Debabrata Das

CURRICULUM VITÆ

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(**h-index: 54, i-10 index: 141**)

— Personal Data

Date of Birth: 22nd November 1953
Gender: Male
Citizenship: Indian
Civil Status: Married

— Education

1985 **Ph.D.**
Subject: Biochemical Engineering.
Institute: Indian Institute of Technology Delhi, New Delhi, India.
Thesis advisor: Prof. T. K. Ghose and Prof. K. S. Gopalakrishnan
Thesis: Optimization of methane production from agricultural residues

1977 **Bachelor of Technology (B.Tech.**)
Subjects: Food Technology & Biochemical Engineering
Jadavpur University, Kolkata, India

1973 **Bachelor of Science (B.Sc. (Hon)**)
Subject: Chemistry (Hon), Physics, Mathematics
Burdwan University, Burdwan, India

— Teaching Experience

2018-2020 **Visiting Professor**
Biotechnology Department, I.I.T., Kharagpur and
P K Sinha Center for Bioenergy and Renewables

2003-2018 **Professor**
Biotechnology Department, I.I.T., Kharagpur

2012-till date **Associate Faculty**
School of Energy Science & Eng., I.I.T., Kharagpur

1997-2003 **Associate Professor**, Biotechnology Department, I.I.T., Kharagpur

1990-1997 **Assistant Professor**, Department of Chemical Engineering, IIT, Kharagpur

1988-1990 **Lecturer**, Department of Chemical Engineering, IIT, Kharagpur

—NPTEL Web based courses taught

2017 (12 weeks) **Industrial Biotechnology**

2018 (12 weeks) **Aspects of Biochemical Engineering**

2018 (12 weeks) **Industrial Biotechnology**

2019 (12 weeks) **Industrial Biotechnology**

2020 (12 weeks) **Industrial Biotechnology**

— GIAN Web based courses taught

2016 (15 hrs.) **Biotechnology and process engineering for biofuels production**
National Institute of Technology Jalandhar, India

— Professional Experience

2014-2017 **Professor-in-Charge,** P K Sinha Center for Bioenergy, I.I.T., Kharagpur

2012-2015 **Renewable Energy Chair Professor**, I.I.T., Kharagpur,

2000-2003 **Head**, Biotechnology Department, I.I.T., Kharagpur,

1985-1986 **Biochemical Engineer**, M/s Citurgia Biochemicals Ltd., Surat

1986-1987 **Post Doctoral Fellow**, University of Utah, USA

— Courses Taught

Undergraduate	Biochemical Reaction Engineering,
	Bioreactor analysis & Design,
	Bioprocess Technology
	Biotechnology in Pollution Abatement
	Immobilization Technology
Graduate classes	Aspects of Biochemical Engineering
	Bioprocess Plant & Equipment Design
	Energy Systems Modelling
Laboratory classes	Biochemical Engineering
	Energy Engineering

— Award

2013 **BRSI Malaviya Memorial award (for senior faculty)**
For the outstanding contribution in hydrogen energy

2008 **IAHE Akira Mitsui Award**
For the important contribution to hydrogen research

2000 **DBT's Biotechnology Overseas Associateship**
University of Miami, Miami, USA

— Honour

2004 **Fellow, West Bengal Academy of Science and Technology (WAST)**
2011 **Fellow, Biotechnology Research Society of India (BRSI)**
2012 **Fellow, Institute of Engineers (India) (IE)**

2015	**Fellow, Indian National Academy of Engineers (INAE)**
2016	**Fellow, International Association of Hydrogen Energy (IAHE**)
2002	**Best paper** award in Biotechnology Session of CHEMCON
2019	**Facilitated by Biological Engineering Society (BES)at IIT Madras for the long-standing contribution in the area of Biological Engineering**

— Technology Transferred

Technology Licence Agreement was signed between Indian Institute of Technology Kharagpur and **M/s. Dhampur Sugar Mills Ltd, Dhampur, UP**, India on our process titled "Biohydrogen production from the cane molasses based distillery effluent" on 3rd May, 2019

Project Monitoring Committees in Hydrogen Energy and Fuel Cells

— Member of committees

- MNRE Project Monitoring Committees in "Hydrogen Energy and Fuel Cells"
- Faculty selection committee of IIT Delhi, NIT Rourkela, NIT Durgapur, Jadavpur University, Calcutta University etc.

