

(Self-Declared Document)

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Designation	Assistant Professor
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Educational Qualification:

<u>Degree Name</u>	<u>Institute</u>	<u>Year of passing/awarded</u>
Ph. D.	Assam University	2016
M. Tech.	University of Calcutta	2008
B. Tech.	University of Calcutta	2005
B. Sc.	University of Calcutta	2002

Career Profile/Teaching Experience

Act as a Lecturer from February 2009 to September 2009 at Murshidabad College of Engineering and Technology, Murshidabad

Act as a Assistant Teacher from September 2009 to October 2020 at Dum Dum Subhasnagar High School, Kolkata

Presently, Act as a Assistant Professor from October 2020 at Belda College, Paschim Medinipur

Specialization/Research Area

VLSI Design, Digital Microfluidic Biochip, Algorithm, Graph Theory, Block Chain Technology, Artificial intelligence Technology

Course/ Subject Taught

Digital Electronics, Computer Architecture and Organisation, Microprocessor, Algorithm, Data Structure, Operating System, Image Processing and Pattern Recognitions, Software Engineering, Operational Research, etc.

Publications in Journal / Book / Book Chapter

Papers

<u>Title of the Paper</u>	<u>Journal Name with ISSN, Vol. etc.</u>	<u>Year of Publication</u>
Yet Another Algorithm for Solving n Coins Problem	Assam University Journal of Science & Technology: Physical Sciences and Technology , Vol. 8, No. II, pp. 118-125, 2011, ISSN: 0975-2773.	2011
A Literature Survey on Pin Configuration and Performance of Some Restricted Sized Digital Microfluidic Biochip	International Journal of Innovations in Engineering and Technology (IJIET) , Vol. 5, No. 1, pp. 20-28, February, 2015, ISSN: 2319-1058	2015
Fortification of Multiple Parallel Assay Operations with Cross Contamination Avoidance in a Restricted Biochip	International Journal of Scientific & Engineering Research (IJSER) , vol. 6, Issue 3, pp. 746-755, March 2015, ISSN: 2229-5518	2015
Multiple Parallel Assay Operations with Cross Contamination Avoidance in a Given Biochip	IET Computers & Digital Techniques , Vol. 10, Issue 5, pp. 243 - 253, June 2016, DOI: 10.1049/iet-cdt.2015.0166, Online ISSN:1359-7027 and Print ISSN: 1350-2387	2016
Solving a mathematical model for small vegetable sellers in India by a stochastic knapsack problem: an advanced genetic algorithm based approach	International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems , Vol. 30, No. 5, pp. 897 – 921, 01 Oct 2022, ISSN: 1793-6411(Print) and ISSN: 0218-4885(Online), DOI: https://doi.org/10.1142/S0218488522500271	2022

Book/Book Chapter

<u>Title of the Book</u>	<u>Publication Name with ISSN , Vol etc.</u>	<u>Year of Publication</u>
A New Move towards Parallel Assay Operations in a Restricted Sized Chip in Digital Microfluidics	Advances in Intelligent Systems and Computing (Springer) , Vol. 305, 2015, pp. 157-182, Kolkata, India, April 18-20, 2014, ISBN: 978-81-322-1987-3.	2015
Design of a Mixer for Performing Efficient Mixing to Reduce Overall Assay Response Time	Advances in Intelligent Systems and Computing (Springer) , Vol. 340, pp. 559-568, Kalyani, West Bengal, India, Jan 8-9, 2015, ISBN: 978-81-322-2246-0.	2015

Multiple Fault Identification and Diagnosis in Cross Referencing DMFBs

Advanced Computing and Systems for Security: Volume 14, Lecture Notes in Networks and Systems 242, Vol. 14, 2021, pp. 165-178, Kolkata, India, 2014, ISBN: 978-981-16-4293-7, ISSN: 2367-3370, https://doi.org/10.1007/978-981-16-4294-4_11

2021

Conference /Seminar/Workshop Attended/Organised

International:

