Jyotirmoy Das

Ph.D. (Tech.) in Bioinformatics

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Mail

jyotirmoy.das@
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Web & Git

jyotirmoy21.ucraft.net
github.com/JD2112

Programming

R ★★★★★
Perl ★★★☆☆
Python ★★★☆☆
Shell ★★★★★
C/C++ ★★☆☆☆
HTML ★★★★★
Markdown ★★★★★
Others ★★★★★

OS Handling

GNU/Linux ★★★★★
Unix ★★★★★
MacOS ★★★★★
HPC ★★★★★
Windows ★★★★★

Skills

Experiences

| 2020 - now | **Principal Research Engineer** | Linköping University, Sweden |

Networking and developing computational pipelines to analyze different sequencing techniques.

| 2017 - 2020 | **Postdoctoral Researcher** | Linköping University, Sweden |

Designing and developing computational pipelines to study human methylome, transcriptome obtained analyzed using different Illumina platforms in linuxOS.

| 2014 - 2017 | **Senior Research Fellow** | DST-INSPIRE (Govt. of India), Bose Institute, India |

Part of PhD program.

| 2012 - 2014 | **Junior Research Fellow** | DST-INSPIRE (Govt. of India), Bose Institute, India |

Part of PhD program.

| 2010 - 2012 | **Institute Fellow** | DST-INSPIRE (Govt. of India), Bose Institute, India |

Learn programming in MATLAB® and work with protein structure and dynamics. Use R to study the co-expression gene network.

| 2009 - 2010 | **Research Trainee** | National Institute of Plant Genome Research, New Delhi, India |

Develop new DNA markers (Intron Length Polymorphism) using *Setaria italica* genome.

Education

| 2012 - 2017 | **PhD (Tech) Degree in Bioinformatics** | Maulana Abul Kalam Azad University of Technology, West Bengal (Formerly known as West Bengal University of Technology), India |

Molecular Evolution and MicroRNAs.
Main subjects: Comutational Biology, Human Diseases.
Title of the Thesis: "In-silico studies of MicroRNA Regulations in higher eukaryotes from the perspective of Molecular Evolution" (PDF Link) .
Supervisor: Prof. Tapash C Ghosh, Bose Institute, India.

| 2008 - 2010 | **Master of Technology in Biotechnology** | West Bengal University of Technology, India |

Main subject: Biotechnology.
Title of the Thesis: "Identification and evaluation of Intron Length Polymorphism (ILP) marker in Foxtail millet (Setaria italica) and to study evolutionary relationship between species by cross-species transferability".
Supervisors: Dr. Manoj Prasad, NIPGR, India. Prof. Nandan Bhattacharyya, Haldia Institute of Technology, India

| 2006 - 2008 | **Master of Science in Biotechnology** | Bangalore University, Karnataka, India |

Main subject: Biotechnology.

| 2003 - 2006 | **Bachelor of Science in Biotechnology** | University of Kalyani, West Bengal, India |

Main subjects: Biotechnology, Chemistry and Computer Applications.
Project 1: "Drug Designing: Evaluation of iron chelation through blood in phytic acid treated thalassemia patients".
Project 2: "Study of Ecological Diversity in Sunderbans, Especially on Kingfishers"
Supervisors: Prof. Amit Chakravorty, Dr. Sudipa Chakravorty, IGE, India

Supervision

Main Supervisor:
Master students [2]

Co-supervisor:
Master students [9],
PhD students [2]

Collaborations

Internal
Dr. Mika Gustafsson, Bioinformatics, LiU [One Article]

Dr. Deepti Verma, Cell Biology, LiU [One Manuscript]

Prof. Peter Söderkvist, Cell Biology, LiU [One manuscript]

Instruments

Pyrosequencer MD96
ThermalCycler
IncuCyte®

Certifications

2020	**Research Supervision**	Linköping University Pedagogy Course
2019	**Becoming a Teacher in Higher Education**	Linköping University Pedagogy Course
2015	**Astrobiology and the Search for Extraterrestrial Life**	Coursera e-learning

The origin and evolution of life and the search for life beyond the Earth. (Link to Certificate)

2015	**Programming for Everybody (Getting Started with Python)**	Coursera e-learning

Building a Python fundamental. (Link to Certificate)

Publications

2021   **Das J, Paues J, Idh N, Pehrson I, Lerm M**   submitted
A DNA methylome biosignature in alveolar macrophages from TB-exposed individuals predicts exposure to mycobacteria
medRxiv
doi.org/10.1101/2021.03.16.21253732