— Member of the Editorial Board of International Journal

- *International Journal of Hydrogen Energy*
- *Indian Journal of Biotechnology*
- *Biotechnology for Biofuels*
- *The Open Microalgae Biotechnology Journal*
- *INAE Letters*

— Ph.D. Thesis Supervised

1997	**Kakali Badyopadhayay**	Microbial degradation of phenolic waste
2001	**Narendra Kumar**	Hydrogen production by *Enterobacter cloacae* IIT-BT08
2003	**David K. Daniel**	Studies on glucoamylase fermentation by *Aspergillus awamori* NRRL 3112
2004	**Jayshree Mishra**	Molecular characterization of gene encoding for hydrogenase from *Enterobacter cloacae* IIT-BT 08
2005	**Kaustubha Mohanty**	Development of a multi-stage external loop airlift reactor for wastewater treatment
2005	**Kaushik Nath***	Studies on Biological Hydrogen Production by Two-stage Fermentation Process
2006	**Devrani Mitra**	Structural Characterization of Mammalian Cell Entry Proteins and Peptidyl-Prolyl Cis-Trans Isomerase A of *Mycobacterium tuberculosis*
2008	**Shireen Meher Kotay**	Microbial production of hydrogen from sewage sludge
2012	**Tumpa Dutta**	Purification and characterization of Fe-hydrogenase obtained from *E. cloacae* IIT-BT08
2012	**Mohan Yama**	Clean Energy Generation using Microbial Fuel Cells
2014	**NamitaKhanna**	Strain development and determination of suitable process

		parameters for maximization of hydrogen production using *Enterobacter cloacae* IIT-BT 08
	Kanhaiya Kumar	CO_2 sequestration, hydrogen production and secondary metabolites extraction using *Chlorella sorokiniana*
	J. Jose Gilbert	Hydrogen production in photobioreactor using spent medium of Dark fermentation process
2015	**Soumya Pandit**	Improvement on the performance of microbial fuel cell by optimizing operational parameters
	Nitai Basak	Studies on photo fermentative biohydrogen production by Purple-non-sulfur bacteria
2016	**Shantonu Roy**	Biohydrogen production from organic residues by thermophiles
2017	**Supratim Ghosh**	Improvement of algal biomass production for the enhancement of biodiesel yield from *Chlorella* sp. MJ 11/11
	Bikram K. Nayak	Carbon dioxide sequestration and clean energy generation using *Anabaena* sp. PCC 7120
	Preeti Mishra	Improvement of the gaseous energy recovery by biohythane process using organic wastes
2018	**Sinu Kumari**	Improvement of gaseous energy recovery from lignocellulosic wastes
2019	**G. Balachandar**	Biohydrogen production from organic wastes and residues by dark Fermentation
2020	**Jhansi L. Varanasi**	Development and application of bioelectrochemical systems for enhanced energy recovery from organic wastes
	Ramya veerubhotla	Development of Portable Microscale Power Generation Devices using Electrogenic Bacteria
	Srijoni Banerjee	Development of suitable process parameters for enhanced biodiesel production from *Neochloris oleoabundans* UTEX 1185

* Received **'Innovative Student Projects Award 2007**' of Indian National Academy of Engineering (INAE)

▬ Patent awarded

Indian Patent No. 188562	A Continuous process for the production of ethanol from starchy materials
India Patent No. 212605	A process for biological production of hydrogen

Patent filed

- Earthen material based cathode separator assembly for scalable bioelectrochemical system (Patent Application No.805/KOL/2013).
- Development of cost effective membrane cathode assembly for a single chambered microbial fuel cell. (Patent Application No.1302/KOL/2013).

