

Curriculum Vitae



Full name of the applicant: Dr. Abir Chakravorty

Specialization: Food process Engineering, Process Automation & Control, Heat transfer, Fluid Mechanics, Mass transfer, Multiphase flow, Process intensification, Liquid extraction.

Presently working :

in the field of Food process Engineering, Process Automation and Control, Grain storage silo design at Agricultural & Food Engineering Dept. , IIT Kharagpur

Date of Birth: 28-July-1989

Gender: Male

Contact information:

Email: abirchakravorty703@gmail.com; abir.28kh@agfe.iitkgp.ac.in

Phone: +91-3222-283132; Mobile: +91-9830441673, +91-9007347946

Google scholar Profile: <https://scholar.google.com/citations?user=9-239FEAAAAJ&hl=en>

Academic qualifications:

College/ university from which the degree was obtained	Abbreviation of the degree	Subjects	Year	Marks CGPA/%
Indian Institute of Technology Kharagpur	Ph.D. in Chemical Engineering	Effect of pulsatile flow and air damper on liquid-liquid two-phase extraction operations	2021	NA
Department of Chemical Engineering, University of Calcutta.	M.Tech. (Chemical Engineering)	Chemical Engineering	2014	8.57/10
Calcutta Institute of Technology, West Bengal University of Technology	B.Tech (Chemical Engineering)	Chemical Engineering	2011	8.51/10
Kendriya Vidyalaya Santragachi, Howrah (CBSE)	10+2 (Higher secondary)	Physics, Chemistry, Biology, Maths, English	2006	79.60%
YMCA Centenary School, Allahabad (CBSE)	10th (Secondary)	English, Hindi, Maths, Science, Social science	2004	72.40%

Positions held:

- (a) **April 2022- July 2022:** Worked as a Senior Project Associate in West Bengal Pollution Control Board.
- (b) **Feb 2022- 31-March-2022:** Post-doc trainee under Dr. Subhasis Ray, (Assistant Professor), Department of Chemical Engineering, University of Calcutta.
- (c) **April 2011- March 2012:** Graduate Engineer Trainee, Asianol Lubricants Limited, West Bengal.

Professional Qualification: GATE - 2014, and GATE - 2015 examination in Chemical Engineering qualified.

Research interests:

- Advanced photovoltaics.
- Desalination operations and wastewater treatment.
- Process intensification and millimeter-sized extractors.
- Multiphase flow.

Member of Professional bodies:

- Reviewer of International Journal of Heat and Mass Transfer, Elsevier publications 2020.
- Life Associate Member of Indian Institute of Chemical Engineers (LAM 44433).

[P.S. - For details regarding publications, book, patent please see my rest of the CV.]

Dr. Abir Chakravorty

Ph.D. (Chemical Engineering) IIT Kharagpur

JOURNALS PUBLISHED

- (1) **Chakravorty Abir**, Kumar Ashish, Mukherjee Subhrajit, Behaviour of liquid-liquid two-phase flow pattern and mass transfer with combined incorporation of fully pulsatile flow and variable volume of air suspension. *Heat and Mass Transfer, Springer. 2020; 56: 2619–2633.*
- (2) **Chakravorty Abir**, Maitra Abhradeep, Bandopadhyay Aditya, Optimization of semi-pulsatile liquid liquid extraction operations in millichannels. *The Canadian Journal of Chemical Engineering. 2020; 99(9); 2035-2051, DOI: 10.1002/cjce.23963.*
- (3) **Chakravorty Abir**, Maitra Abhradeep, Bandopadhyay Aditya. Liquid-liquid mass transfer enhancement due to T-junction modified with an air-damper. *ACS Industrial & Engineering Chemistry Research. 2019; 58: 18810-18821.*
- (4) **Chakravorty Abir**. Process intensification by pulsation and vibration in miscible and immiscible two component systems. *Chemical Engineering & Processing: Process Intensification. 2018; 133: 90–105.*
- (5) **Chakravorty Abir**, Desalination operation under the influence of pulsatile flow and air damper. *Proceedings of CUChE Alumni Symposium 2021 on Diverse Applications of Chemical Engineering, 2021. ISBN: 978-81-954649-0-6; 1(1): 29-36.*
- (6) Saha Rahul¹, Mishra Ridipt¹, Dhara Avijit¹, **Chakravorty Abir**¹, Roy Subhasis^{1*}, Piezoelectric Smart Materials and Commercialization. *Department of Chemical Engineering, University of Calcutta. (Manuscript submitted to journal), 2022.*
- (7) Swapnadipa Patra¹, Sayan Samaji¹, Avi Sana¹, **Chakravorty Abir**¹, Subhasis Roy^{1*}. A Review On-Biomass Controlled Post-Combustion CO₂ Capture, *Department of Chemical Engineering, University of Calcutta. (Manuscript submitted to journal), 2022.*

PATENT

- (1) **Chakravorty Abir**, Bandopadhyay Aditya. Augmentation in liquid-liquid extraction with the aid of pulsatile flow with air damper, Indian Patent file number: 202031006824, Patent filed on 17-Feb-2020.

BOOK

- (1) **Chakravorty Abir**, Communication Between Virus And Virus-Infected Cells; ISBN: 978-620-2-80326-7, LAMBERT Academic Publishing, 2020.

