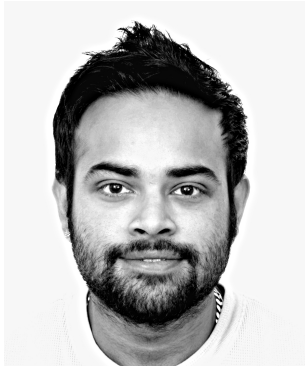# Sukhdeep **Singh**

Contact
sukhdeepsingh.eu
sukhdeepsingh.bio@gmail.com
GPG Key : goo.gl/xs6ZVk

Stewart Lab, Biotec
Tatzberg 47, 01307 Dresden,
Germany

Area of Expertise
ChIP-Seq, RNA-SEQ, NGS data analyis, open source, high performance computing, complex data visualizations.

Programming Languages
♥ R, Bash/Shell, Javascript, Perl-CGI, HTML, CSS, LATEX

Extra Curricular Activities
♥ Hiking, volunteering in Eco - Conservation and Social Innovation projects, Biking, Ultimate Frisbee, Lead national/international hike tours, Globe trotting, Djing, Peak bagging.

Publications
http://is.gd/sukhi

Access this CV online

Resume

I am currently working as a **Bioinformatics Scientist** at Biotec-Technical University of Dresden for **SyBoSS** project (syboss.eu). My major research interests are computational **Epigenetics**, investigating **histone modifications** and understanding **transcriptional** regulation in mouse **embryonic and differentiated stem cells**. I have been developing **computational pipelines** to handle and analyse **NGS datasets** generated in-house and from collaborating labs utilizing **High-Performance** computing. I have worked in diverse settings in several team-based and independent projects, where I have gained extensive computational, leadership, presentation, **independency** and large project organization skills in a broad range **scientific international environment**.

Research Experience

Jul, 2011 -   **SyBoSS Project (Systems Biology of Stem Cells and Reprogramming)** Dresden, Germany
Bioinformatics Scientist
Working with **Prof.Francis Stewart** on Investigating Transcriptional and Epigenetic foundations of various Pluripotency states of Mouse Embryonic stem cells and several other collaborative projects. I have created automated data pre-processing and analysis pipelines utilizing HPC for next generation sequencing datasets (ChIP-Seq, RNA-Seq) whose results have been published in various peer reviewed journals.

Aug - Sep, 2011   **Wellcome Trust Sanger Institute**   Cambridge, UK
Visiting Researcher
Worked with **Dr.Vivek Iyer** on correlating gene targeting efficiencies with gene trap counts and the homology of 5" end repeats using the EUCOMM recombineering targeting vector resource.

Oct,10 - Apr, 2011   **Imperial College London**   London, UK
Visiting Researcher
Worked with **Dr.Becca Asquith** for investigating viral (SIV) dynamics using NGS to identify specific tissues which could be initial drug delivery sites by measuring viral escape rates in primates. R package for the viral data analysis capable of processing large sequences was developed.

Jul - Sep, 2010   **Imperial College London**   London, UK
Visiting Researcher
Worked with **Dr.Timothy Ebbels** on detailed analysis of LCMS data for identification of parent fragment pairs and investigation of coelution. R package **LCMStats** was developed.

Jul - Aug, 2009   **University of Leicester**   Leicester, UK
MSc Steered Research Project-2
Developed a web application called as **WebModeller** using Perl-CGI for proteomic data analysis and 3D modeling of a novel protein sequence.

Jun - Jul, 2009   **University of Leicester**   Leicester, UK
MSc Steered Research Project-1
Microarray analysis to identify circadian genes from array profiles generated from Rat's Suprachiasmatic Nucleus.

Nov - Jan, 2009   **IPradar, Portus Corporate Finance**   Berlin, Germany
Biomedical Market Research Project
Analysis of relationships between diseases and technologies within a medical specialty and construction of a data resource of companies utilizing these technologies for surgical and non-surgical methods of spine.