- A system for simultaneous treatment of wastewater and wastegas using a microbial carbon capture cell reactor (Patent Application No. 0471/KOL/2015)
- Development of a novel microbial fuel cell (Application no. 21435)

— Design, commissioning of Pilot plants

- 800 L and 10,000 L Biohydrogen pilot plant at Indian Institute of Technology, Kharagpur
- 500 L and 2,000 L Biomethanation Pilot Plant at Indian Institute of Technology, Delhi
- 5,000 L Biomethanation Pilot Plant at Dourala Sugar Works; Meerat
- 3,000 L Biomethanation Pilot Plant at Citurgia Biochemicals Ltd. (CBL), Surat

— Short Term Courses and Seminar cum Workshop coordinated

May 10-24, 1989	Analysis and Design of Novel Bioreactor
June 25 – July 7, 1990	Biotechnology in Combating Pollution
June 11-24, 1992	Application of Immobilization Techniques in Biotechnology
July 14-30, 1999	Bioprocess Engineering with Genetically Modified Organisms

— National / International Symposium / Workshop organized

December 11-15, 1995	National Seminar on "Advances in Environmental Pollution Monitoring and Control"
January 15-16, 2003	Indo-Norwegian Seminar on 'Recent trends in Tuberculosis research'
February 10-11, 2005	International Conference on 'Functional Genomics for Novel Vaccine and Drug Design on Tuberculosis Infection'
February 7-9, 2008	International Workshop on 'Biohydrogen Production Technology'
October 17-18, 2011	International Workshop on "Use of solar energy for CO_2 capture, algae technology, and hydrogen production, and subsequent use of algal biomass for commercial purpose"
December 14-15, 2012	International Conference on "Advances in Biological Hydrogen Production Processes and Applications"
January 10-13, 2013	International Conference on "Algal Biorefineries"

— Selecte

Plenary / Eminent / Invited Lectures Delivered in the last 4 years

20 September, 2020	Webinar on “Waste to Energy”, Centre for Environment, Institute of Science & Technology, JNTUH, Hyderabad	Biological hydrogen production via Dark fermentation: A holistic approach from Lab-scale to Pilot-scale
29 August, 2020	National Webinar on Research insights into biotechnology and Drug discovery, Osmania University	Biofuels production using renewable energy sources: The path towards a sustainable future
4 July, 2020	e-Faculty Development Program cum Workshop on Waste to Bioenergy, Organized by Sharda University, and Maharastra Institute of Technology	Biofuels production using renewable energy sources: The path towards a sustainable future
7 June, 2020	Online summer internship programme (OSIP-2020) organized by IIChE	Biofuels production from renewable energy sources; Zero-carbon gaseous fuel production processes by mesophiles
26-27 February, 2020	SPARC Indo-Belgium Workshop, IIT Kharagpur	Development of Portable Power Generation Devices using Electrogenic Bacteria
21-23 February, 2020	Biosangam 2020, MNNIT Allahabad	Biohythane: Fuel for the Future
2-3 January, 2020	Indo-U.S. Interdisciplinary Workshop at IIT Kharagpur on ‘Sustainable Biorefinery for Waste Valorization’	Biohythane: An integrated approach for maximum gaseous energy recovery from organic wastes
25–30 November, 2019	AICTE-QIP course at IIT Kharagpur on "Waste to Wealth - the Paradigm, Practice and Potential"	Biohydrogen production from organic wastes
14-16 November, 2019	International Conference on “Application of Biotechnology in Industry and Society” (ABIS 2019), NIT Jalandhar	Commercialization of biohydrogen production process from distillery effluent
18-19 October, 2019	Biological Engineering Society (BESCON-2019, IIT Madras	Improvement of gaseous energy generation from organic wastes by Biohythane process
17 October, 2019	DBT National Workshop on Bioenergy, IIT Kharagpur, Kolkata	Biochemical Based Biomass to Hydrogen Generation
19-20 September, 2019	National Workshop on Hydrogen Generation Technologies, IISc, Bangalore	Biochemical Based Biomass to Hydrogen Generation

