# Sukhdeep **Singh**

## Contact

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Groningen, Netherlands

## Area of Expertise

NGS data analyis, open source, high performance computing, complex data visualizations, customized genomics solutions.

## Programming Languages

♥ R, Bash/Shell, Git, HTML CSS, LATEX, Linux

## 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

Currently working as **Bioinformatics Scientist** at HZPC Research B.V. where I have been creating and managing advanced Bioinformatics infrastructure to assist in state of art plant breeding. My research experience includes Epigenetics, **plant/mammalian** Bioinformatics, **marker** discovery, **genome** assemblies and addressing complex scientific questions using computation.
I have developed scalable computational pipelines to handle and analyze genomics **big data** employing **High-Performance** computing. I have led sundry high value projects including infrastructure development, grant acquisition, Agile based customized project solutions with several visualization paradigms and HPC/cloud deployments. I have substantial experience with team building, global networking, public relations, innovation and technology scouting. I have worked in diverse settings where I have gained extensive computational, **leadership**, independency and entrepreneurial/corporate skills in a broad range scientific **international** environment.

## Research Experience

**Mar, 2017 -**   **HZPC Research B.V.**     Metslawier, Netherlands
*Bioinformatics Scientist*
Creating, managing and supporting advanced Bioinformatics infrastructure to assist in high-quality production of fourth-largest food crop in the world. I am directly engaged in NGS-based research using high-throughput genomics for the development and application of breeding and selection purposes.

**Jul,11 - Feb, 2017**   **SyBoSS Project (Systems Biology of Stem Cells and Reprogramming)** Dresden, Germany
*Bioinformatics Scientist*
Worked with **Prof.Francis Stewart** on EC-FP7 SYBOSS project Investigating Transcriptional and Epigenetic foundations of Pluripotency states in Mammalian Embryonic stem cells (and other international projects) resulting in numerous publications. Automated data analysis pipelines were developed.

**Aug - Sep, 2011**   **Wellcome Trust Sanger Institute**     Cambridge, UK
*Visiting Researcher*
Worked with **Dr.Vivek Iyer** on correlating gene targeting efficiencies 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 was developed.

**Jul - Sep, 2010**   **Imperial College London**     London, UK
*Visiting Researcher*
Worked with **Dr.Timothy Ebbels** on 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*
Market research of disease and technology relationship for surgical and non-surgical methods of spine. A data resource was constructed .

# Education

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|---|---|---|
| Jul, 2011 - Sep, 2016 | **BIOTEC - Technical University of Dresden (joint with MPI-CBG)** | 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

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| 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

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|---|---|---|
| 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

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| 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

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|---|---|---|
| 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 | |