1. Sumana Bandyopadhyay, **Debasis Dhal**, and Rajat Kumar Pal, “**A Method to Select Programme Slots for Giving Advertisements in Different Television Channels**”, Proc. of *23rd IEEE Region 10 International Conference on Innovative Technologies for Societal Transformation (IEEE TENCON 2008)*, CD: Session: O24 (Innovative Technologies – I) (Six pages), Hyderabad, India, Nov. 18-21, 2008, ISBN: 978-1-4244-2408-5.
2. Joydeb Ghosh, Papiya Senmajumdar, Srijoni Moitra, **Debasis Dhal**, and Rajat Kumar Pal, “**A Generalized Algorithm for Solving n Coins Problem**”, Proc. of *2011 IEEE International Conference on Computer Science and Automation Engineering (CSAE 2011)*, Shanghai, China, Vol. 2, pp. 411-415, Jun. 10-12, 2011, ISBN: 978-1-4244-8727-1.
3. **Debasis Dhal**, Arpan Chakrabarty, Piyali Datta, Sudipta Roy, and Rajat Kumar Pal, “**A Connect-5 Structure based Parallel Assay Operations in a Restricted Sized Chip in Digital Microfluidics**”, Proc. of *IEEE The Second International Conference on Advances in Electrical Engineering (ICAEE) - 2013*, IUB, Dhaka, Bangladesh, pp. 75-80, December 19–21, 2013, ISBN: 978-1-4799-2463-9.
4. **Debasis Dhal**, Piyali Datta, Arpan Chakrabarty, and Rajat Kumar Pal, “**Enhancement of Multiple Parallel Assay Operations with Cross Contamination Avoidance in a Given Biochip**”, Proc. of *IEEE The International Conference on Electronics and Communication System (ICECS)*, Coimbatore, Tamil Nadu, India, Vol. 1, pp. 337-343, 2014, ISBN: 978-1-4799-2321-2.
5. **Debasis Dhal**, Piyali Datta, Arpan Chakrabarty, Goutam Saha and Rajat Kumar Pal, “**An Algorithm for Parallel Assay Operations in a Restricted Sized Chip in Digital Microfluidics**”, Proc. of *IEEE International Computer Society Annual Symposium on VLSI (ISVLSI 2014)*, Tampa, Florida, USA, pp. 142-147, July 9-11, 2014, ISBN: 978-1-4799-3765-3/14.
6. Piyali Datta, Amartya Dutta, Riya Majumder, Arpan Chakrabarty, **Debasis Dhal** and Rajat Kumar Pal, “**A Technology Shift towards Triangular Electrodes from Square Electrodes in Design of Digital Microfluidic Biochip**”, Proc. of *IEEE The Eighth International Conference on Electrical and Computer Engineering (ICECE) - 2014*, BUET, Dhaka, Bangladesh, pp. 1-4, December 20–22, 2014, ISBN: 978-1-4799-4166-7.
7. **Debasis Dhal**, Arpan Chakrabarty, Piyali Datta, Sudipta Roy, and Rajat Kumar Pal, “**An Impressive Approach for Incorporating Parallelism in Designing DMFB with Cross Contamination Avoidance**”, Proc. of *IEEE 19th International Symposium on VLSI Design and Test (VDATE 2015)*, Ahmadabad, India, pp. 97-102, June 26-29, 2015. ISBN: 978-1-4799-1743-3