5-6 September, 2019	Indo-US joint workshop ;Recent Advances in Advanced Biofuel Technologies; 'Biohydrogen, Fuel Cell & Biobutanol, TERI, New Delhi	Biohythane: An integrated approachfor maximization of gaseous energy recovery from organic wastes
23 October, 2018	2nd Bharatna Dr. A.P.J. Abdul Kalam Memorial Lecture, IIChE, IIT Kharagpur	Biohythane - A future fuel
17-23 June, 2018	World Hydrogen Energy Convention (WHEC 2018), Rio de Janerio, Brazil	Biological hydrogen production via Dark fermentation: A holistic approach from Lab-scale to Pilot-scale
12 April, 2018	National Seminar NIT Agartala	Performance of different integrated bioenergy systems to maximize energy recovery from water hyacinth
25-31 March, 2018	Tsinghua University, Beijing, China	Series of lectures
30 March, 2017	International Conference on Trends and Advanced Research in. Green Energy Technologies,ICTARGET-2017	Improvement of gaseous energy recovery from lignocellulosic materials by biohythane process
March 17-18, 2017	National Workshop on Algal Technology and its Applications, NIT Calicut, India	Algal Biorefineries and its Potentiality
13-17 June, 2016	World Hydrogen Energy Convention (WHEC 2016), Zaragoza, Spain	Improvement of energy recovery from organic wastes by the biohydrogen followed by biobutanol fermentation using obligate anaerobes
17-19 Nov, 2016	International Conference on 21st Century Energy Needs-Materials, System & Applications (ICTFCEN-2016), IIT Kharagpur	Hydrogen an Emerging Fuel of 21st Century
4 April, 2015	UPES, Dehradun, India	Recent development of Biohydrogen production from organic wastes
15 June, 2015	Denmark Technical University, Denmark	High rate algal biomass production for food, feed, biochemicals and biofuels
13 April, 2015	TBES-2015, NIT Durgapur, India	Biohydrogen production processes from organic wastes: Present state of art
6 October, 2015	National Seminar on "Renewable Energy Senerio in India", IICB, Kolkata	Potentiality gaseous energy recovery from organic wastes by HYMET© process in India
11 December, 2015	Annual Convention, INAE, Pune, India	Biohythane process for the maximization of the gaseous energy recovery from organic wastes

30 August, 2014	Alto University, Finland	Integration of acidogenesis and solventogenesis for maximum energy recovery
28 August, 2014	2nd International Conference on Algal Biorefinery (ICAB-2014), Denmark	Carbon dioxide sequestration, hydrogen production and secondary metabolites extraction using *Chlorella sorokiniana*
13 June, 2014	2nd International Conference on Sustainable Solid Waste Management, Athens	Recent advances of the biohydrogen production processes
8-12 June 2014	International Conference on Clean Energy (ICCE-2014), Istanbul, Turkey	Biohydrogen Production: An Approach towards the Commercialization
13 November, 2014	National Institute of Advanced Studies, Bangalore	Organic wastes in India's energy supply

— Sponsored Research Projects

MNRE	1992-1994	Two-stage biomethanation of MSW to improve bioleachate production and biogas generation
	2005-2008	Scale-up studies on production of hydrogen from *Enterobacter cloacae* IIT-BT 08
	2010-2016	Mission Mode Project on Hydrogen Production through Biological Routes
	2016-2019	Maximization of Gaseous Energy Recovery from Organic Wastes through Biohythane Process
DBT	1999-2001	Production of hydrogen as a cleaner fuel through waste recycling
	2001-2004	ımprovement of hydrogen production by over expression of the hydrogenase producing gene of high yielding strain of *Enterobacter cloacae* IIT-BT 08 in fast growing *Escherichia coli*
	2004-2007	Improvement of hydrogen production from industrial wastes using hybrid Bioreactor Amelioration of hydrogen production from sewage sludge using *Enterobacter cloacae* IIT-BT 08
	2006-2009	Maximization of Gaseous Energy Recovery by Simultaneous Biohydrogen Production and Biomethanation
	2010-2014*	High rate Algal biomass Production for food, feed, biochemicals and biofuels
	2014-2020	Maximization of zero carbon fuel generation from algal biomass Optimal design and scale-up photobioreactor for high density algal cell Production Development of suitable microalgae harvesting technology
DST-NSF*	2003-2007	Biohydrogen production by investigation on the hydrogenase coding gene of high yielding strain of *Enterobacter cloacae* IIT-BT 08 in fast growing *E coli*
DST-DAAD*	2004-2007	Studies on the Fe-hydrogenase genes of prokaryotes and eukaryotes for the improvement of hydrogen production
MHRD	2005-2007	Scale-up studies on the production of therapeutically important protein (FGF 8) by recombinant *E. coli*
	2017-2020	Mass Cultivation of Microalgae for the Production of High Value Bio-Fuel Fractions through Hydro-Thermal Liquefaction
Norwegian Ministry of Foreign Affairs*	2008-2011	BioCO_2: An integrated multidisciplinary project using solar energy for production of renewable hydrogen combined with CO2 capture, to address global warming and energy production

