

## CURRICULAM VITAE

Dr. Kashinath Nimba Patil

Plot No. 157, Block No. 301, Indira Palace

Kansai Section, Ambernath (E), Thane Pin. 421501

E-mail Id :- [kn100patil@gmail.com](mailto:kn100patil@gmail.com)/[kn100patil@rediffmail.com](mailto:kn100patil@rediffmail.com)

Mobile No. :- 8879676469



### ACADEMICS

**:Ph. D.** thesis titled “Design and Modeling of Carbon nanotubes synthesis with Acetylene as a precursor” in Department of Energy Science and Engineering from Indian Institute of Technology Bombay.

Master of Technology (**M. Tech**) in Energy Systems Engineering from Indian Institute of Technology Bombay with 9.2 CPI on a scale of 10.

### ACADEMIC DETAIL:

Sr. No.	Details of Exam	University / Board	Year of Passing	% CPI
1	Ph.D. (Energy Science & Engg.)	Indian Institute of Technology Bombay, Powai, Mumbai	2010	10 /10
2	M. Tech (Energy Systems Engg.)	Indian Institute of Technology Bombay, Powai, Mumbai	2006	9.2 /10
3	B.E. (Mechanical)	K. G. C. Engg. College Karjat Raigad University of Mumbai	2000	68.87%
4	Diploma in Mechanical Engineering	S. S. V. P. S polytechnic college Dhule Board: Bombay	1996	70.27%

### ACHIEVEMENT:

- 1. Best Thesis Award At IIT Bombay in 2013 with cash prize of Rs. 20000/-**
- 2. Dr. S. K Somaiya award-2018 for Excellence in Research** for research contribution in last five years. The award constitutes a cash price of Rs 15000, memento and certificate.
- 3. K J Somaiya College of Engineering Research Award-2013 and Research Award-2018** for research contribution. The award constitutes a cash price of Rs 10000 and certificate.

4. Stood first in final year BE (Mechanical) at KGSCE Karjat and **won Gold Medal of Merit.**
5. Rotary Club Karjat **Awarded Excellence Award in Education** After Completing Ph.D. at IIT Bombay.
6. Secured 10 CPI on a scale of 10 during Ph. D. course.
7. Scored 89.56 percentile in GATE-2002.

### **PROJECT AWARDS:**

1. Solar Vaccination Box bagged first price at Impluse-2016 a project competition held at KJSCOE Mumbai-77.
2. Development of Solar Still bagged third price at Impuse-2016 a project competition held at KJSCOE Mumbai-77.
3. Heat transfer analysis of the different shape extended surfaces bagged at Impluse-2016 a project competition held at KJSCOE Mumbai-77.
4. Vacuum Drying for Bagasse bagged first price for competition held at Impluse-2017 a project competition held at KJSCOE Mumbai-77 (At both projects carried by B.Tech (Second rank) and M.Tech. Students)
5. Jaggery and industrial ice separation plant, bagged first price , at Impluse-2017 a project competition held at KJSCOE Mumbai-77

### **PROPOSAL SUBMITTED FOR VARIOUS AWARDS:**

<b>Sr.</b>	<b>Project Title</b>	<b>Award Name</b>	<b>Awarding Agency</b>	<b>Student Name</b>	<b>Year</b>	<b>Remark</b>
1.	Carbon Sponge A Duel Utility Solution To Oil Spill (17AKICW0006)	Dr. APJ ABDUL KALAM INNOVATION ECOSYSTEM	Sairam Institutions and ICT Academy	Mehul Bhanushali	2017	Selected 13 <sup>th</sup> among to 100 projects and 3 <sup>rd</sup> among top 20 projects
2.	Solar Bio-waste Incinerator (17AKICW0242)	Dr.APJ ABDUL KALAM INNOVATION ECOSYSTEM		Ranjan Shetty Lavanya Khardkar Muzmmil Saikh	2017	Selected 23 <sup>rd</sup> among to 100 projects
3.	Semi Autonomous Pipeline Exploration Robot (SAPER) (17AKICW0747)	Dr.APJ ABDUL KALAM INNOVATION ECOSYSTEM		Rahul Kashyap	2017	Selected 84 <sup>th</sup> among to 100 projects

### **PARTICIPATED ON VARIOUS FORUMS:**

1. Displayed the projects developed on Solar vaccination box, Solar Absorption system, Electric APP at Vigyan yagnya organized by K J Somaiya Science and Commerce college on 7/12/2016 to 10/12/2016. (Video link of projects on Zee-24 Taas : <https://m.youtube.com/watch?v=izLwKRKYeNk&feature=youtu.be>)
2. Project displayed for pre event of Maker-Mela-2017 organized by Riddle Innovation Catalyst selected as a 10 Mumbai makers list for exhibiting.

### **UNIVERSITY AFFILIATION:**

1. Local Area Committee member Appointed by **University of Mumbai.**
2. Subject expert for UGC interview panel member Appointed by **University of Mumbai.**
3. Local Area Committee member Appointed by **University of Pune.**
4. Local Area Committee member for Research Center approval Appointed by **University of Pune.**

### **TOTAL EXPERIENCE: 18 YEARS AND 05 MONTHS:**

1. Teaching: 19 years and 05 months
2. Industry: 07 month

### **Research/Consultancy/Industry Projects:**

#### **Consultancy /Industry Projects**

<b>Sr. No.</b>	<b>Project Title</b>	<b>Sponsoring Agency</b>	<b>Year</b>	<b>Amount (Rs.)</b>	<b>Status</b>
1	Water Level Monitoring System Development	Water Mapper Ltd. The Netherlands	2019	\$4500	On-going
2	A solution for managing industrial effluent efficiently	IND :Ecological Services Pvt. Ltd, Mumbai, India	2019	Negotiation on-going	On-going
3	Design Solar PV system for urban and rural Indian scenario and feasibility study	Pure Brides The Netherlands	2019	8,00,000	Completed
4	Development of Field assay/device for rapid detection of antibiotic susceptibility using Resazurin Method	DRDO-DIPAS, New Delhi, India	2018	2,40,000	On-going
5	Study towards development of Containerized Solution for Large Scale	L&T Automation Ltd. Rable Thane, India	2016	2,58,000	Completed

	Solar PV Plants				
6	Solar Incinerator Cum Water Heating System	S. A. Textiles Ltd. Bhiwandi, Thane, India	2016	1,08,000	Completed
7	Solar air dryers for artificial pearl drying	Tiranga Peral and Beds, Bhiwandi, Thane, India	2016	3,85,000	Completed
8	1. Motion sensor triggered brief 2. announcement system 3. Intelligent Linen Accountal System 4. PreWarning system for Water Availability 5. Choke monitoring systems for Bio-Toilets	Western Railway, Mumbai Central, Mumbai, India	2016	77,254	Completed
9	Metal Matrix Composite by PIM Route	A.T.E. Industries Ltd. Mumbai, India	2014	1,50,000	Completed