8. Piyali Datta, Amartya Dutta, Riya Majumder, Arpan Chakrabarty, **Debasis Dhal** and Rajat Kumar Pal, “**A Design of Digital Microfluidic Biochip along with Structural and Behavioural Features in Triangular Electrode based Array**”, Proc. of IEEE The 6th International Conference on Advances in Computing & Communications (ICACC) - 2016, Procedia Computer Science, Elsevier, Kochi, India, Vol. 93C, pp. 183-190, September 6–8, 2016, ISSN: 1877-0509.
9. Piyali Datta, Amartya Dutta, Riya Majumder, Arpan Chakrabarty, **Debasis Dhal** and Rajat Kumar Pal, “**An Euler-path based Online Testing Technique to Detect Catastrophic Fault in Triangular DMFB**”, Proc. of IEEE Second International Conference on Computing and Communication System - 2016 (I3CS-2016), NEHU, Shillong, Meghalaya, India, pp.531-539, November 11–13, 2016, ISBN: 978-981-10-6890-4.
10. Arpan Chakrabarty, Piyali Datta, **Debasis Dhal**, and Rajat Kumar Pal, “**A Dependability Preserving Fluid-level Synthesis for Reconfigurable Droplet-based Microfluidic Biochips**”, Proc. of *IEEE 21st International Symposium on VLSI Design and Test (VDATE 2017)*, IIT Roorkee, India, pp. 694-706, 2017, Print ISBN: 978-981-10-7469-1, Online ISBN: 978-981-10-7470-7.
11. Piyali Datta, Amartya Dutta, Riya Majumder, Arpan Chakrabarty, **Debasis Dhal** and Rajat Kumar Pal, “**Enhancement of Mixing Operation through New Movement Strategies in Digital Microfluidic Biochip**”, Proc. of *IEEE 2nd International Conference on Devices for Integrated Circuits (DevIC 2017)*, Lecture Notes in Networks and Systems, Springer, Vol. 24, Book Id – 421556_1_En, Chapter no. – 52, pp. 531-539, Kalyani, India, March 23-24, 2017, ISBN – 978-981-10-6889-8.
12. Amartya Dutta, Riya Majumder, **Debasis Dhal** and Rajat Kumar Pal, “**Structural and Behavioural Facets of Digital Microfluidic Biochips with Hexagonal-Electrode-based Array**”, Proc. of *IEEE 23rd International Conference on VLSI Design (VLSID 2019)*, New Delhi, India, pp. 239-244, 2019, DOI 10.1109/VLSID.2019.00060.
13. Amartya Dutta, Riya Majumder, **Debasis Dhal** and Rajat Kumar Pal, “**Structural Modelling, Design Automation, and a Generalized Routing Technique for Digital Microfluidic Biochip with Hexagonal Electrodes**”, Proc. of *IEEE Region 10 Symposium (TENSYP 2019)*, Kolkata, India, June 7-9, pp. 786-791, 2019. ISBN – 978-1-7281-0296-2.
14. Amartya Dutta, Riya Majumder, **Debasis Dhal** and Rajat Kumar Pal, “**A Generalized Technique of Automated Pin Sharing on Hexagonal Electrode based Digital Microfluidic Biochip along with its Design Methodology**”, Proc. of *23rd International Symposium on VLSI Design and Test (VDATE-2019)*, IIT Indore, India, July 4-6, pp. 87-101, 2019, ISBN – 978-981-32-9766-1, 978-981-32-9766-8 (eBook), ISSN – 1865-0929, 1865-0937 (electronic), DOI - 10.1007/978-981-32-9767-8.
15. Sagarika Chowdhury, **Debasis Dhal**, Rajat Kumar Pal, and Goutam Saha, “**Incorporating Multiple Assay Operations and CrossContamination Avoidance in Digital Microfluidic Biochips with Reduced Number of Pins**”, Proc. of *IEEE Region 10 Symposium (TENSYP 2020)*, Dhaka, Bangladesh, June 5-7, pp. 102-105, 2020. ISBN – 978-1-7281-7366-5.
16. Amartya Dutta, Riya Majumder, **Debasis Dhal**, and Rajat Kumar Pal, “**A Novel Droplet Routing Algorithm with Behavioral Performances in Hexagonal Electrode based DMFB**”, Proc. of *24th International Symposium on VLSI Design and Test (VDATE-2020)*, 23-25 July 2020, Indian Institute of Technology Bhubaneswar, pp. 1- 6, 2020, Bhubaneswar, India. ISBN: 978-1-7281-9369-4, DOI: 10.1109/VDATE50263.2020.9190476.

17. Riya Majumder, Amartya Dutta, **Debasis Dhal**, and Rajat Kumar Pal, “**An Effective Comparative Study among the Different Geometry of Electrodes in Performing the Tasks in Digital Microfluidic Biochips**”, Proc. of 3rd International Conference on Computing and Communication Systems, (I3CS 2020), NEHU, Shillong, India, pp. 697- 707, 2021. ISBN – 978-981-33-4084-8.

National:

1. Sumana Bandyopadhyay, **Debasis Dhal**, and Rajat Kumar Pal, “**Yet Another Way of Selecting Programme Slots for Advertising Products through Different Television Channels**”, Proc. of *the National Seminar on Applied and Computational Mathematics and their Applications*, Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University, Midnapore, India, Page 4 (Abstract), Mar. 6-7, 2008.
2. **Debasis Dhal**, Sudip Roy, and Rajat Kumar Pal, “**A Review on Some Droplet Routing Algorithms**”, Proc. of the UGC Sponsored National Symposium on *Emerging Trends in Computer Science (ETCS 2012)*, BRSN College, Barrackpore, India, January 20-21, pp. 111-117, 2012, ISBN: 978-81-921808-2-3.

Invited Lectures