

Richa Kothari, M. Phil, Ph. D.

Present Address

Assistant Professor,
School of Environmental Sciences,
Babasaheb Bhimrao Ambedkar University,
(Central University),
Lucknow (U.P.), India
Email: kothariricha21@gmail.com



OBJECTIVE

To be part of dynamic and research oriented academic society and to achieve fruitful and distinguish results through research (R&D) and teaching activities.

RESEARCH INTERESTS

Bio-energy (Bio-hydrogen and Bio-fuel Production through industrial waste water and Biomass waste & its Applications),
Waste Water Pollution and its Treatment Technologies

RESEARCH/ACADEMIC EXPERIENCE

1 st August 2009 to Present	Assistant Professor , School of Environmental Sciences, Babasaheb Bhimrao Ambedkar University, (Central Government University), Lucknow (U.P.), India
9 th April 2008 to 31 st July 2009	Lecturer , School of Environmental Sciences, Babasaheb Bhimrao Ambedkar University, (Central Government University), Lucknow (U.P.), India
16 th July 2007 to 8 th April 2008	Lecturer , Amity Institute of Biotechnology, Amity University of Uttar Pradesh, Noida (U.P.) India
Aug. 2006 to 15 th July 2007	Lecturer , Amity School of Engineering, Amity University of Uttar Pradesh, Noida (U.P.) India
1 st Sept. 2005 to 30 th Jan. 2006	Assistant Manager (Hydrogen & Fuel Cell Unit), Research Development Division, ACME Tele Power Ltd., Gurgaon, Haryana, India

1st April 2006 to 31st March 2007 **Senior Research Fellow- Extended**, sponsored by Council of Scientific and Industrial Research, Govt. of India

23rd August 2003 to 31st August 2005 **Senior Research Fellow**, sponsored by Ministry of Non-conventional Energy Sources, availed at School of Energy & Environmental Studies, Devi Ahilya University, Indore, India

1st July 2002 to 22nd August 2003 **Junior Research Fellow**, sponsored by Ministry of Non-conventional Energy Sources, availed at School of Energy & Environmental Studies, Devi Ahilya University, Indore, India.

EDUCATION

Jan 2001 to Oct 2005 Ph.D. In "**Studies on the use of solar energy for the production of hydrogen from industrial wastewater**", School of Energy and Environmental Studies, Devi Ahilya University, Indore (MP) India.

1999-2000 Master of Philosophy in Energy & Environment from School of Energy and Environmental Studies, Devi Ahilya University, Indore (MP) India. (*1st division with honors*)

1996-1998 Master of Science in Environmental Science, Department of Environmental Science, C.C.S. University, Meerut, India. (*1st division*)

1993-1996 Bachelor of Science in Biology (Zoology, Botany and Chemistry) at C.C.S. University, Meerut, India (*1st division*)

RESEARCH & TEACHING EXPERIENCE

Seven Years

TEACHING SKILLS

Theoretical grounds/Electives

Energy resources, conservation and management, Environmental pollution, Environment biotechnology, Waste to energy generation, Intellectual Property Right (IPR) & Regulatory Issues, Natural resources and their Management, Environmental concerns & strategies.

Languages

English; Hindi (Mother Tongue)

EXPOSURE TO INSTRUMENTS

- High Pressure Liquid Chromatography (HPLC),
- Atomic Absorption Spectrophotometer (AAS),
- UV-Spectrophotometer,
- Gas Liquid Chromatography (GLC),
- High Volume Liquid Sampler,
- Flame Photometer,
- Nephelometer,
- Conductivity Meter,
- Pyranometer,
- Anemometer.

Ph.D Guidance - 04

Guide:

- Virendra Kumar - August 2011; **Title:** Potential assessment of biogas and biohydrogen from selected industrial waste.
- Neetu Verma - August 2011; **Title:** Studies on the use of wastewater for biofuel production.
- Desh Ratna Dwivedi – August 2011; **Title:** Environmental Impact studies on the Residential Buildings.