2021   **Pehrson I, Das J, Idh N, Karlsson L, Rylander H, Segerstad HH, Reuterswärd E, Marttala E, Paues J, Méndez-Aranda M, Ugarte-Gil C, Lerm M** submitted
DNA methylomes derived from alveolar macrophages display distinct patterns in latent tuberculosis-implication for interferon gamma release assay status determination
medRxiv
doi.org/10.1101/2021.03.16.21253725

2021   **Huoman J, Sayyab S, Apostolou E, Karlsson L, Porcile L, Rizwan M, Sharma S, Das J, Rosen A, Lerm M**   submitted
Mild SARS-CoV-2 infection modifies DNA methylation of peripheral blood mononuclear cells from COVID-19 convalescents
medRxiv
doi.org/10.1101/2021.07.05.21260014

2021   **Pehrson I, Braian C, Karlsson L, Idh N, Danielsson EK, Andersson B, Paues J, Das J, Lerm M**   submitted
DNA methylation profiling of immune cells from tuberculosis-exposed individuals overlaps with BCG-induced epigenetic changes and correlates with the emergence of anti-mycobacterial 'corralling cells'
medRxiv
doi.org/10.1101/2021.09.01.21262945

2021   **Singhania A, Dubelko P, Kuan R, Chronister WD, Muskat K, Das J, Phillips EJ, Mallal SA, Seumois G, Vijayanand P, Sette A, Lerm A, Peters B, Arlehamn CSL**   accepted in eBioMedicine
CD4+ CCR6+ T cells dominate the BCG-induced transcriptional signature
medRxiv
doi.org/10.1101/2021.08.20.4570545

Personal Skills

Automation

Publications...conitnue

2021   **Das J, Idh N, Sikkeland LIB, Paues J, Lerm M**   IF: 5.171; Citations: 4
DNA methylome-based validation of induced sputum as an effective protocol to study lung immunity: construction of a classifier of pulmonary cell types
Epigenetics, Sep 5:1-12
doi: 10.1080/15592294.2021.1969499

2021   **Karlsson L, Das J, Nilsson M, Tyrén A, Pehrson I, Idh N, Sayyab S, Paues J, Ugarte-Gil C, Méndez-Aranda M, Lerm M**   IF: 5.133; Citations: 1
A differential DNA methylome signature of pulmonary immune cells from individuals converting to latent tuberculosis infection
Sci Rep 11, 19418
doi.org/10.1038/s41598-021-98542-3

2021   **Kalsum K, Andersson B, Das J, Schön T, Lerm M**   IF: 3.605; Citations: 1
A differential DNA methylome signature of pulmonary immune cells from individuals converting to latent tuberculosis infection
BMC Microbiol 21, 167
doi.org/10.1038/s41598-021-98542-3

2021   **Zhu GH, Azharuddin M, Islam R, Rahmoune H, Deb S, Kanji U, Das J, Osterrieth J, Aulakh P, Ibrahim-Hashi H, Manchanda R, Nilsson PH, Mollnes TE, Bhattacharyya M, Islam MM, Hinkula J, Slater NKH, Patra HK**   IF: 9.229; Citations: 0
Innate Immune Invisible Ultrasmall Gold Nanoparticles—Framework for Synthesis and Evaluation
ACS Appl. Mater. Interfaces 13, 20, 23410–23422
doi.org/10.1021/acsami.1c02834

2019   **Das J, Verma D, Gustafsson M, Lerm M**   IF: 5.171; Citations: 13
Identification of DNA methylation patterns predisposing for an efficient response to BCG vaccination in healthy BCG-naïve subjects
Epigenetics, Vol 14, Issue 6, 589 - 601
https://doi.org/10.1080/15592294.2019.1603963

2018   **Sen K, Bhattacharyya D, Sarkar A, Das J, Maji N, Basu M, Ghosh Z, Ghosh TC**   IF: 3.681 ; Citations: 6
Exploring the major cross-talking edges of competitive endogenous RNA networks in human Chronic and Acute Myeloid Leukemia
Biochim Biophys Acta, Gen Subj, 1862 (9): 1883 – 1892
https://doi.org/10.1080/15592294.2019.1603963

2014   **Das J, Podder S, Ghosh TC**   IF: 3.986; Citations: 37
Insights into the miRNA regulations in human disease genes.
BMC Genomics, 15:1010.
https://doi.org/10.1186/ 1471-2164-15-1010