### **Research Projects:**

<b>Sr. No.</b>	<b>Project Title</b>	<b>Sponsoring Agency</b>	<b>Year</b>	<b>Amount (Rs.)</b>	<b>Status</b>
1	Solar Air dryers for the Moringa Leaves at Narehwadi	New Haven University, West Haven CT, US	2019	2,48,627	On-going
2	Conversion of sugarcane bagasse to activated carbon and study of its applications in effluent water purification	Godavari Bio- Refinery Ltd. Mumbai	2019	1,70,000	On-going
3	Solar Car	KJSCE, Mumbai	2019	50,000	Ongoing
4	Microcontroller based online support system for maintenance and monitoring electrical and physical parameters of solar PV panel	University of Mumbai	2018	87,700	Completed
5	Evaporative dessert cooler	University of Mumbai	2017	34,000	Completed
6	Design and Development of Multi Crop Solar heat drying	University of Mumbai	2017	1,07,000	Completed
7	IoT based system for monitoring and management of pH parameters	University of Mumbai	2017	76,000	Completed
8	Development of eco-friendly and sustainable packaging material with coconut shell powder, paper and egg shells	University of Mumbai	2017	72,000	Completed

9	IoT Based Water dissemination system for different Crops	University of Mumbai	2017	58,400	Completed
10	Solar Absorption Refrigeration System	University of Mumbai	2016	30,000	Completed
11	Technology development for Jaggery and Ice production from sugar cane by refrigeration	University of Mumbai	2016	25,000	Completed
12	Design and development of solar PV panel soiling station and evaluation of soiling losses	University of Mumbai	2016	30,000	Completed
13	Concentrator Solar Cooker Testing and Evaluation	KJSCE Mumbai	2014	30,000	Completed
14	Solar PV Lighting solution for Office	KJSCE Mumbai	2015	22,000	Completed
15	Solar Absorption System	KJSCE Mumbai	2014	45,000	Completed

**Research/Consultancy/Industry Projects Submitted for Various Agencies:**

Sr. No	Project Title	Sponsoring Agency	Year	Amount	Status
1.	Design and Development of	Mumbai University	2019	1,07,000	Submitted
2.	Warm Clothing for Cold	Mumbai University	2019	69,000	Submitted
3.	Light weight Al-CNT composite for sound wave	Mumbai University	2019	1,04,000	Submitted
4.	Water Recovery from Medicinal Herbs	Mumbai University	2019	80,000	Submitted
5.	Design of battery management system for	Mumbai University	2019	1,14,771	Submitted
6.	Design and Development of Multi crop Solar Heat Drying	Mumbai University	2019	1,07,000	Submitted

**Industrial Experience/Interaction:**

Organization	Nature Of Work	Period
ATE Industries-Mumbai, Mumbai	Product Development From Grinding Waste	2014-16
L&T Automation-Mumbai, Mumbai	Design And Development Of Container Solution For Pv Substation	2016-18

Godavari Bio-Refinery-Baglkot, Karnataka	<ul style="list-style-type: none"> <li>Development Of Bagasse Drying And Bagasse Ash Brick</li> <li>Feasibility Study For Waste Heat Recovery System For Hot Water Generated By Sugar Industry</li> </ul>	2016-2018
Western Railway	Product Development For Various Issues	2016-2018
Tiranga Beads, Bhiwandi, Maharashtra	Solar Beads Drying Solution	2017-Onwards
S A Textiles, Bhiwandi, Maharashtra	Solar Incinerator Cum Hot Water Generation	2017- 2018
Jindal Steel, Maharashtra	Heat Recovery System Cum Pinch Analysis Study	2016-17
Agricultural University, Ratnagri Maharashtra	Evaporative Cooling Cum Humidity Control System For Agricultural Usage	2017 Onwards
Pure Birds Sweden	Design Solar PV system for urban and rural Indian scenario and feasibility study	2018 Onwards
Grivanvasi Ashram Dahanu Maharashtra	Development of drying and boiling solution for agricultural produce	2018 Onwards

### **INTELLUCTUAL PROPERTY RIGHTS (IPR):**

#### **I) Indian Patents & Copyrights Filed/Granted**

<b>PATENT</b>					
<b>Sr. No.</b>	<b>Title</b>	<b>Application Number</b>	<b>Date of Filling</b>	<b>Publication Date</b>	<b>Status</b>
1.	A Vacuum Dryer	201821029075	02/08/2018	30/08/2019	Field
2.	A Bead Separating Device	201821037925	06/10/2018	30/08/2019	Published
3.	A Solar Energy Based Waste Incineration And Gas & Liquid Heater Device	201821038902	12/10/2018	30/08/2019	Published
4.	A Bead/Pearl Coating Device	201821039853	22/10/2018	-	Published
5.	Composition For Brick	201921010282	16/03/2019	30/08/2019	Published
6.	A Cooling Pad Composition For Evaporative Cooling System	201921052194	16/12/2019	-	Field
<b>COPYRIGHT</b>					

Sr. No.:	Title	Diary Number	Registration Number	Date of Filing	Status ( applied / granted )
1	Linen Counting Machine	10942/2018-CO/L	L-77738/2018	08/09/2018	Granted
2	Pre-Warning Water Level Alarm System	10938/2018-CO/L	L-77637/2018	06/09/2018	Granted
3	Choke Monitoring and Alarm System in Bio-Toilets	10936/2018-CO/L	L-77636/2018	06/09/2018	Granted
4	Bio-Toilet Interactive Voice Responsive System	10943/2018-CO/L	L-79073/2018	31/07/2018	Granted
5	Solar Vaccination Box	5614/2019-CO/L	-	13/04/2019	Granted
6	IOT Based Water Dissemination System for Different Crops	8175/2019-CO/SW	-	30/05/2019	Granted
7	IOT Based Recommendation System for Soil Management in Agricultural Domain	8172/2019-CO/SW	-	30/05/2019	Granted
8	Carbon Nanotubes Based Oil Spill Duster	8170/2019-CO/L	-	30/05/2019	Granted
9	Indigenous solar chulla cum self-contained unit for lighting solution	9734/2019-CO/L	-	24/06/2019	Granted

## II) Indian Patents & Copyrights Ongoing

Sr.	Project Title	IPR	Remark
1	Novel Cooking Pot	Patent	Proof of Concept is ready and the Drafting is pending with Patent
2	Jaggery Marking Support Device for Kahansary	Copyright	

### CURRENT POSITION:

Position: **Professor** and **Dean Research and Development (From August 2014-till date)/Professor (From July 2016- till date)**

Institute: K. J. Somaiya College of Engineering, Vidyavihar, Mumbai 400 077.