DRDO	2008-2011	Continuous hydrogen production in a photo bioreactor using spent medium of dark fermentation process
	2012-2014	Integrating large scale biohydrogen production and hydrogen fuel cell for sustainable power generation
	2013-2017	Improvement of energy recovery from waste water by dark fermentation followed by microbial fuel cells
BRNS	2009-2012	Design and Development of Microbial Fuel Cells

* International Sponsored Project

— Consultancy Projects

World Hydrogen Energy (WHE), USA	2002-2003	Pilot plant design of hydrogen generation system from sewage sludge
	2003-2004	Process design for a hydrogen production plant using the supernatant of the sludge treatment plant
IFB Agro Industries Ltd., Noorpur	2013	Calculation of alcohol loss in the Distillery Plant
Excise Commissioner, Govt. of West Bengal	2014	Study and Review of the Existing System of Measurement of Spirits in West Bengal

— Books

Biohydrogen Production: Fundamentals and Technology Advances	Debabrata Das, Namita Khanna and Chitralekha Nag Dasgupta	2014	CRC Press Boca Raton, FL	ISBN 9781466517998	408 pages
Algal Biorefinery: an Integrated Approach	Debabrata Das (Editor)	2015	Springer Switzerland	ISBN 9783319228129	489 pages
Biohythane: Fuel for the Future	Debabrata Das and Shantonu Roy	2016	Pan Stanford Publishing Pte. Ltd., Singapore	ISBN 9789814745291	319 pages
Microbial Fuel Cell: A bioelectrochemical system that convert wastes to Watts	Debabrata Das (Editor)	2017	Springer Switzerland	ISBN 9783319667928	534 pages
Fundamentals of Biofuel Production Processes	Debabrata Das and Jhansi L. Varanasi	2019	CRC Press Boca Raton, FL	ISBN 9781351617512	268 pages
Biochemical Engineering: An Introductory Text Book	Debabrata Das and Debayan Das	2019	Jenny Stanford Publishing Pte. Ltd., Singapore	ISBN 9789814800433	484 pages
Biochemical Engineering: A Laboratory Manual	Debabrata Das and Debayan Das	2021	-do-	ISBN 9789814877367	221 pages
Industrial Biotechnology	Debabrata Das and Soumya Pandit	2021	CRC Press Boca Raton, FL	ISBN	500 pages

— Monograph

2010	Mohanty K, **Das D** and Biswas MN	Development of a Multi-stage External Loop Air-lift Reactor for Wastewater Treatment	VDM Verlag Pub., Saarbrucken, Germany	ISBN: 978-3-639-29875-8

— Guest Editor of the Peer Reviewed Journals

2009	Guest Editor: Das Debabrata	Special issue of International Workshop on Biohydrogen Production Technology (IWBT 2008)	*International Journal of Hydrogen Energy*	Organized at: Indian Institute of Technology Kharagpur	34 (17), 7348-7560
2013	Guest Editor: Das Debabrata	Special issue of International Conference on Algal Biorefinery (ICAB 2013)	*Algological Studies*	Organized at: Indian Institute of Technology Kharagpur	143(1), 2-87
2014	Guest Editors: Das Debabrata, M. Lakshmi Narasu and Krzysztof Urbaniec	Special issue of International Conference on Advances in Biohydrogen Production and Applications (ICABHPA 2012)	*International Journal of Hydrogen Energy*	Organized at: JNTUH, Hyderabad	39(14), 7467-7626

