

HALFDAN RYDBECK

Profile

Expert in applied bioinformatics with 8+ years of experience in providing transparent and reproducible solutions for diverse areas of biological and medical research. Deep knowledge of underlying issues in need of bioinformatics support. Experience includes genetic epidemiology of rare diseases, integrative omics analysis of data from cancer tissue and immune cells, micro array analysis, preprocessing to final analysis of NGS output, sequence alignment and assembly working with non-human genomes from bacteria to fish species and wolf in evolutionary research and finally integrative analysis of proteomics, clinical and brain imaging data. Experience running jobs with queuing systems on high performance clusters.

Objective

To improve biological/medical insight through the development of computational infrastructure and algorithms

Driving forces

Understanding more about life, who we are, and to cure disease

Strengths

I love being creative and come up solutions that wasn't thought of in advance but am also careful that no negative consequences have an impact on anyone else. I work very hard to achieve the intended result which has been decided from the start on time. I am not pretentious. I speak my mind and make it safe for others to do so.



RESEARCH EXPERIENCE

2022
|
2020

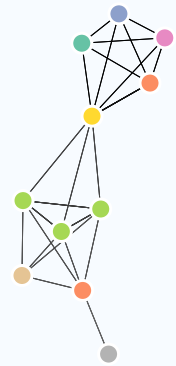


Researcher bioinformatics

Core Facilities Bioinformatics vid Sahlgrenska Akademien, University of Gothenburg

📍 Göteborg, Sweden

- Developed a [pipeline](#) of rscripts to perform pathway and correlation network analysis of cord blood plasma proteomics data. Worked with Rstudio and the R package collections Bioconductor and Tidyverse. Reports were generated with R notebooks and the R package Bookdown. Github and GitKraken is used for code version control. Recently applied R packages are DEqMS for differential expression analysis of mass spectrometry data, WGCNA for proteins correlation analysis and ReactomeGSA for pathway analysis



View this CV online with links at <https://rpubs.com/halryd/cv>

CONTACT

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🐦 [hrydbeck](https://twitter.com/hrydbeck)

🔗 github.com/hrydbeck

🔗 halfdanrydbeck.me

in https://www.linkedin.com/in/halfdan_rydbeck






LANGUAGE SKILLS



Made with the R package [pagedown](#).



The source code is available [here](#).

Last updated on 2022-03-22.

- 2017
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2014
- Senior engineer bioinformatics**
 Norwegian Sequencing Center  University of Oslo, Norway
 - Set up server infrastructure for NGS data handling. Manged NGS file servers, user access and data delivery. Examples of downstream analysis: Blasted an exon sequence against multiple assembled fish genomes to look for systematic loss in phylogeny. Analyzed bacterial methylomes, sequenced with Pacbio in, respect to virulens. System setup, user management, data preprocessing, delivery and down stream analysis of Illumina and Pacbio sequence data at the Norwegian DNA sequencing center. Workflow automation with cron and make
- 2008
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2007
- Principal engineer**
 Bioinformatics core facility  Rikshospitalet HF, Norway
 - Microarray gene expression analysis
 - Developing network-based methods to investigate and visualize clinically relevant patterns in data.
- 2007
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2006
- Research assistant**
 Human Genetics division  Children's Hospital of Philadelphia, USA
 - Bash and scripting for data wrangling and testing Solar, Plink, TDT, Merlin, STATA, SAS, R
 - Work primarily done in R Shiny and Javascript (node and d3js).
- 2005
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2004
- Senior research assistant**
 Dept. of genetic epidemiology  A. I duPont Hospital for Children, USA
 - Used software for genetic linkage and association studies of diseases/syndroms Velocardiofacial Syndrome, ADHD, Neuroblastoma, Osteoporosis, Cornelia de Lange's syndrome and Myopia · Solar, Plink, TDT, Merlin, STATA, SAS, R
- 2004
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2002
- Database coordinator**
 Human Genetics division  Children's Hospital of Philadelphia, USA
 - Manged a database for SNP information Progeny2000



TEACHING EXPERIENCE

- 2018
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2017
- R for reproducible scientific programming**
 Software carpentry  Oslo Norway
 - Covered introduction to R language for statistics applications
 - Graduate level class
- 2018
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2017
- Version controlling with git and github**
 Software carpentry  Oslo Norway
 - Topics covered from penalized regression to boosted trees and neural networks
 - Highest level course offered in department

Calmness and exitement are good conditions for teaching and learning

2018
|
2017



Unix

Software carpentry

📍 Oslo Norway

- Covered modern statistical computing algorithms
- 4th year PhD level class



EDUCATION

2012
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2007



PhD bioinformatics

Medical faculty, University of Oslo

📍 Oslo, Norway

- PhD project with thesis title: Integrative epigenome analysis¹. Scripts developed in R and [The Genomic Hyperbrowser](#) was used to study the dependencies and select genes, based on genomic, epigenomic and transcriptomic alterations in samples from osteosarcoma and immune cells. The gene expression, promoter methylation and DNA copy number data were acquired by oligonucleotide microarray technology, and the histone modification data was acquired by technology based on chromatin immune precipitation and next generation sequencing, ChIP-seq. Developed an R package for clustering of genomic tracks.
- University Graduate Fellow

2001
|
2000



Master of Science in Bioinformatics

Chalmers University of Technology

📍 Gothenburg, Sweden

1999
|
1993



Master of Science in Molecular biology

University of Gothenburg /Uppsala

📍 Göteborg/Uppsala, Sweden



SELECTED PUBLICATIONS, POSTERS, AND TALKS

2022
|
2022



The proteome signature of cord blood plasma with high hematopoietic stem and progenitor cell count²

Stem Cell Research

- Authored with Anders K.Nilsson, Annika Thorsell, Sofia Frändberg, Helena Barreto Henriksson, Camilla Hesse, Gunnel Hellgren, Pia Lundgren, AnnHellström



LINKS

Sometimes I am almost tireless. This means that I fight hard so that the tasks or projects I undertake are completed on time and I do not give up until I've achieved the intended result

References are available on request

1: <https://www.duo.uio.no/handle/10852/39398?locale=attribute=en>

2: <https://www.sciencedirect.com/science/article/pii/S1873506122001015>