**NEW FACILITY CREATED:**

Sr. No.	Name of Equipment	Laboratory	Year Equipment Added	Semester
1	Solar Concentrator Cooker	Renewable Energy	2014	M.Tech RE Sem-I
				RE SEM-III
				Non-Conventional Energy Sources-VII
2	Solar Assisted Electrolux Vapour Absorption system	Renewable Energy	2015	M.Tech Sem-I
				RE SEM-III
				Non-Conventional Energy Sources-VII
3	Carbon Nanotubes Synthesis by Chemical Vapour Deposition system	Material Technology	2015	Two Ph.D Students Working Dr. Vilas Pillewan (Completed on 2018)
				Mr. Vilas Dhore (Ph.D. Scholar Ongoing)
				Experiment Conducted for M.Sc. Analytical Chemistry and
4	Powder Injection Molding system	Material Technology	2015	Ph.D Students Working Dr. Vilas Pillewan (Completed on 2018)
				Mr. Vilas Dhore (Ph.D. Scholar Ongoing)
5	Double Slope Solar Basin type distillation	Renewable Energy	2016	RE SEM-III
				Non-Conventional Energy Sources-VII
6	Various Geometry fins	Heat Transfer	2016	TYBTech Sem V
7	Solar Soiling Station	Renewable Energy	2017	M.Tech RE Sem-I
				RE SEM-III
				Non-Conventional Energy Sources-VII
8	Turmeric Boiling Cum Drying Unit (Boiling Experiment)	Renewable Energy	2018	M.Tech RE Sem-I
				LYBTech Sem VII
				SYBTech RE-III
				LYBTech NCES Sem VII
9	Turmeric Boiling Cum Drying Unit (Drying Experiment)	Renewable Energy	2018	M.Tech Sem-I
				LYBTech Sem VII
				SYBTech RE-III
				LYBTech NCES Sem VII
10	Multi Crop Drying	Renewable	2018	M.Tech RE Sem-I



	Equipment	Energy		LYBTech Sem VII
				SYBTech RE-III
				LYBTech NCES Sem VII
11	Herb Drying Cum Grinding Equipment	Renewable Energy	2018	M.Tech Sem-I
				LYBTech Sem VII
				SYBTech RE-III
				LYBTech NCES Sem VII
12	Evaporative Cooling System	Renewable Energy	2018	LY B.Tech.RAC Sem-VIII
13	Charcoal Conversion Process	Renewable Energy	2019	M.Tech Sem-I
				LYBTech Sem VII
14	Observation of the water scrubber system for biomass gasification system.	Renewable Energy	2019	M.Tech Sem-I
				LYBTech Sem VII

#### **ADMINISTRATIVE POSITION HELD:**

1. **Dean Research and Development** (From August 2015 to till date, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, 400 077)
2. **Ph.D. Coordinator** (From August 2015 to 30<sup>th</sup> January 2018, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, 400 077)
3. **Convener Department Examination Committee (DEC)** (From August 2014 to August 2015 K. J. Somaiya College of Engineering, Vidyavihar, Mumbai 400 077)
4. **Vice principal** (January 2012 to July-2013, SND College of Engineering and Research Center, Yeola, Nashik, 423 401)
5. **Dean Research and Development** (August-2010 to December 2011, Konkan Gyanpeeth College of Engineering, Karjat, Raigad, 410 201)
6. **Department Thrust Area Coordinator** (from November, 2015 to July 2017, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, 400 077).
7. **Examination Committee Member-Autonomy (EC)** (from 19<sup>th</sup> July 2014 to July 2015, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai 400 077).
8. **Member of Governing Body (GB)** (from June 2018 to till date, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, 400 077).
9. **Member of Subject Board in Mechanical Engineering** (from June 2017 to July 2019, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, 400 077).

#### **PAPER PUBLICATION:**

## I) International Journal Publications:

1. Kashinath N. Patil and C. S. Solanki, Aspect ratio evaluation of carbon nanotubes grown on a calcium carbonate substrate for varying time and temperature, *Journal of Nano Research*, 4, (2008), pp127-135.
2. Kashinath N. Patil and C. S. Solanki, Precursor to high purity carbon nanotubes: A step by step evaluation of carbon yield, *Journal of Nano Research*, 6, (2009), pp75-87.
3. Kashinath N. Patil, Sanjay M. Mahajani and C. S. Solanki, Optimization of catalyst loading for effective utilization of feed stock for carbon nanotubes synthesis process, *International Journal of Nano science*, 10(4), 2011, pp1-5.
4. Kashinath N. Patil, D. N. Raut, and V J Pillewan, Microscopic Analysis of Carbon Nano tubes based Metal Matrix Composite, *Nirma University Journal of Engineering and Technology*, 4(1), 2015, pp. 6-10.
5. Kashinath N. Patil, V. J. Pillewan, and D. N. Raut, “Microscopic Analysis of Carbon Nano tubes based Metal” *Nirma University Journal of Engineering and Technology (NUJET)*, (ISSN 2231- 2870), *NUJET Journal (Volume 4, No. 2, 2015, Page No. 06-10)*.
6. Kashiath N Patil, D. N. Raut, V. J. Pillewan, and D. K. Shinde, Carbon to Carbon Nanotubes Synthesis Process: An Experimental and Numerical Study, *Materials Today: Proceedings Volume 5, Issue 2, Part 1*, pp 6444-6452 (2018).
7. Kashinath N. Patil, V. J. Pillewan, D. N. Raut, and D.K. Shinde, “Carbon Nanotubes Based Porous Framework for Filtration Applications Using Industrial Grinding Waste”, *International Journal of Chemical, Molecular, Nuclear, Materials and Metallurgical Engineering, World Academy of Science, Engineering and Technology Vol:11, No:2, 2017*
8. Kashiath N. Patil, V. G. Dhore and W.S Rathod, “Synthesis and Characterization of High Yield Multiwalled Carbon Nanotubes by Ternary Catalyst”, *Materials Today: Proceedings Volume 5, Issue 2, Part 1*, pp 3432-3437 (2018)
9. Kashiath N. Patil, V. G. Dhore and W. S. Rathod, Experimental Analysis and Power Law Model of Multiwall Carbon Nanotubes Yield on Fe-Co-Ni Ternary Metal Catalyst, *International Conference On Advances In Thermal System, Materials And Design Engineering (ATSMDE) 2017, December 21–22, 2017, SSRN Digital Library: SSRN-id3101616*.
10. Kashiath N. Patil, Mitul Doshi and Aman Jain, Performance analysis of solar air dryer for multi crop drying – effect of varying air mass flow rate, *International Conference On Advances In Thermal System, Materials And Design Engineering (ATSMDE) 2017, December 21–22, 2017, SSRN Digital Library: DOI: 10.2139/ssrn.3101275*.
11. V J Pillewan, D N Raut and Kashinath N. Patil, Wear Analysis of Charcoal, Unpurified Carbon Nanotubes and Purified Carbon Nanotubes based Metal Matrix Composite, *Materials Today: Proceedings Volume 5, Issue 9, Part 3 pp. 20679-20689 (2018)*.

