Oct. 13, 2002.
4. Indium Tin Oxide thin film sensor for detection of volatile organic compounds (VOCs)
Pandya, H.J. , Vaishnav, V.S., Patel, P.D. Patel, N.G.

International Symposium on Advanced Materials and Processing ISAMAP-2K4, IIT Kharagpur, India, December 6-8, 2004, Proceedings, Vol. II, 941-948

5. Preparation and Characterization of Indium Tin Oxide Thin Films for their Application as Gas Sensors
V S Vaishnav, P D Patel, N G Patel
8th International Conference on Polycrystalline Semiconductors-Materials, Technologies, Device Applications, organized by the University of Potsdam, Germany, 2004
6. Indium tin oxide thin film gas sensors for detection of ethanol vapours
V.S.Vaishnav, P.D.Patel, N.G.Patel
4th International Workshop on Semiconductor Gas Sensors\ (SGS 2004), 2004, organized by the Dept. of Microelectronics, Silesian University of Technology, Gliwice, Poland
7. Semiconducting Oxide thin film gas sensors for detection of Volatile Organic Compounds (VOCs), a study and a review
V.S.Vaishnav*, S.G.Patel, J.N.Panchal
Presented at the 111th GSA-VVN CSC ANNUAL SCIENCE MEET ‘SCI-MEET 2008’, organized under the Joint Auspices of GSA-VVN Chapter & C. C. Patel Community Science Centre Sardar Patel University Vallabh Vidyanagar, Anand, Gujarat, India, on February 17, 2008.
8. Oxide Semiconductor based Vapour Sensors with High Stability for the Detection of Carbon Tetrachloride (CCl₄)
V.S.Vaishnav*, S.G.Patel, J.N.Panchal
Presented at a Two Day Symposium on “Innovations in Science” and SPU Research Scholars Meet (ISSPURSM -2012) 8th -9th January 2012, Organized by Sardar Patel University Vallabh Vidyanagar, Anand, Gujarat, India.
9. Fabrication & Application of Thin Film Semiconductor Sensors for the Detection of VOCs
V.S.Vaishnav*, S.G.Patel, J. N. Panchal
3rd National Conference on Condensed Matter and Materials Physics (CMMP-2012), Organized by the Department of Physics & Physics Alumni Association Sardar Patel University Vallabh Vidyanagar, Anand, Gujarat, India on March 3-5th , 2012.
10. Flexible Electronics: A demanding, desirable breakthrough in Sensor Technology: A Review
V.S.Vaishnav*, S.G.Patel, J.N.Panchal
State level Seminar on “Current Trends in Research and Applications of Physical Science in Gujarat (CTRAPSG-12)” organized on 29th December 2012, Department of Physics, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat, India. (Poster)

-
11. Study of Sensitivity and Selectivity of Thin Film Semiconductor Sensors for the Detection of Volatile Organic Compounds
V.S.Vaishnav*, S.G.Patel, J.N.Panchal
Presented a Poster at a State Level Seminar on “Current Trends in Research and Applications of Physical Science in Gujarat (CTRAPSG-12)”, Organized on 29th December 2012 at the Department of Physics, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat, India. (Poster)
 12. Semiconductor Vapour Sensor to Detect Explosives
V.S. Vaishnav, S.G. Patel, J.N.Panchal
DST PURSE Programme sponsored National Conference on Interdisciplinary Perspectives:
Defence Studies, Earth System Science and BioMedical Science (IPDEB – 2013), organized at
Sardar Patel University, Vallabh Vidyanagar, November 15-17, 2013 (poster)
 13. Detection of a primary greenhouse gas by oxide semiconductor thin films with special study of the effect of the nature of substrate on its performance
N.G.Patel and V.S.Vaishnav
National Seminar on Crystallography (NSC 43 B) And National Workshop on CADD (Sept.1-3, 2014) , Department of Physics, Sardar Patel University (poster)
 14. A demanding change in the approach of science in 21st century (paper)
V.S.Vaishnav
National Seminar on “Change of Consciousness in 21st Century (in the light of Sri Aurobindo) Organized by Sri Aurobindo Chair of Integral Studies, S.P. University, Vallabh Vidyanagar
March 22-24, 2001.
 15. $E = MC^2$, Scientific basis of various Health Systems (poster)
B.S.Vaishnav and V.S. Vaishnav
Annual Conference of Association of Physicians of India, APICON (66th Annual Conference), Ahmedabad
January 6-9, 2010,
 16. Transformation – A Collaborative Evolutionary Process : Introduction and Glimpses
V.S.Vaishnav
International Conference on “Mutation II - A Clearing”
Sri Aurobindo Centre for Studies - India and the World, Bharat Nivas, Auroville.
February 25-27, 2011

