

# Jyotirmoy Das

Ph.D. (Tech.) in Bioinformatics

## Address

Befälskatan 12  
587 50, Linköping,  
Sweden

## Tel & Skype

+46 (0)76-136 96 45  
 jyotirmoy82

## Mail

jyotirmoy.das@  
liu.se  
jyotirmoy21@  
gmail.com

## 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 methylation, 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: Computational 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*

## Invited reviewer

IJERPH [1]  
International Journal of  
Molecular Sciences [2]  
Genomics [1]  
Genes & Genomics [1]  
Cancer Mangement  
and Research [2]  
Journal of  
Biomolecular Structure  
& Dynamics [1]  
Peer J [1]

## 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	<b>Research Supervision</b>	Linköping University Pedagogy Course
2019	<b>Becoming a Teacher in Higher Education</b>	Linköping University Pedagogy Course
2015	<b>Astrobiology and the Search for Extraterrestrial Life</b> <i>The origin and evolution of life and the search for life beyond the Earth.</i> (Link to Certificate)	Coursera e-learning
2015	<b>Programming for Everybody (Getting Started with Python)</b> <i>Building a Python fundamental.</i> (Link to Certificate)	Coursera e-learning

## Publications

2021	<b>Das J, Paues J, Idh N, Pehrson I, Lerm M</b> <b>A DNA methylome biosignature in alveolar macrophages from TB-exposed individuals predicts exposure to mycobacteria</b> <i>medRxiv</i> doi.org/10.1101/2021.03.16.21253732	submitted
2021	<b>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</b> <b>DNA methylomes derived from alveolar macrophages display distinct patterns in latent tuberculosis-implication for interferon gamma release assay status determination</b> <i>medRxiv</i> doi.org/10.1101/2021.03.16.21253725	submitted
2021	<b>Huoman J, Sayyab S, Apostolou E, Karlsson L, Porcile L, Rizwan M, Sharma S, Das J, Rosen A, Lerm M</b> <b>Mild SARS-CoV-2 infection modifies DNA methylation of peripheral blood mononuclear cells from COVID-19 convalescents</b> <i>medRxiv</i> doi.org/10.1101/2021.07.05.21260014	submitted
2021	<b>Pehrson I, Braian C, Karlsson L, Idh N, Danielsson EK, Andersson B, Paues J, Das J, Lerm M</b> <b>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’</b> <i>medRxiv</i> doi.org/10.1101/2021.09.01.21262945	submitted
2021	<b>Singhanian A, Dubelko P, Kuan R, Chronister WD, Muskat K, Das J, Phillips EJ, Mallal SA, Seumoiois G, Vijayanand P, Sette A, Lerm A, Peters B, Arlehamn CSL</b> <b>CD4+ CCR6+ T cells dominate the BCG-induced transcriptional signature</b> <i>medRxiv</i> doi.org/10.1101/2021.08.20.4570545	accepted in eBioMedicine

## Publications...conitnue

### Networks

SciLifeLab, Sweden  
Clinical Genomics,  
Sweden  
Genomic Medicine,  
Sweden

### Container handling

Conda  
Singularity  
Docker  
Podman

### Community

github  
  
Lerm-Lab  
  
Genomic-Medicine-  
Linköping  
  
genomic-medicine-  
sweden

### Personal Skills



### Automation

NextFlow  
SnakeMake  
Make

- 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



### Languages

English ★★★★★

Hindi ★★★★★

Bengali ★★★★★

Swedish ★★★★★

### Research Interests

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

## Fellowship & Awards

2019	<b>Travel grant award</b>	<a href="#">Hjärt-Lungfonden</a>
	Heart-Lung Foundation travel grant award to attend 4th International Conference on Innate Immune Memory, Nijmegen, the Netherlands.	
2012	<b>Research grant award</b>	<a href="#">Department of Science &amp; Technology, Govt of India</a>
	DST-Inspire fellowship award by Govt. of India to pursue PhD degree program.	
2010	<b>Institute Scholarship</b>	<a href="#">Bose Institute, Kolkata</a>
	National Scholarship awarded to pursue PhD program by Bose Institute, Kolkata - an autonomous body undertaken by Govt of India.	
2010	<b>University Gold Medal</b>	<a href="#">West Bengal University of Technology</a>
	Awarded University Gold Medal for the topper of the batch, M.Tech (BT), 2010.	
2008	<b>Graduate Aptitude Test in Engineering</b>	<a href="#">Ministry of Human Resources Development, GOI</a>
	Successfully scored rank where the success rate is 12-15%.	

## Teaching & Mentoring

2019	<b>Organize 3 weeks R workshop for PhD students</b>	<a href="#">Linköping University</a>
	Organize the R fundamental workshop for the PhD students (total 18 participants) to understand the data analysis, management, statistical analysis and graphical representation of multi-variate data in R in 3 weekly sessions. The workshop is supported by Forum Scientium, LiU	
2018	<b>Live imaging of intracellular infections, NDPIA workshop</b>	<a href="#">Linköping University</a>
	Mentoring and co-working with a group of students at NDPIA one week's workshop at Department of Clinical and Experimental Medicine.	
2019	<b>Expert reviewer</b>	<a href="#">Linköping University</a>
	Expert reviewer of one International Master's Program in Medical and Experimental Neuroscience.	
2018-19	<b>Mentoring two masters' projects on Bioinformatics</b>	<a href="#">Linköping University</a>
	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	<b>Mentoring one master's project on Image analyses</b>	<a href="#">Linköping University</a>
	Co-working with Prof Maria Lerm to guide one master's thesis with image analysis and statistical calculations with live imaging techniques.	
2015	<b>Course design, teaching and examiner</b>	<a href="#">Bidhannagar Govt College, WB, India</a>
	One semester Bioinformatics course curriculum design, deliver lectures and set examination for a group of masters (microbiology) students.	



## Poster & Oral presentation

2021	<b>Oral presentation - Clinical Genomics, Sweden</b> short oral presentation	<a href="#">Sigtuna, Stockholm</a>
2019	<b>Poster presentation - 4th International Conference on Innate Immune Memory</b> poster presented at the international conference.	<a href="#">Radboud University, the Netherlands</a>
2019	<b>Oral presentation - Machine Learning and Epigenetics</b> Demonstrating the Machine Learning approach towards the big data of epigenetics among a group of undergraduate engineering students (total 16 participants) from Purdue University, USA	<a href="#">Linköping University</a>
2019	<b>Short oral presentation</b> Short oral presentation to market own research, organized by Mucosal Infection and Inflammation Center. <i>best presenter award</i>	<a href="#">MIIC, Linköping University</a>
2018	<b>Oral presentation -Advanced Image analysis</b> Oral presentation in advanced image analysis with MATLAB®in NDPIA workshop.	<a href="#">Linköping University</a>
2018	<b>Poster presentation - IKE Day</b> Poster presentation at the annual IKE day seminar.	<a href="#">Linköping University</a>
2018	<b>Poster presentation - Tuberculosis research seminar</b> Poster presentation at the tuberculosis research seminar.	<a href="#">Karolinska Institute, Stockholm</a>