12. Vilas G Dhore,, W S Rathod and Kashinath N. Patil, Investigation of mechanical properties of carbon nanotubes reinforced aluminium composite by metal injection molding, *Materials Today: Proceedings* Volume 5, Issue 9, Part 3, Pages 20690-20698 (2018)
13. Vipul Damale and Kashinath N. Patil, Experimental Analysis of Turmeric Drying Process, *Materials Today: Proceedings*, Volume 5, Issue 9, Part 3, pp 18152-18161 (2018).
14. Nikhil Lotake and Kashinath N. Patil, Study of Effect of Various Parameters on Desalination process, *Materials Today: Proceedings*, Volume 5, Issue 9, Part 3, pp 19391-19399 (2018).
15. Sandip Langade, Nandkumar Gilke and Kashinath N. Patil, Bagasse Ash for Manufacturing Construction, *Materials Today: Proceedings*, Volume 5, Issue 9, Part 3, pp19954-19962, (2018).
16. Sandip Langade, Nandkumar Gilke and Kashinath N. Patil, Compression Strength Testing of Brick by FFT, *IOP Journal on Material Science and Engineerig*, Volume XX, Issue XX, pp XXXX, (XXXX).

## **II) International Conferences:**

1. Kashinath. N. Patil, H. K. Prasad and C. S. Solanki, Novel approach for synthesis of highly dense carbon nanotubes, *ANM2007* (2007).
2. Kashinath. N. Patil, Aneesh Gangal, Sanjay M. Mahajani and C. S. Solanki, Hydrogen Storage in as deposited carbon and Crystalline Carbon Nanotubes at Low Temperature, *International conference in Advances in Energy (ICEAR-2009) IIT-Bombay 2009, India* pp 277-282.
3. Kashinath N. Patil, Sanjay M. Mahajani and C. S. Solanki, Step by step Evaluation of Carbon Nanotubes synthesis process, *International Conference on Carbon Nanotechnology: Potential and Challenges (CARBON-10), IIT Kanpur (UP) India.*
4. Kashinath N. Patil, Sanjay M. Mahajani and C. S. Solanki, Characterization of Fe-Co catalyst for CNTs Synthesis, *International Conference on Advances in Electron Microscopy and Related Techniques (EMSI-2010),BARC Mumbai India.*
5. A. Parab, S. Gade, G. Lavate and Kashinath N. Patil, “Fabrication Cu-CNTs alloy” *International Conference on Systems, International Conference on (NUoiCON-2011), Nirma University, Gujrat, India.*
6. Kashinath N. Patil, An Experimental Evaluation of Carbon to Carbon Nanotubes (CNTs), *International Conference on Recent Trends in engineering and Technology, 21-22 March 2013, at MET, Nashik.*
7. Nilesh Lad, A S. Sarode and Kashinath N. Patil, Preparation of Fe- CNT metal composite using Powder metallurgy method, *International Conference on “Emerging Trends in Technology and It’s Applications” – 7-8 March 2014, ICETTA-2014 organized by Yadavrao Tasgaonkar College of Engineering, Mumbai.*

8. Rohit Patole and Kashinath N. Patil, Heat Recovery Analysis for Domestic Applications, ICC2017 Matoshree College of Engineering, Nashik India. (Awarded Excellent Paper Award)
9. Abhinav Singh and Kashinath N. Patil, Steam generation using solar parabolic dish, 6th International Conference on Advances in Energy Research 2017, December 12–14, 2017.
10. Manohar Patil, Kashinath N. Patil and Sailesh Nikam, Energy Conservation and Targeting of Ammonia Decomposition Process in Steel Industry, 6th International Conference on Advances in Energy Research 2017, December 12–14, 2017.

### III) National Conferences:

1. Kashinath. N. Patil and C. S. Solanki, Mass production of carbon nanotubes for hydrogen storage, DMFE-BARC (2006).
2. Kashinath. N. Patil and C. S. Solanki, Growth of carbon nanotubes on CaCO<sub>3</sub> substrate, AER-2006 (2006).
3. Kashinath N. Patil, M. EswaraRao, Sanjay M. Mahajani and C. S. Solanki, Catalyst deactivation models of Carbon Nanotubes Synthesis from acetylene, National Conference of Recent Trends in Chemical Research (NCRTCR-2010), Surathkal Karnataka India.
4. Kashinath N. Patil, V. Sharma, V. Patil and H. Pal, “Heat Recovery from Two Wheeler to Charge Mobile or standalone device”, National Conference on Recent Advances in Mechanical Engineering (NCRAME2011), Karnataka, India.

### IV) Books Chapters:

1. Book Name: Mechanical Engineering For Sustainable Developments Publisher: Apple Academic Press United State of America (USA) Chapter Numbers: 12 & 13.
  12. TG-DTA Analysis of A Binary Metal Catalyst For Multi Wall Carbon Nanotubes Synthesis Author & Co-Authors: Dr. Kashinath N. Patil, V.J. Pillewan, D.K. Shinde
  13. Characterization Of Fe-Co-Ni Ternary Metal Catalyst For High Yield Multi Wall Carbon Nanotubes Synthesis Author Co-Authors: Dr. Kashinath N. Patil, V. Dhore, V.S. Rathod
2. Book Name: Advances in Interdisciplinary Engineering Publisher: Springer Nature brand, Scientific Publishing Services (P) Ltd. Chennai, India, Chapter Numbers: 66.
  62. Modelling of photovoltaic losses from available meteorological data, Rachit Gada, Ishan Doshi and Kashinath N. Patil
3. Book Name: Advances in Fluid and Thermal Engineering, Publisher: Springer Nature brand, Scientific Publishing Services (P) Ltd. Chennai, India, Chapter Numbers: 66.