Co-guide:

- Vinayak V.Pathak – March 2012; **Title:** Dual benefits of wastewater treatment and bioenergy production using algal strain with industrial wastewaters

SUPERVISION OF MASTER OF ENVIRONMENTAL SCIENCE (MS) THESIS

Ongoing:

Title: Potential of bioenergy production and wastewater treatment using *Chlamydomonas* with dairy industry wastewater. (2012) **Student(s):** Ravindra Karela

Title: Decolourization of Textile wastewater using biomass sources as a substrate. (2012) **Student(s):** Anuj Kumar

Title: Bioremediation of Harshvihar Lake, Pithampura in Delhi region using effective microbial (EM) technology: A case study. (2012) **Student(s):** Harinarayn

Title: A Case study to assess potential of solid waste in the Lucknow Zoo area at Lucknow , Uttar Pradesh for bioenergy options. (2012) **Student(s):** Achong Singson

Completed:

Title: Utilization of dairy wastewater for biofuel production using local algal strain as a source. (2011) **Student(s):** Vinayak Pathak

Title: Potential assessment of designed solar distillation units at lab-scale with low-cost materials. (2011) **Student(s):** Neng

Title: Sustainable biogas production using hostel's kitchen waste as a substrate in an anaerobic batch process. (2011) **Student(s):** Mohd Baqir and Sanjay Saroj

Title: Effect of temperature on biogas production using poultry waste. (2011) **Student(s):** Sanjay Saroj

Title: Effect of flower waste from various sources on Yamuna river microbial water quality and its potentiality for clean development mechanism (CDM). (2011) **Student(s):** Dhruv Singh

Title: A comparative study by parametric analysis of various commercially available sealed bottled water samples around Lucknow city (U.P.), (2009). **Student(s):** Amit Kumar Choudhary

Title: Feasibility of anaerobic digestion process for biogas production from dairy industrial waste, (2009). **Student(s):** Virendra Kumar

Title: Assessment of sustainable vermiconversion of selected organic waste employing *Eisenia foetida* and its potential on the plant's growth, (2009). **Student(s):** Sarita Verma

LIST OF PUBLICATIONS (SCI Journal)

(a) INTERNATIONAL & NATIONAL JOURNALS

1. **Richa Kothari**, Vinayak V. Pathak, Virendra Kumar, D. P. Singh, Experimental study for growth potential of unicellular alga *Chlorella pyrenoidosa* on dairy waste water: An integrated approach for treatment and biofuel production, International Journal of Bioresource Technology, March 2012. **(Article in Press)** (Impact Factor – 4.32)
2. **Richa Kothari**, D. P. Singh, V. V. Tyagi and S. K. Tyagi, Fermentative Hydrogen Production – An Alternative Clean Energy Source, Renewable and Sustainable Energy Reviews, 16, 2337– 2346, 2012. (Impact Factor – 4.58)
3. N. L. Panwar, **Richa Kothari**, V. V. Tyagi, Thermo chemical conversion of biomass – Eco friendly energy routes, Renewable and Sustainable Energy Reviews, 16, 1801– 1816, 2012, (Impact Factor – 4.58)