— Publication in the Peer Review Journals

2020	*Singh Vaishali, Santoshnambi Yadav, Mahata Chandan, Das Debabrata*	Optimization for simultaneous enhancement of biobutanol and biohydrogen production	*International Journal of Hydrogen Energy*	In press
	Banerjee Sanjukta, Ray Ayusmita, Das Debabrata	Optimization of *Chlamydomonas reinhardtii* cultivation with simultaneous CO2 sequestration and biofuels production in a biorefinery framework	*Science of the Total Environment*	https://doi.org/10.1016/j.scitotenv.2020.143080
	Mahata Chandan, Dhar Suman, Ray Subhabrata, Das Debabrata	*Effect of thermal pretreated organic wastes on the dark fermentative hydrogen production using mixed microbial consortia*	*Fuel*	*284:119062*
	Banerjee S, Banerjee S, Ghosh	*Maneuvering the genetic and metabolic pathway for improving biofuel production in algae: Present status and future*	*Renewable and Sustainable Energy Reviews*	*133: 110155*

	A and Das D	*prospective*		
	Mahata C, Ray S and Das D	Optimization of dark fermentative hydrogen production from organic wastes using acidogenic mixed consortia	*Energy Conversion and Management*	219:113047
	Banerjee S, Dasgupta S, Das D and Atta A	Influence of photobioreactor configuration on microalgal biomass production	*Bioprocess and Biosystems Engineering*	43: 1487-1497
	Varanasi Jhansi L, Prasad Sanjoy, Singh Harshita, Das Debabrata	Improvement of bioelectricity generation and microalgal productivity with concomitant wastewater treatment in flat-plate microbial carbon capture cell	*Fuel*	263: 116696
	Rout Swagatika, Parwaiz Shaikh , Nayak Arpan K, Varanasi Jhansi L, Pradhan Debabrata, Das Debabrata	Improved bioelectricity generation of air-cathode microbial fuel cell using sodium hexahydroxostannate as cathode catalyst	*Journal of Power Sources*	450:227679
	Balachandar G, Varanasi Jhansi L, Singh Vaishali, Singh Harshita, Das Debabrata	*Biological hydrogen production via Dark fermentation: A holistic approach from Lab-scale to Pilot-scale*	*International Journal of Hydrogen Energy*	*45: 5202-5215*
	Varanasi J L and Das D	*Maximizing biohydrogen production from lignocellulosic biomass by coupling dark fermentation and electrohydrogenesis*	*International Journal of Hydrogen Energy*	*45: 5227-5238*
2019	Banerjee S, Singh H, Das D and Atta A	Process optimization for enhanced biodiesel production by *Neochloris oleoabundans* UTEX 1185 with concomitant CO_2 sequestration	*Industrial & Engineering Chemistry Research*	58 (35): 15760-15771
	Banerjee S, Rout S, Banerjee S, Atta A and Das D	Fe_2O_3 nano catalyst aided transesterification for biodiesel production from lipid - intact wet microalgal biomass : A biorefinery approach	*Energy Conversion and Management*	195:844-853
	Das D	Commercialization of biohydrogen production process from distillery effluent	*International Journal of Hydrogen Energy*	44:18657-18658