Education

Jul, 2011 - Sep, 2016	**BIOTEC - Technical University of Dresden**	Dresden, Germany
	PhD in Bioinformatics (Magna cum Laude)	
	Thesis: Investigating Genome Wide Dynamics of H3K4 Methyltransferases in Mouse Embryonic Stem Cells.	
Jan, 2009 - Jan, 2010	**University of Leicester**	Leicester, UK
	MSc in Bioinformatics (Merit)	
	Thesis: Structured Spreadsheet Web Interface for Neurophysiology Data Analysis.	
Aug, 2004 - Jul, 2008	**Kurukshetra University**	Kurukshetra, India
	B.Tech in Biotechnology (First Class Honours)	
	Major Project: Drug Discovery for kidney stones using natural products.	

Internships

Jul - Aug, 2007	**Tulip Group of Companies**	Goa, India
	Manufacturing and production of diagnostic kits, quality control and global distribution.	
Jun - Jul, 2006	**IBI Biosolutions**	Chandigarh, India
	Training on in silico drug designing while finding potential drug for measles.	
Jan - Feb, 2006	**Creades Technologies**	Noida, India
	Training program in advanced Bioinformatics software and applications.	

Awards

Sep, 2014	**German Stem Cell Network (GSCN) Travel Award**	Hydra, Greece
	For European Summer School on Stem Cells & Regenerative Medicine (Hydra-X)	
Jun, 2012	**European Cooperation in Science and Technology (COST) Travel Award**	Espoo, Finland
	For attending NGS workshop at CSC−IT Center for Science Ltd.	
Jun, 2008	**Biotechnology Ethics (BIOTETHED) Travel Award**	Budapest, Hungary
	Complete fee and travel waiver for attending 5th European Course on Biotechnology Ethics.	
Aug - Sep, 2007	**Studentship by German Academic Exchange Program (DAAD)**	Wilhelmshaven, Germany
	For attending summer course 'Biomedical Engineering in a European Perspective' at FH-OOW.	
Feb, 2006	**Environment Day Consolation Prize**	Haryana, India
	For "BioGas Plant" model in a state level competition by the Dept. of Renewable Energy.	

Talks and Posters

Mar, 2015	**Program of Early Mammalian Development and Systems Biology of Stem Cells (T)**	Oberstdorf, Germany
	The H3K4 Methylation System in Mouse Embryonic stem cells.	
Nov, 2014	**Systems Biology of Stem Cells and Reprogramming (SYBOSS) Annual Meeting (T)**	Cologne, Germany
	Extracting the most out of your ChIP-Seq datasets.	
Jul, 2013	**12th European Conference on Computational Biology, ISMB/ECCB (P)**	Berlin, Germany
	Investigating genome wide dynamics of histone methyltransferases in mouse ESCs (also volunteered).	
Apr, 2013	**Gene Regulation and Information Theory (T)**	Halle, Germany
	Investigating genome wide dynamics of histone methyltransferases in mouse ESCs.	
Apr, 2013	**Deep Sequencing Day (T)**	Dresden, Germany
	Next Generation Sequencing in Epigenetics.	
Feb, 2013	**SyBoSS/Digtop Workshop (T)**	Dresden, Germany
	Genome wide dynamics of Setd1a Complex.	

Extracurricular

Jan, 2013 - current	**Biostars.org**	Worldwide Access
	Moderator at BioStar: An Online Question & Answer Resource for the Bioinformatics Community.	
Jul - Aug, 2016	**Iceland Forest Service (Skógrækt ríkisins)**	Thórsmörk, Iceland
	Volunteer with Skógrækt ríkisins for trail maintenance programme in and around Thórsmörk.	
Jun - Jul, 2015	**Ryfylke Outdoor Recreation Board (Ryfylke Friluftsråd)**	Lindoy, Norway
	Volunteer with Ryfylke Friluftsråd for ensuring general public access to the recreational areas.	
Aug, 2014	**Lysefjorden Utvikling AS**	Lysefjord, Norway
	Volunteer with Lysefjorden Utvikling for Trail maintenance and repair.	
Jul, 2012	**Global Foundaries Inc.**	Radebeul, Germany
	Participated in Futurabia, a four day industry organizational simulation game	