4. V. V. Tyagi, N. L. Panwar, N. A. Rahim and **Richa Kothari**, Review on Solar Air Heating System with and without Thermal Energy Storage System, *Renewable and Sustainable Energy Reviews*, 16, 2289– 2303, 2012. (Impact Factor – 4.58)
5. R. P. Singh, V V Tyagi, Tanu Allen, M. Hakimi Ibrahim and **Richa Kothari**, An Overview for Exploring the Possibilities of Potential Energy Generation from Municipal Solid Waste (MSW) in Indian Scenario, *Renewable and Sustainable Energy Reviews*, Volume 15, Issue 9, December 2011, 4797-4808. (Impact Factor – 4.58)
6. **Kothari Richa**, Kumar Virendra, & Tyagi Vineet Veer. Assessment of waste treatment and energy recovery from dairy industrial waste by anaerobic digestion. *The Official Journal of Institute of Integrative Omics and Applied Biotechnology (IIOABJ)*, 2011; Vol. 2 (1): 1-6. (ISSN: 0976-3104).
7. **Kothari Richa**, Tyagi V V. & Pathak A. Waste-to-energy: a way from renewable energy sources to sustainable development. (2010). *Renewable and Sustainable Energy Reviews*, Volume 14, Page 3164-3170. (Impact Factor – 4.58)
8. **Kothari Richa**, Buddhi D. & Sawhney R.L. Comparison of environmental and economic aspects of various hydrogen production methods. *Renewable and Sustainable Energy Reviews*, Volume 12, Issue 2, February 2008, Page 553-563. (Impact Factor – 4.58)
9. **Kothari Richa**, Buddhi D. & Sawhney R.L. Optimization of electrolytic input power for the production of hydrogen, *International Journal of Hydrogen Energy (IJHE)* 2006; Volume 31, Issue 15, Page 2329-2336. (Impact Factor – 4.05)
10. Buddhi D., **Kothari Richa** & Sawhney R.L. An experimental analysis to study the effect of electrolytic concentration on the rate of hydrogen production. *International Journal of Green Energy (IJGE)* 2006; volume 3, No. 4, Page 381-395. (Impact Factor – 0.733)
11. **Kothari Richa**, Buddhi D. & Sawhney R.L. Studies on the effect of temperature of the electrolytes on the rate of hydrogen production. *International Journal of Hydrogen Energy (IJHE)* 2005; Volume 30, Issue 3, Page 261-263. (Impact Factor – 4.05)

12. **Kothari Richa**, Buddhi D. & Sawhney R.L. Sources and technology for hydrogen production: a review. International Journal of Global Energy Issues (IJGEI) 2004; Volume 21, No. 1 & 2, Page 154-178. (ISSN: 1741-5128)
13. Buddhi D., Tyagi Punam, Sawhney R.L. **Kothari Richa**, Ground water quality of Pithampur Industrial area: opinion survey of the residents. Indian Journal of Environmental Protection (IJEP) 2004, Volume 24, No. 3, Page 167-172. (ISSN: 1741-5128)
14. Tyagi Punam, Buddhi D., Sawhney R.L. & **Kothari Richa**, A correlation among physico-chemical parameters of Ground water in and around Pithampur Industrial Area of M.P., India. Indian Journal of Environmental Protection (IJEP) 2003; Volume 23, No. 11, Page 1276-1282. (ISSN: 1741-5128)

PAPERS IN CONFERENCES/SEMINAR/WORKSHOP

1. **Kothari Richa**, Pathak Vinayak V., Singh D. P., Biodiesel production from algal species grown on dairy wastewater; National conference on recent advances in bio-energy research, Sardar Swaran Singh National Institute of Renewable Energy, Kapurthala, Punjab. November 25-26, 2011
2. **Kothari Richa**, Singh D. P., Tyagi V V. A review of sustainable approach for bio-hydrogen production from industrial wastewater; International conference on Clean energy technologies and energy efficiency for sustainable development, ENERSTATE-2010, Uttarakhand Technical University, Shivalik College of Engineering (Dehradun), Harcourt Butler Technological Institute, (Kanpur) at Dehradun, India, December 27-29, 2010.
3. Kumar Virendra, **Kothari Richa**, Waste treatment and biogas production from dairy industrial wastewater by anaerobic digestion-a laboratory study; International conference on Emerging technologies in environmental science and engineering, Aligarh Muslim University, Aligarh, India, October 26-28, 2009.
4. Singh Annapurna, **Kothari Richa**, Singh R.N., V. V. Tyagi; Potential of biomass gasification as bio-energy source : a review; ISARC24 International Conference on Water, Environment, Energy and Society, Firozabad, India, 28-30 June 2009.
5. **Kothari Richa**, Buddhi D., Sharma Atul & Allen Tanu, Effect of distance between electrodes on hydrogen production by electrolysis, 3rd Green Building International Conference, Kunshan University, Tainan, Taiwan, October 15-18, 2007.
6. **Kothari Richa**, Buddhi D. & Sawhney R.L., Optimization of electrolytic concentration for the production of hydrogen, National conference on environment conservation (NCEC-2006), BITS Pilani (Raj), September 1-3, 2006, India.