	Veerubhotla R, Das D, and Nag S	Internet of Things temperature sensor powered by bacterial fuel cells on paper	*Journal of Power Sources*	438: 226947
	Singh Vaishali, Singh Harshita, and Das Debabrata	Optimization of the medium composition for the improvement of hydrogen and butanol production using Clostridium saccharoperbutylacetonicum DSM	*International Journal of Hydrogen Energy*	44: 26905-28919
	Singh Harshita, Varanasi Jhansi L. Banerjee Srijoni and Das Debabrata	Production of carbohydrate enrich microalgal biomass as a bioenergy feedstock	*Energy*	188: 116039 (https://doi.org/10.1016/j.energy.2019.116039)
2018	Varanasi JL, Kumari S and Das D	Improvement of energy recovery from water hyacinth by using integrated system	*International Journal of Hydrogen Energy*	43: 1303-1318
	Rout S, Nayak AK, Varanasi JL, Pradhan P and Das D	Enhanced energy recovery by manganese oxide/reduced graphene oxide nanocomposite as an air-cathode electrode in the single-chambered microbial fuel cell	*Journal of Electroanalytical Chemistry*	815: 1-5
	Kumari S, Das D	Biohythane production from sugarcane bagasse and water hyacinth: a way towards promising green energy production	*Journal of Cleaner Production*	207: 689-701
	Lal Amrit, Ghosh Supratim, and Das Debabrata	Improvement in electrically induced biomass harvesting of Chlorella sp. MJ 11/11 for bulk biomass production	*Journal of Applied Phycology*	30: 979-993
2017	Ghosh Supratim, Roy Shantonu, and Das Debabrata	Enhancement in lipid content of *Chlorella* sp. MJ 11/11 from the spent medium of thermophilic biohydrogen production process	*Bioresource Technology*	223: 219-226
	Varanasi JL, Sinha Pallavi and Das D	Maximizing power generation from dark fermentation effluents in microbial fuel cell by selective enrichment of exoelectrogens and optimization of anodic	*Biotechnology Letters*	39:721–730

		operational parameters		
	Mitra R, Balachandar G., Singh V, Sinha P and Das D	Improvement in energy recovery by dark fermentative biohydrogen followed by biobutanol production process using obligate anaerobes	*International Journal of Hydrogen Energy*	42: 4880-4992
	Ramya Veerubhotla, Debabrata Das, Debabrata Pradhan	A Flexible and Disposable Battery Powered by Bacteria Using Eyeliner Coated Paper Electrodes	*Biosensors and Bioelectronics*	94: 464-470
	Kumari S, Das D	Improvement of biohydrogen production using acidogenic culture	*International Journal of Hydrogen Energy*	42: 4083-4094
	Mishra Preeti, Balachandar G. and Das Debabrata	Improvement in biohythane production using organic solid waste and distillery effluent	*Waste Management*	66: 70-78
	Ghosh Supratim, Banerjee Srijoni and Das Debabrata	Process intensification of biodiesel production from *Chlorella* sp. MJ 11/11 by single step transesterification	*Algal Research*	27: 12-20
	Das Debabrata	A Road Map on Biohydrogen Production from Organic Wastes	*INAE Letters*	2:153–160
2016	Kumar Kanhaiya, Ghosh Supratim, Angelidaki Irini , Holdt Susan L., Karalkashev Dimitar B., Morales Merlin Alvarado and Das Debabrata	Recent developments on biofuels production from microalgae and macroalgae	*Renewable & Sustainable Energy Reviews*	65: 235-249
	Sinha Pallavi, Gaurav Kartik, Roy Shantonu, Balachandar G and Das Debabrata	Improvement of biohydrogen production with novel augmentation strategy using different organic residues	*International Journal of Hydrogen Energy*	41: 14015-14025
	Sinha Pallavi, Roy Shantonu and Das Debabrata	Genomic and Proteomic approaches for dark fermentative biohydrogen production	*Renewable & Sustainable Energy Reviews*	56: 1308–1321
	Shantonu Roy, Debabrata Das	Biohythane production from organic wastes: Present state of art	*Environmental Science and Pollution Research*	23: 9391–9410
	Lal A and Das D	Biomass production and identification of suitable harvesting technique for	3 *Biotechnology*	6, 1-10