[15] Talks/ Lectures Delivered : around 70 on varied topics

Highlights of some of the Representative Talks:

| | | |
|---|--|---|
|  |  |  |
| <p>@ ADIT Engineering College</p> | <p>@ IIT Kharagpur</p> | <p>@ Barcelona, Spain</p> |
|  |  |  |
| <p>@ Eco-Club Training Programme</p> | <p>@ Orissa</p> | <p>@ Waymade Education College</p> |
|  |  |  |
| <p>@ Carrier Development Centre</p> | <p>@ N V Patel Science College</p> | <p>@ Bangalore</p> |
|  |  |  |
| <p>@ Auroville, Tamil Nadu</p> | <p>@ Study Circle</p> | <p>@ GCET Engineering College</p> |

**[16] Conducted training Programmes/Workshops/Seminars:
around 50**

[17] Foreign Trips for Academic purpose:

- (1) The University of Potsdam, [Germany](#) during September 5-10, 2004
- (2) The Open University, Milton Keynes, [UK](#) – September 15-17, 2004
- (3) Ustron, [Poland](#) – September 19-23, 2004
- (4) Barcelona, [Spain](#), September, 2016

[18] Awards/ Prizes/Honours:

During Studies:

- (1) Received [scholarship given to meritorious students](#) by the Gujarat Secondary School Examination Board, Government of Gujarat.
- (2) Awarded Following [Gold Medals and prizes from V P Science College](#):

| | | |
|-------|---|--------------------|
| (i) | Shrimati Kantaben Jayantilal Patel Gold Medal | F.Y B.Sc.- 1987-88 |
| (ii) | Smt. Maniben Babubhai Patel Prize : Mathematics | F.Y.B.Sc. |
| (iii) | Shri Somabhai Vaghjibhai Patel Prize: Physics | F.Y.B.Sc. |
| (iv) | Smt. Raiba Gokulbhai Patel Prize: Electronics | T.Y.B.Sc.-1989-90 |
| (v) | Smt. Lalitaben and Shri FDahyabhai Hathibhai Patel Gold Medal: First among all female students of the College | T.Y.B.Sc. |
| (vi) | Prin. A R Patel Gold Medal: College : overall First | T.Y.B.Sc. |

- (3) Recived the prestigious Shri Babubhai Jashbhai Patel [Gold Medal for receiving the highest marks at B.Sc.\(Electronics\) examination](#) conducted by Sardar Patel University (Convocation, December 1990).
- (4) She received [National Scholarship](#) for Post–Graduate study during the year 1990-91 and 1991-92 by the Ministry of Human Resource Development (Education Department), Government of India on merit basis.

During Professional Career:

1. Dr Vaishnav received **“Second Prize”** through R.Chandrashekar Memorial Foundation for the **best industry oriented research work** among those presented at **the two consecutive National Seminars** on Physics and Technology of Sensors during the year 1995-1996 organized by the University of Pune, Pune.
2. She received the **"Hari Om Ashram Prerit Bhaikaka Inter University Smarak Trust"** prize of the year 1995-96 in Electronics for a research paper co-authored by her.
3. **Received the Best Paper/ Presentation prize to her Paper entitled “Virtual Universities and their Role in Strengthening the Education and Studies of Electronics”** at the 17th ISTE Gujarat Convention and a Seminar on Technology Enabled Technical Education : Issues and Perspectives, held at 20th October, 2012 at Bardoli, Gujarat.
4. **‘Elsevier Reviewing Recognition’** received from the Editors of ‘Applied Surface Science’ an outstanding International Journal from Elsevier

Felicitations in Society :

- I. Felicitated as one of the Outstanding Mother-Daughter pairs in the area having significant contribution in the Society and/or Outstanding achievement in Education/Career by the Innerwheel Anand Club, (a sister organization of Rotary Round Town Club) organized on the occasion of International Women’s Day, 8th March, 2008.
- II. **Honoured with ‘Amrut Mahotsav Paritoshik’ from a Social Organization** “Vadnagara Nagar Mandal, Mumbai (an International Institute of Vadnagara Nagar Community) on 26-02-2017

[19] Membership/Fellowship of Academic Societies/Bodies/Others

- 1) Life member, Indian Physics Association (IPA)
- 2) Life member, Indian Society for Technical Education (ISTE)
- 3) Life member, Indian Association of Physics Teachers (IAPT)
- 4) Life member, Sardar Patel University Teachers’ Association (SPUTA)
- 5) Life member, Sri Aurobindo’s Action, Sri Aurobindo Ashram, Pondicherry.
- 6) Member, Sri Aurobindo Society, Puducherry
- 7) Life Member, Sri Aurobindo Sadhana Kendra

Vision:

“All Life is Yoga with an ascending movement for manifestation of The Supramental Consciousness upon the Earth”

She views all activities of life as potential means of manifesting the concealed Divinity.

Mission:

To provide a platform and milieu for the transformation of human nature into Divine and facilitate the Change of Consciousness in every sphere of life.

Aim:

To become a humble and abiding instrument in the service of Sri Aurobindo and The Mother, the torchbearers and forerunners of the Supramental transformation of humanity.

She aspires to work for the **Renaissance in India.**

Date: July 02, 2022

Place: Vallabh Vidyanagar