37. Novel Dryer Cum Grinding Unit: A Thermal Analysis of Herbs Drying, Avinash Kamble, Prtiam Bakal and Kashinath N. Patil

#### **INTERACTION WITH OUTSIDE WORLD:**

1. Sixth month regular laboratory course on Renewable Energy conducted for MSc. Analytical and MSc. Inorganic Chemistry students of K J Somaiya College of Science and Commerce, Vidyavihar, Mumbai-77.
2. Demonstration to the renewable energy equipment's on environmental day-2017 for 120 schools students of Somaiya International School, Vidyavihar Mumbai-77
3. One day course conducted One Day Workshop on “ Industry Academia Partnership” on Sept 12, 2017 Jointly Organized by K. J. Somaiya College of Engineering, COSIA , and German Development Cooperation (GIZ).
4. Interaction with DRDO-DIPAS-New Delhi for joint project development on 28/06/2017.
5. Two day visit to Dr Balasaheb Swant Agrictural University Dapoli and Agricultural Engineering college Dapoli, to explore the joint opportunity two work on research projects on 30<sup>th</sup> June and 1<sup>st</sup> July-2017.
6. Industrial Visit for opportunities in Godavari Bio-Refinery at Samirwadi , Bagalkot Karnataka on 29/02/2016.
7. Two day's Workshop Conducted on Solar PV System Design at K J Somaiya College of Engineering on 09/07/2015, in association with Kwatt Solutions Pvt. Ltd. Incubated company at IIT Bombay.
8. Visit to Center for Nano Science at IISC Bangalore to explore the possibility of various projects and utilization of various testing facilities, on 10/10/2014 and 11/10/2014.

#### **EXPERT LECTUERS DELIVERD:**

1. Invited lecture delivered on Trigenration and Cogeneration, at Five day STTP on Energy, Envrionment and Water Conservation on 27/06/2017 at A. C. Patil College of Engineering, Kharghar, Navi Mumbai.
2. Invited Lecture Delivered at STTP at *Sardar Vallabhbhai Patel National Institute of Technology, Surat* on “Carbon Nanotubes Synthesis” 4<sup>th</sup> March 2013.
3. Invited Lecture Delivered at QIP workshop on Renewable Energy at *JSPMS Rajshree Shahu College of Engineering Thathwade, Pune*, on “Renewable Energy” 24<sup>th</sup> December 2014.

#### **SHORT TERM PROGRAM/WORKSHOPCONDUCTED:**

1. ISTE Approved short Term Training Programme Conducted on “Material Science and Energy Engineering” at Konkan Gyanpeeth College of Engineering Karjat, on 12/12/2011 to 17/21/2011.
2. Two days state level workshop “Avishkar 2012” at SND College of Engineering and Research Center, Yeola, on 23/03/2012 to 24/03/2012.

#### **CONFERENCE REVIEWER:**

1. International Conference On Advances In Thermal System, Materials And Design Engineering (ATSMDE) 2017, December 21–22, 2017, at V J T I Mumbai-400031.
2. 4th National conference on Advances in Technology and Management (NCATM'17) on 23rd - 24th March, 2017, held at A. C. Patil College of Engineering, Kharghar, Navi Mumbai-410210.
3. International conference on Contents, Computing and Communication 2017 (ICCCC **2017**), held at Mathoshri College of Engineering and Research Center, Nashik on 03/11/2017.
4. National Symposium on Engineering and Research (**NSER 2012**), held at Mathoshri College of Engineering and Research Center, Nashik.
5. National Conference on Emerging Trends in engineering & Technology”, **SANJIVANI VISION 2012**, at Sanjeevani College of Engineering Kopergaon, A.Nagar.
6. 2<sup>nd</sup> International Conference on Recent Trends in engineering and Technology, 22-24 Feb 2013, at SNJB's Late Sau Kantabai Bhavarlalji Jain College of Engineering, Chandwad, Nashik.
7. 3<sup>rd</sup> International Conference on Recent Trends in engineering and Technology, 25-28 March 2014, at SNJB's Late Sau. Kantabai Bhavarlalji Jain College of Engineering, Chandwad, Nashik.

#### **SHORT TERM PROGRAM ATTENDED:**

1. One day workshop attended on “Kinematics of Machinery”, at Datta Meghe College of Engineering, Aroli, Mumbai, 2003.
2. One day workshop attended on “Materials for Future Energy Systems”, at BARC Mumbai, 2006.
3. Participated in “Renewable Energy Community Development and Showcase Workshop-2006” organized by Energy Systems Engineering on 21-22 September 2006 at IIT Bombay.
4. Participated in one week QIP short term course on “Micro-Nano Tribology” organized by Mechanical Department IIT Bombay in 1-5 January 2007

5. Attended Special Lecture Series on Solar Cells by Prof. Vikram L. Dalal from 12<sup>th</sup> to 27 January 2007.
6. Participated in one week QIP short term course on “Carbon nanotubes and Carbon Nanotechnology” organized by Mechanical Department IIT Kanpur in 22-26 February 2010.
7. One day workshop attended on “Total Quality Management in Engineering Education”, at K.K. Wagh Institute of Engineering and Education and Research, Nashik, 2012.
8. Five days short training course on Renewable Energy and Power quality, organized by Electrical Department of VNIT Nagpur on 29/08/2016 to 02/09/2016.

#### **NATIONAL INTERNATIONAL CONFERENCE SESSION CHAIR:**

1. International Conference On Advances In Thermal System, Materials And Design Engineering (ATSMDE) 2017, December 21–22, 2017, at V J T I Mumbai-400031.
2. 4th National conference on Advances in Technology and Management (NCATM'17) on 23rd - 24th March, 2017, held at A. C. Patil College of Engineering, Kharghar, Navi Mumbai-410210.
3. International conference on Contents, Computing and Communication 2017 (ICCCC **2017**), held at Mathoshri College of Engineering and Research Center, Nashik on 03/11/2017.
4. National Symposium on Engineering and Research (NSER 2012), at Mathoshri College of Engineering and Research Center, Nashik.
5. National Conference on Emerging Trends in engineering & Technology”, SANJIVANI VISION 2012, at Sanjeevani College of Engineering, Kopergaon, A.Nagar.