		Chlorella sp. MJ 11/11 and *Synechocystis* PCC 680		
	Chakraborty S, Mohanty D, Ghosh, S, and Das D	Improvement of lipid content of Chlorella minutissima MCC 5 for biodiesel production,	*Journal of Bioscience and Bioengineering*	*122:* 294–300
	Basak N, Jana AK and Das D	CFD modeling of hydrodynamics and optimization of photofermentative hydrogen production by*Rhodopseudomonas palustris* DSM123 in annular photobioreactor	*International Journal of Hydrogen Energy*	41: 7301-7317
	Varanasi JL, Nayak AK, Sohn Y, Pradhan D and Das D	Improvement of power generation of microbial fuel cell by integrating tungsten oxide electrocatalyst with pure or mixed culture biocatalysts	*Electrochimica Acta*	199: 154–163
	Kumari Sinu and Das Debabrata Das	Biologically pretreated sugarcane top as a potential raw material for the enhancement of gaseous energy recovery by two stage biohythane process	*Bioresource Technology*,	218: 1090-1097
	Kumar Anaparthi Ganesh, Bera Debaditya, Banerjee Susanta, Ramya V, and Das Debabrata	Sulfonated poly(ether imide)s with fluorenyl and trifluoromethyl groups: Application in microbial fuel cell (MFC),	*European Polymer Journal*	83: 114-128
	Das D	Improvement of gaseous energy recovery from organic wastes using biohythane process	*Journal of Bioprocessing & Biotechniques*	6, 45
2015	Ghosh S, Roy S and Das D	Improvement of Biomass Production by *Chlorella sp.* MJ 11/11 for Use as a Feedstock for Biodiesel	*Applied Biochemistry and Biotechnology*	175:3322-3335
	Pandit S, Khilari S, Roy S, Ghangrekar M. M., Pradhan D, Das D	Reduction of start-up time through bioaugmentation process in microbial fuel cells using a newly isolated microbial strain in anode	*Water Science and Technology*	72.1: 106-115
	Varanasi J L, Roy S, Pandit S,	Improvement of energy recovery from cellobiose by	*International Journal of*	40: 8311-

	Das D	thermophillic dark fermentative hydrogen production followed by microbial fuel cell	*Hydrogen Energy*	8321
	Veerubhotla Ramya, Bandopadhyay Aditya, Das Debabrata and Chakraborty Suman	Instant power generation from an air-breathing paper and pencil based bacterial bio-fuel cell	*Lab on a Chip*	15: 2580-2583
	Sinha Pallavi, Roy Shantonu, Das Debabrata	Role of formate hydrogen lyase complex in hydrogen production in facultative anaerobes	*International Journal of Hydrogen Energy*	40: 8806-8815
	Roy Shantonu, Banerjee Debopam, Dutta Mainak, Das Debabrata	Metabolically redirected biohydrogen pathway integrated with biomethanation for improved gaseous energy recovery	*Fuel*	158: 471-478
	Dev Subhabrata, Roy Shantonu , Das Debabrata, Bhattacharya Jayanta	Improvement of Biological Sulfate Reduction by Supplementation of Nitrogen Rich Extract Prepared from Organic Marine Wastes	*International Biodeterioration & Biodegradation*	104: 264-273
	Kumari Sinu and Das Debabrata	Improvement of gaseous energy recovery from sugarcane bagasse by Dark fermentation followed by Biomethanation process	*Bioresource Technology*	194: 354-363
	Das B K, Roy S, Dev S, Das D and Bhattacharya J	Improvement of the degradation of sulphate rich waste water using sweetmeat waste (SMW) as nutrient supplement	*Journal of Hazardous Materials*	300: 796-807
	Khilari Santimoy, Pandit Soumya, Varanasi Jhansi L., Das Debabrata, and Pradhan Debabrata	Bifunctional Manganese Ferrite/Polyaniline Hybrid as Electrode Material for Enhanced Energy Recovery in Microbial Fuel Cell	*ACS Applied Materials and Interfaces*	7: 20657−20666
	Mishra Preeti, Roy Shantonu, Das Debabrata	Comparative evaluation of the hydrogen production by mixed consortium, synthetic co-culture and pure culture using distillery effluent	*Bioresource Technology*	198: 593–602
2014	Pandit A, Khilaro S, Bera K, Pradhan D, and Das D	Application of PVA-PDDA polymer electrolyte composite	*Chemical Engineering*	257: 138-147

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