2013   **Das J, Chakraborty S, Podder S, Ghosh TC**   IF: 3.805; Citations: 7
Complex-forming proteins escape the robust regulations of miRNA in Human.
FEBS Lett 587(14):2284-7.
https://doi.org/10.1016/j.febslet.2013.05.062

2011   **Gupta S, Kumari K, Das J, ..., Prasad M**   IF: 2.152; Citations: 49
Development and utilization of novel intron length polymorphic markers in foxtail millet (Setaria italica (L.) P. Beauv.).
Genome 54(7): 586-602.
https://doi.org/10.1139/g11-020

Research Interests

Functional Genomics
Genome Assembly
Sequence Analysis
Epigenetics
Big Data Analysis
Cluster Computing
Cloud Computing
Visualization, front-end solution

Fellowship & Awards

2019	**Travel grant award**	Hjärt-Lungfonden

Heart-Lung Foundation travel grant award to attend 4th International Conference on Innate Immune Memory, Nijemegen, the Netherlands.

2012 **Research grant award** Department of Science & Technology, Govt of India
DST-Inspire fellowhip award by Govt. of India to pursue PhD degree program.

2010 **Institute Scholarship** Bose Institute, Kolkata
National Scholarship awarded to pursue PhD program by Bose Institute, Kolkata - an autonomous body undertaken by Govt of India.

2010 **University Gold Medal** West Bengal University of Technology
Awarded University Gold Medal for the topper of the batch, M.Tech (BT), 2010.

2008 **Graduate Aptitude Test in Engineering** Ministry of Human Resources Development, GOI
Successfully scored rank where the sucess rate is 12-15%.

Teaching & Mentoring

2019 **Organize 3 weeks R workshop for PhD students** Linköping University
Organize the R fundamental workshop for the PhD students (total 18 participants) to understand the data analysis, mangement, statistical analysis and graphical representation of multi-variate data in R in 3 weekly sessions. The workshop is supported by Forum Scientium, LiU

2018 **Live imaging of intracellular infections, NDPIA workshop** Linköping University
Mentoring and co-working with a group of students at NDPIA one week's workshop at Department of Clinical and Experimental Medicine.

2019 **Expert reviewer** Linköping University
Expert reviewer of one International Master's Program in Medical and Experimental Neurosicence.

2018-19 **Mentoring two masters' projects on Bioinformatics** Linköping University
Co-working with Prof. Maria Lerm to guide two master's theses on the bioinformatics part with DNA methylation analysis in R and fundamental of Linux.

2018 **Mentoring one master's project on Image analyses** Linköping University
Co-working with Prof Maria Lerm to guide one master's thesis with image analysis and statistical calculations with live imaging techniques.

2015 **Course design, teaching and examinar** Bidhannagar Govt College, WB, India
One semester Bioinformatics course curriculum design, deliver lectures and set examination for a group of masters (microbiology) students.

Poster & Oral presentation

2021 **Oral presentation - Clinical Genomics, Sweden**   Sigtuna, Stockholm
short oral presentation

2019 **Poster presentation - 4th International Conference on Innate Immune Memory**   Radbound University, the Netherlands
poster presented at the international conference.

2019 **Oral presentation - Machine Learning and Epigenetics**   Linköping University
Demonstrating the Machine Learning approach towards the big data of epigentics among a group of undergraduate enginnering students (total 16 participants) from Purdue University, USA

2019 **Short oral presentation**   MIIC, Linköping University
Short oral presentation to market own research, organized by Mucosal Infection and Inflammation Center.
best presenter award

2018 **Oral presentation -Advanced Image analysis**   Linköping University
Oral presentation in advanced image analysis with MATLAB®in NDPIA workshop.

2018 **Poster presentation - IKE Day**   Linköping University
Poster presentation at the annual IKE day seminar.

2018 **Poster presentation - Tuberculosis research seminar**   Karolinska Institute, Stockholm
Poster presentation at the tuberculosis research seminar.

Referees

Referee 1   **Prof. Maria Lerm,**
Professor of Immunology
Department of Clinical & Experimental Medicine (BKV)
Faculty of Health Sciences
Linköping University, Sweden
Email: **Maria.Lerm**@liu.se
Phone: +46 (0)73-270 77 86

Referee 2   **Prof. Tapas C Ghosh,**
Senior Professor
Bioinformatics Center (Center of Excellence),
Bose Institute, India
Email: **Tapash**@jcbose.ac.in, **Tapash@gmail.com**
Phone: +91 704 477 04 27