#### **MEMEBRES OF VARIOUS SOCIETIES AND ORGANIZATION:**

1. Member of **American Nano society** (Full Member No: 115138)
2. Indian Society for Technical Education ISTE Life Member (Life Member: LM 78646)
3. Indian Institution of Industrial Engineering (IIIE), (Life Member: 10475)

#### **DETAILS OF EXTRACURRICULAR ACTIVITIES:**

1. Honorary Judge for National level paper presentation held at Bharti Vidyapeeth College of Engineering Kharghar, Navi Mumbai
2. Project evaluation committee member in Tech fest held at IIT Bombay-2009 for Energize

3. Technical committee member for the International Conferences in Advances in Energy Research ICEAR-2009 held at IIT Bombay
4. Technical committee member for the National Conferences in Advances in Energy Research ICEAR-2006 held at IIT Bombay
5. Jury Member for TATA Crucible Campus Hackathon 2019- Mumbai Regional
6. Nominated as a subject expert on the Research & Recognition Committee for the subject of Mechanical & Automobile Engineering (From Jun 2018 to Jun 2020 at Savitribai Phule Pune University).
7. Member of Continuation of affiliation Committee. (From Jun 2015 to till date at Mumbai University).
8. Subject Expert on the Selection Committee (From Jun 2015 to till date at Mumbai University).
9. Member of Continuation of affiliation Committee. (From Jun 2015 to till date at Savitribai Phule Pune University).
10. Appointment as a Judge for Avishkar Research Convention 2013-14 at Mumbai University.
11. Appointment Examiner open Viva- Voca Test at Nagpur University.

**SUBJECT INTREST:**

1. Thermal Engineering
2. Refrigeration and air conditioning
3. Strength of Material
4. Non-conventional Energy sources
5. Nano-science and Nanotechnology
6. Carbon nanotubes and other novel materials

**Undergraduate and postgraduate courses that you will like to develop and/or teach:**

Sr. No.	Course	Section
1	Solar Thermal Power Systems	PG
2	Energy Conservation and Economics	UG/PG
3	Appropriate Technologies	UG/PG
4	Solar Energy	UG/PG
5	Sustainable Rural Engineering and Energy Systems	UG/PG
6	Power plant Engineering	UG/PG
7	Biomass Energy	UG/PG



8	Wind and Hydro Energy	UG/PG
9	Agro-Based Industries Design and Case Studies	UG/PG

**Teaching Experience, New Courses or Laboratories:**

Sr. No.	Course Name	UG/PG	Institute	Laboratories
1	Strength of Materials	UG	K. G. C. E. karjat	Yes
2	Material Technology	UG	K. G. C. E. karjat	Yes
3	Elements of Machine Design	UG	K. G. C. E. karjat	Yes
4	Non-Conventional Energy Sources	UG	K. G. C. E. karjat	No
5	Instrumentation, Automatic and	PG	SNDCOE Yeola	Yes
6	Heat Transfer	UG	SNDCOE Yeola	Yes
7	Energy Conservation in Building	PG	K.J. S. C. E.	No
8	Solar Energy	PG	K.J. S. C. E.	No
9	Energy Systems Modeling	PG	K.J. S. C. E.	No
10	Biomass and Wind Energy	PG	K.J. S. C. E.	No
11	Materials for Energy Applications	PG	K.J. S. C. E.	No
12	Foundation to Energy Engineering	PG	K.J. S. C. E.	No
13	Renewable Energy	UG	K.J. S. C. E.	Yes
14	Alterative to Energy and Energy Conversion	UG	K.J. S. C. E. Mumbai	No
15	Energy Conversion-II	UG	K.J. S. C. E.	Yes
16	Energy Conversion-III	UG	K.J. S. C. E.	Yes

**Peer Review International Journal Paper Reviewed:**

1. Iranian Journal of Mechanical Engineering

Sr. No	Name of Journal	Year	Number of Papers Reviewed
1	Iranian Journal of Science and Technology Transactions of Mechanical Engineering (Impact Factor: 0.40)	2014-15	2

**Ph.D. Student registered:**

Sr. No	Name of Student	Title of Ph.D. Thesis	Year of Registration	Institute	Capacity	Remark
1	Mr. Vilas Pillewan	Development of PIM process for Grinding Waste-CNTs Composite	July-2014	VJTI	Co-Guide	Completed 12/09/2018
2	Mr. Ganesh Katala	Novel industrial ice and jiggery production	July-2016	KJSCE	Guide	Ongoing

**ME/ M.Tech Student Guided:**

Sr.	Name of Student	Title of ME Thesis	Year of Passing	Capacity	Starting Date	Completion Date
1	Mr. Mahavir Bhattacharya	Analysis and Design of Vapour Absorption Refrigeration System	2015	Guide	19/08/2014	01/10/2015
2	Ninad Mahadeshwar	Experimental Analysis of Solar Still	2016	Guide	13/07/2015	30/12/2016
3	Lavanyna Kardkar	Vacuum Drying for Bagasse	2017	Guide	06/08/2016	19/08/2017
4	Rohit Patole	Design and Development Novel Heat Recovery System for Domestic Applications	2017	Guide	06/08/2016	24/08/2107
5	Abhinav Singh	Design and Development of Steam Cooking system	2017	Guide	06/08/2016	07/09/2017
6	Ujawala Sonwane	Flow and thermal analysis of textured surfaces in micro-channels in pressure driven systems	2018	Guide	06/08/2016	01/09/2018
7	Mahohar Patil	Analysis and evaluation of Energy targeting by Pinch analysis for JSW Steel	2017	Co-Guide	06/08/2016	07/09/2017
8	Ranjan Shetty	Design and Development of Solar Incineration	2017	Co-Guide	06/08/2016	23/08/2017
9	Muzammil Ahmad Shaikh	Heat loss analysis of Cavity receiver	2017	Co-Guide	06/08/2016	23/08/2017
10	Chirag kale	Development of Storage type solar cooker for high	2017	Guide	06/08/2016	19/08/2017
11	Nikhil Lokhande	Energy Conservation opportunities of JSW Steel	2017	Co-Guide	06/08/2016	23/09/2017
12	Avinash Kamble	Design and Development of Herb drying cum grinding	2018	Guide	30/08/2017	08/09/2018

13	Rohit Kamble	Development of Evaporative cooler for dry environment	2018	Guide	30/08/2017	17/11/2018
14	Vipual Damle	Design and development of Turmeric Drying cum grinding unit	2018	Guide	30/08/2017	07/09/2018
15	Nikhil Lokate	Two utility distillation cum Slat production system	2018	Guide	30/08/2017	28/09/2018
16	Pritam Bakal	Design and Development of Multi-Crop Solar Dryer	2018	Guide	30/08/2017	08/10/2018
17	Tausif Ansari	Solar Dryer for the Pearl and Beads drying system	2019	Guide	27/08/2017	25/08/2019
18	Prachi Chaudhary	Water Extraction form the Herbs	2019	Guide	09/07/2019	-
19	Partik Chaudhary	Alternative Methods for Jaggery Production	2019	Guide	09/07/2019	-
20	Adit Tambe	Cascade type Solar cavity receiver	2019	Co-Guide	09/07/2019	-

### **WORK EXPERIENCE:**

Name of Organization and place of Posting: **K. J. Somaiya College of Engineering, Vidyavihar-77**

Position held: **Professor/Dean Research and Development**

Duration: **14/08/2015 to Till Date**

Nature of experience Specialization, if any:

1. Submitted the research proposals to various funding agencies.
2. Promote the faculty members for writing research proposals and incubate the various programme for consultancy.
3. To start various schemes for the students projects, internship and other research related activities.
4. To develop research laboratory for the Ph.D. research scholar.
5. To provide hands on training to undergraduate students on various projects thus developed for research which not in curriculum
6. Involved in teaching of post graduate and undergraduate students particularly delivered subjects like, Foundation to Energy Engineering, Building and HVAC, Materials for Energy Applications, Solar Energy and Non-conventional Energy Sources.

