

Sukhdeep Singh



Contact

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Stewart Lab, Biotech
Tatzberg 47, 01307 Dresden,
Germany

Area of Expertise

ChIP-Seq, RNA-SEQ, NGS
data analysis, open source,
high performance computing,
complex data visualizations.

Programming Languages

♥ R, Bash/Shell, Javascript,
Perl-CGI, Git, 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 Biotech-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
PhD in Bioinformatics (Magna cum Laude)

Dresden, Germany

Thesis: Investigating Genome Wide Dynamics of H3K4 Methyltransferases in Mouse Embryonic Stem Cells.

Jan, 2009 - Jan, 2010

University of Leicester
MSc in Bioinformatics (Merit)

Leicester, UK

Thesis: Structured Spreadsheet Web Interface for Neurophysiology Data Analysis.

Aug, 2004 - Jul, 2008

Kurukshetra University
B.Tech in Biotechnology (First Class Honours)

Kurukshetra, India

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