CONFERENCES ATTENDED

- (1) **Chakravorty Abir**, Desalination operation under the influence of pulsatile flow and air damper. **Alumni Symposium on "Diverse Applications of Chemical Engineering"** by **Chemical Engineering Alumni Association**, in association with the **Department of Chemical Engineering, University of Calcutta**, (online), Dec 2021.
- (2) **Chakravorty Abir**, Protein extraction and purification in a mesoscale column operating with semi pulsatile flow and air damper. The **4th International Conference on Applied Biochemistry and Biotechnology, China** (online), Aug 2021.
- (3) **Chakravorty Abir**, Bandopadhyay Aditya, Fluid mass exchange improvement because of T-intersection altered with an air-damper, 8th International & 47th National Conference on Fluid Mechanics and Fluid power (**FMFP-2020**), (online IIT Guwahati) Dec 2020.
- (4) **Chakravorty Abir**, Enhancing mass transfer by flow pulsations in milliscale system, 70th Annual Session of Indian Institute of Chemical Engineers. (*Best poster award by Indian Institute of Chemical Engineers, CHEMCON-2017, (held at Haldia Institute of Technology)*), Dec 2017.
- (5) **Chakravorty Abir**, Flow pulsation Induced Process Intensification in Liquid-liquid Milli Contactor, Catalysis and Chemical Engineering, Feb 2017.
- (6) **Chakravorty Abir**, Mukherjee Subhrajit, Effect Of In-Flow Pulsations On Liquid-Liquid Two Phase Downflow Through Millimeter Size Channels And Simultaneous Development Of Slug Characteristics", 69th Annual Session of Indian Institute of Chemical Engineers, (held at IIT Madras), Dec 2016.
- (7) **Chakravorty Abir**, Investigating the effects of flow pulsation on liquid- liquid two phase flow through Millimetre size conduits", 6th International & 43rd National Conference on Fluid Mechanics and Fluid power, (held at MNNIT Allahabad), Dec 2016.

PERSONAL DETAILS

Broad area of Ph.D. research- Chemical Engineering

Doctoral Degree in Chemical Engineering from Indian Institute of Technology Kharagpur, (*Ph.D. awarded 23-Feb-2021*)

Teaching interest- *Fluid mechanics, Mass transfer, Chemical reaction Engineering, Heat transfer.*

Research interest- *Mass transfer, Air-dampers, Pulsatile flows, Mathematical modeling, Liquid-liquid extraction, Multiphase flow.*

M.Tech- Chemical Engineering (Project: Performance Characterization of Intermeshed Spinning Basket Membrane Module).

B.Tech- Chemical Engineering.

D.O.B.- July 28, 1989; Gender- Male

Address- S/o Alok Kumar Chakravorty, Naskarpara, Ganney Gangadharpur, P.O. Vivekanan-

dapur, P.S.Maheshtala, South 24 Parganas, West Bengal, PIN-700141.

Mobile- +919007347946, +919830441673.

Email - abir.cty2015@gmail.com; abirchemengg@iitkgp.ac.in

G. Scholar- <https://scholar.google.com/citations?user=9-239FEAAAAJ&hl=en&oi=ao>

You Tube channel- <https://www.youtube.com/channel/UCEC126b5mzjBle0aCNj4fEA/videos>

EDUCATION

Ph.D. Chemical Engineering 2014-2020

Indian Institute of Technology Kharagpur

Ph.D. Thesis title: ***Effect Of Pulsatile Flow And Air-Damper On Liquid-Liquid Two Phase Extraction Operations.***

Coursework completed during Ph.D. tenure- Multiphase flow, CFD Applications in chemical processing, English for technical writing, Statistical Methods

M.Tech. Chemical Engineering 2012-2014

University College of Science Technology & Agriculture, University of Calcutta

Cumulative Grade Point Average (CGPA): 8.57 out of 10

M.Tech Project: Performance Characterization of Intermeshed Spinning Basket Membrane Module

B.Tech. Chemical Engineering 2007-2011

West Bengal University of Technology

Degree Grade Point Average (DGPA): 8.51 out of 10

Senior Secondary 2005-2006

Kendriya Vidyalaya Santragachi, West Bengal, India.

Aggregate marks 79.60%

Secondary 2003-2004

Y.M.C.A. Centenary School Allahabad, India.

Aggregate marks 72.40%

MEMBER OF PROFESSIONAL BODIES

- (1) Reviewer of International Journal of Heat and Mass Transfer, Elsevier publications.
- (2) Life Associate Member of Indian Institute of Chemical Engineers (LAM 44433)

AWARD

- (1) Best poster award by 70th Annual Session of Indian Institute of Chemical Engineers, CHEMCON-2017, (held at Haldia Institute of Technology), Dec 2017.

WORK EXPERIENCE

Graduate Engineer Trainee

04/2011-
03/2012

Asianol Lubricants Limited, India

Managing production process and testing of lubricating grease and oils.

Industrial training during B.Tech

07/2010-
08/2010

Himadri Chemicals & Industries Limited, India

Industrial training on production process of Carbon black.

SKILLS

<i>Languages</i>	English (fluent) Hindi (fluent)
<i>Frequently used equipments like</i>	High Speed Camera, Digital refractometer, Surface tensiometer, Goniometer, Mass flow meter etc.
<i>Online coursework completed</i>	"ICT in Teaching and Learning" conducted by Swayam and NITTTR Bhopal.
<i>Software</i>	MATLAB, COMSOL MULTIPHYSICS, DESIGN EXPERT, L ^A T _E X, FLUENT, INKSCAPE, ORIGIN, PYTHON, MS OFFICE ETC.