Name of Organization and place of Posting: **K. J. Somaiya College of Engineering, Vidyavihar-77**

Position held: **Associate Professor/Convener Department Examination Committee**

Duration: **01/06/2014 to 13/07/2015 (Regular) and 01/08/2013 to 31/05/2014 (Ad-hoc)**

Nature of experience Specialization, if any:

1. Departmental Examination Coordinator for Autonomous KJSCE.
2. Designed the cooling load for the KJSCE auditorium.
3. Worked on two projects 1. For ATE Industries Pvt. Ltd. Mumbai, 2. For Promoters, Researchers & Innovators in New & Clean Energy and KJSCE.
4. Design and Fabrication of Sigma mixture carried for the Ph.D. Research Scholar.
5. Prepared the Research souvenir for Institute
7. Involved in teaching of post graduate and undergraduate students particularly delivered subjects like, strength of material, Material Technology, Foundation to Energy Engineering, Building and HVAC, Materials for Energy Applications and Non-conventional Energy Sources.

Name of Organization and place of Posting: **SND College of engineering and Research Center, Babhulgaon, Yeola, M.S.**

Position held: **Vice Principal/Associate Professor**

Duration: **2<sup>nd</sup> January 2012 to 31<sup>st</sup> July 2013**

#### **Approvals**

1. **Approved associated Professor University of Pune CCO/1727**
2. **PG Teacher Approval No:** BTUR/Engg./283 For Five Years (University of Pune)
3. **PhD. Teacher Approval:** BTUR/Engg./283 For Eight Years (University of Pune)

Nature of experience Specialization, if any:

1. Involved in teaching of post graduate and undergraduate students particularly delivered subjects like, strength of material, Material Technology, machine Design and Non-conventional Energy Sources.
2. Committee member for academic vigilance in institute.
3. Formulated policy for the Institute and future growth plan for the institute.
4. Involved in Accreditation committee at institute for continuous improvement process and data collection for the same.
5. Total publications presented by staff members within three months of work in 25 as against nil for same period in last year.
6. Three papers published by my PG students in national conferences held in India.
7. Looking for administrative part of AICTE and DTE from institute side.

8. Complete governance activities at institute about faculty recruitment, promotion, discipline, infrastructure, and lab development.
9. Setting guidelines for Dean, HOD, Registrar and faculty members about role and responsibility.
10. Handled LIC committee for natural growth visited to institute.

Name of Organization and place of Posting: **Konkan Gyanpeeth College of engineering karjat Raigad, M.S**

Position held: **Dean Research and Development and Professor**

Duration: **1<sup>st</sup> August 2010 to 31/12/2011**

Nature of experience Specialization, if any:

1. Involved in teaching undergraduate students particularly delivered subjects like, strength of material, Material Technology, machine Design and Non-conventional Energy Sources.
2. Project proposal submitted to AICTE Delhi on Metal composite with CNTs.
3. Working with Prof. P. P Date (Mechanical Dept, IIT Bombay) and writing proposal for ministry of environment.
4. Teaching staff Selection committee member in the institute.
5. Principal coordinator to conduct University grant commission interviews for faculties in our Institute and overall coordinator for examination-2011.
6. Set up the laboratories in the institute for research and development and coordinate the inter-disciplinary project running in different departments.
7. Committee member for academic vigilance in institute
8. Formulated policy for the Institute and future growth plan for the institute
9. Involved in Accreditation committee at institute for continuous improvement process and data collection for the same
10. Total publications presented by staff members increased from 5 in 2009-10 to 18 in 2010-11.
11. Work carried out in the direction of the carbon nanotubes such as hydrogen storage, thin film for organic solar cell and metal composite preparation.
12. Acting as Incharge of material technology laboratory and strength of material laboratory.
13. Organized two day workshop on E-yantra, for ethical hacking by IIT Khargpur alumni group for Computer and IT students through R&D initiative.
14. Organized two day workshop on Robotics by IIT Bombay (Prof KaviArya) for Computer and IT students through R&D initiative and Two groups from K.G.C.E. will be a part of

Robotics group among 16 groups selected from 600 students appeared from Mumbai University affiliated institutes.

15. “Karjat Development plan” a project successfully completed with Center for Technology Development for Rural Area of IIT Bombay and formally signed the agreement between CTRA-KGCE and Karjat Council for further project work.

Name of Organization and place of Posting: **Konkan Gyanpeeth College of engineering karjat Raigad, M.S**

Position held: **Assistant Professor**

Duration: **1<sup>st</sup> August 2006 to 31<sup>st</sup> July 2010**

Nature of experience Specialisation, if any:

1. Involved in teaching undergraduate students particularly delivered subjects like, strength of material, Material Technology, machine Design and Non-conventional Energy Sources.
2. Actively involved in research work in IIT Bombay perusing doctor of philosophy.
3. Work and understand the data obtained with XRD, ESCA, SEM, TEM, GC, GC-MS, Raman and TG-DTA analysis.
4. Work carried out in the direction of the carbon nanotubes such as hydrogen storage, thin film for organic solar cell and metal composite preparation.
5. Two chapters written with Prof. Chetan Singh Solanki (Dept. of Energy Science and Engineering) sirs book on Solar cell-Practical guide for beginners.
6. Acting as Incharge of material technology laboratory and strength of material laboratory.
7. Project Guide for undergraduate and Post-graduate students.