7. **Kothari Richa**, Buddhi D. & Sawhney R.L., Effect of electrode materials on hydrogen production using Hoffmann voltammeter cell, National Conference on Catalysis for Energy, Poster presentation, Banaras Hindu University, Banaras (UP), February 23-25, 2006, India.
8. **Kothari Richa**. Studies on the use of solar energy for the production of hydrogen from industrial wastewater. Workshop-cum-Review Committee Meeting, National Renewable Energy Fellowship Program, Ministry of Non-conventional Energy Sources, Govt. of India, New Delhi, July 13 -15, 2005, India.
9. Buddhi D. & **Kothari Richa**, Environmental Aspects of Various Technologies Used for Hydrogen Production, in National Conference on Emerging Trends in Energy & Environment, Chennai (TN), February 18–19, 2005; India.
10. **Kothari Richa**, Tyagi Punam & Buddhi D., Effect of Total Dissolved Solids on Rate of Generation of Hydrogen, in International conference on Thermal Energy Storage Technologies and 4th Experts Meeting, Indore (MP), March, 21 –24, 2003; India.
11. **Kothari Richa**, Buddhi D. & Sawhney R.L., Hydrogen: A Clean Energy Source for Future”, in National Seminar on Energy Management and Optimisation in chemical, Mechanical and Electrical Industries (EMOP), Nagpur (MS), February 11-12, 2003; India.
12. **Kothari Richa** & Buddhi D., A study of effect of effluent of soya solvent extraction plants on local groundwater. University Grants Commission sponsored seminar on *Effect of Industrial Development on Environment*, Indore (MP), Sept., 21-22 2001, India.

KEYNOTE SPEECH

1. **Kothari Richa**, “Renewable Sources for Sustainable Development”; International Conference on Energy for Sustainable Development (ESD 2008), Karachi, Pakistan on August 10-12, 2008. (Invited)
2. **Kothari Richa**, "Biohydrogen: a solution for pollution" for World Congress of ibio-2008, China, may 18-21, 2008, Track 1: Renewable Bio-energy & Biofuels. (Invited)

CHAPTERS IN EDITED BOOKS

1. **Kothari Richa**, Verma Sarita, and Tyagi V. V., Role of Various Vermicomposting Parameters in Green Sustainable Approach, Book Title- Organic Fertilizers: Types, Production and Environmental Impact, Nova Science Publishers, Inc. 2012.
2. **Kothari Richa**, Tyagi Punam & Buddhi D. A Study of Effect of Effluent of Soya Solvent Extraction Plants on Local Groundwater & Soil, Indian Environment & Agriculture edited by Dr. Arvind Kumar, 2002; 63-68.

3. Buddhi D., Swami Deepika & **Kothari Richa**. Agricultural Residues: Low Cost Potential Adsorbent for the Treatment of Wastewater. Global Environmental Issues and Options edited by C.S.K.Mishra. 2005.

CONFERENCE ATTENDED

- *Participation in Symposium on Environment & Health (1997), India.*
- *Workshop on Disaster Awareness (1999), India.*
- *Participation in National Conference on Renewable Energy and Systems (2000), India.*
- *Workshop on Bioinformatics in Biological Sciences (2000), India.*
- *Workshop and Training Programme on Fundamentals of Fuel Cell Components and System (Jan.2006), Indian Institute of Technology, Guwahati, India.*
- *Workshop on Fuel Cell: A Future Device (February 2006), Indian Institute of Technology, Kanpur, India.*

REVIEWER FOR JOURNALS:

1. International Journal of Hydrogen Energy
2. International Journal of Energy Conversion and Management
3. International Journal of Environmental Engineering and Management
4. International Journal of Desalination
5. International Journal of Energy Engineering
6. International Journal of Renewable and Sustainable Energy Reviews

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Solar Energy Society of India (SESI)

People for Animals (PFA)

Prof.H.S.Srivastava foundation for Science and Society (PHSS)

ADDITIONAL CREDITS

Selected for Research Associate ship funded by Council of Scientific and Industrial Research, GOI, at Center for Energy Studies, Indian Institute of Technology, New Delhi, India, Keyword: Bio-hydrogen Production