Name of Organization and place of Posting: **Konkan Gyanpeeth College of engineering karjat Raigad, M.S**

Position held: **Lecturer**

Duration: **1<sup>st</sup> August 2001 to 31<sup>st</sup> July 2006**

Nature of experience Specialization, if any:

1. Involved in teaching undergraduate students particularly delivered subjects like, strength of material, Material Technology, machine Design and Non-conventional Energy Sources.
2. Acting as Incharge of material technology laboratory and strength of material laboratory.
3. Overall term Incharge responsible for setting up the experimental frame work and execute the same as per the norms sets by the university time to time.
4. Project Guide for undergraduate students

Name of Organization and place of Posting: **Finolex Cables Ltd. Urse, Pune, M.S**

Position held: **Trainee Engineer**

Duration: 29<sup>th</sup> August 1999 to 20<sup>th</sup> March 1997

Nature of experience Specialization, if any:

1. Working in shifts on stripping section and responsible for achieve target
2. I worked in cable sheeting department

### **RESEARCH EXPERIENCE:**

#### **Docotor of Philoshopy (Ph.D).**

*Title:* Development, and Modeling of Carbon Nanotubes (CNTs) Synthesis Processes

*Abstract:* Carbon nanotubes (CNTs) have attracted great attention in the past decade due to their interesting properties and potential applications. The CNTs possess excellent mechanical, physical, electrical, and optical properties. Therefore, many applications in the area of ultra-strong composite materials, electronic and optical devices, hydrogen storage, etc. are possible. It is thus necessary to develop the method that produces high yield of CNTs to meet the growing demand. In the present work, we study several aspects of CNTs synthesis, such as, catalyst identification, characterization, performance evaluation, optimization of process parameters through systematic experiments, and kinetic modeling based on the generated data. The CNTs prepared are further tested for few known applications.

The CNTs are synthesized using CVD method at different temperatures and for different reaction times using catalytic decomposition of acetylene over  $\text{CaCO}_3$  substrate and Co, Fe and Fe-Co catalysts. During deposition the process exhaust gas is monitored online using a gas chromatograph (GC). There is no decomposition of gas seen up to  $550^\circ\text{C}$ . In case of catalytic decomposition, gas cracking increases from  $600$  to  $700^\circ\text{C}$  and then decreases afterwards. This also corresponds to an increase in the yield of CNTs from  $600$  to  $700^\circ\text{C}$  and a decrease thereafter. Three-stage purification method, which guarantees pure CNTs, is used to clean carbon deposits. Thermo-gravimetric analysis (TGA) has been carried out to study the CNTs weight loss with respect to temperature. The active species for each catalyst are identified by XRD and ESCA techniques. Catalyst particle sizes are measured by image analysis of TEM micrographs. The binary catalyst (Fe-Co) is superior compared to the Fe and Co catalyst. It is observed that the activity of the catalyst increases in the following order:  $\text{Co} > \text{Fe} > \text{Fe-Co}(1:1) > \text{Fe-Co}(1:2) > \text{Fe-Co}(2:1)$ . The hydrogen promoter is useful to enhance the yield of CNTs. The TG-DTA analysis suggests that optimum annealing and burning temperatures of CNTs grown on the Co, Fe and Fe-Co catalyst are  $385$ ,  $453$  and  $446^\circ\text{C}$  and  $435$ ,  $503$  and  $496^\circ\text{C}$  respectively.

The maximum yield of CNTs obtained at any temperature is always higher when hydrogen is used as for any given catalyst. The maximum conversion efficiency for carbon to CNTs is about 66.70% for Fe-Co catalyst, 66.67% for Fe catalyst and 49.49% for Co catalyst. The amount of CNTs obtained per day from our reactor (32 mm inside diameter and 15cm length) is around 45.30 g under the optimized condition with stacked boats.

The known kinetic models are applied to explain the individual steps in the synthesis of CNTs. The effect of partial pressures of acetylene and hydrogen on the initial rates of formation of CNTs and the decomposed carbon are analyzed by power law. The activation energy for temperature range 600-700°C for carbon deposit and CNTs are determined for all the catalysts. The catalyst loses its activity as time progresses. The models for catalyst deactivation are used to explain the observations. Further a comprehensive model for CNTs synthesis is developed. It consists of elementary reaction mechanism for acetylene decomposition, diffusion of carbon through catalyst, deactivation of catalyst and gasification of encapsulated carbon on catalyst surface. The model parameters are estimated successfully based on the generated data on the reaction kinetics.

The CNTs prepared in the present work are evaluated for two important applications viz. hydrogen storage and films of solar cells. Significant storage capacity is realized. Further the films have desired transmissivity and sheet resistance.

All in all, the work provides a systematic approach towards the synthesis of CNTs and contributes significantly towards the understanding of the individual steps involved.

### **Master of Technology (M.Tech.)**

*Title:* Mass production of Carbon Nanotubes (CNTs)

*Abstract:* Carbon nanotubes (CNTs) are the excellent material with large verity of mechanical, physical, and electrical prosperities such as large aspect ratio, high yield strength and good electricity conductivity. The experiments are performed to find out optimum temperature and time of precursor flow to synthesize CNTs. The experiments were conducted with CaCO<sub>3</sub> as a substrate and Fe-Co are catalyst with C<sub>2</sub>H<sub>2</sub> as a precursor. It shows that mass of the CNTs will be optimum in the range 775°C to 825°C. The mass of CNTs produced increases with time of precursor flow up to 45 minutes of precursor flow.

### **Bachelor Engineering (B. E.)**



*Title:* Design and fabrication of Heater with cooler

*Abstract:* The evaporative cooling is used for cooling purpose. Heating is done by means of the electric air heaters. This helps to make the unit versatile. The different experiments are carried out to find COP of the system under variable working conditions.

## **Diploma in Mechanical Engineering**

*Title:* Chain Link Formation Unit

*Abstract:* Chain (Net) link formation unit is used to produce net of different net spacing. The different size of wires can be accommodated by changing the die block of unit. The unit can produce 2000 running meters of chain in one day.

## **REFERENCE:**

### **Dr. Chetan S. Solanki**

Associate Professor  
Department of Energy Science and Engineering  
Indian Institute of Technology Bombay  
Powai, Mumbai, 400076. India.  
Email:- chetanss@iitb.ac.in  
Tele:- +91-22-25767895

### **Dr. Sanjay M. Mahajani**

Professor  
Department of Chemical Engineering  
Indian Institute of Technology Bombay  
Powai, Mumbai, 400076. India.  
Email:- sanjaym@iitb.ac.in  
Tele:- +91-22-25767246

### **Dr. Vikrant Ashok Chaudhari**

Head Engineering Program  
Skybless Pvt. Ltd.  
Mumbai- 400 075  
Ex. Research Scientist Sun Edison,  
R&D & Production Mgr at  
Mundra (Adani) Solar  
Ph. No: 09900081427  
Email:[vikoo@gmail.com](mailto:vikoo@gmail.com)

**HOBBIES:** Reading Books, Watching News channels

**COMPUTER SKILLS** : Trnsys-17.

## **PERSONAL INFORMATION**

Date of Birth : 1<sup>st</sup> December,1974.  
Marital Status : Married.  
Languages Known : English, Hindi and Marathi.

Date:

Place: Ambernath

*Yours Sincerely,*

***(Dr. Kashinath Nimba Patil)***