


# ino de bruijn

bioinformatics engineer

## contact

 Brooklyn, USA

 ino.bio

 ino@ino.bio

 github.com/inodb

## languages

English fluency

Dutch native

Swedish proficiency

## analysis

 Python

pandas, numpy

matplotlib, seaborn

## scripting

Bash, AWK

## pipelines

GNU Make

snakemake

## devops

Travis-CI, CircleCI

AWS, Heroku

Docker, Kubernetes

Git, Mercurial

## frontend

React, MobX, D3

TypeScript

## backend

Spring Boot

Flask, Django

## databases

MySQL, PostgreSQL

MongoDB

## experience

2015–now

### Memorial Sloan Kettering Cancer Center

New York City, US

*Bioinformatics Engineer*

Developer of Knowledge Systems in Dr Schultz' lab. Primarily the open source cBioPortal for Cancer Genomics. The portal provides visualization, analysis, and downloads of large-scale cancer genomics data sets.

React, MobX, Spring Boot, MySQL, Continuous Integration, Docker, Kubernetes, AWS

First two years developer of analysis pipeline in Dr Reis-Filho's breast cancer research lab. Pipeline performs mutation calling, copy number calling and estimates ploidy, purity and clonality.

Cluster computing, Python, Bash, R

2011–2014

### SciLifeLab

Stockholm, Sweden

*Bioinformatician*

Developer of analysis pipeline in the environmental genomics research group at SciLifeLab. Consulted research groups within Sweden regarding DNA short read assembly.

Cluster computing, Python, Bash, R

Full stack developer for a lab information management system for the Ettema Lab.

Django, Python

2006–2010

### Freelance Web Developer

Amsterdam, Netherlands

*Self-Employed*

Developed websites for Dutch clients including the Anne Frank House.

PHP, MySQL, CSS, HTML

2010

### Composer

Amsterdam, Netherlands

*Self-Employed*

Composed music for a trailer of comic book De Terugkeer.

Ableton, Guitar, Drums, Keyboard

## education

2010–2013

### Masters in Bioinformatics

Stockholm University, Sweden

*Thesis - Graded A*

Benchmark of *de novo* Short Read Assembly Strategies for Metagenomics

Cluster computing, statistics, parallelization, Python, Bash, R

2006–2009

### Bachelor in Computer Science

University of Amsterdam, Netherlands

*Teaching Assistant*

Databases 1, Databases 2, Database Techniques, Program Algebra

## publications

Up-to-date list at [ino.pm/papers](http://ino.pm/papers)

### Individual physiological adaptations enable selected bacterial taxa to prevail during long-term incubations

DPR Herlemann, S Markert, C Meeske, Anders F Andersson, Ino De Bruijn, C Hentschker, F Unfried, D Becher, K Jürgens, T Schweder

*Applied and environmental microbiology* 85.15 (2019) e00825–19. *American Society for Microbiology*, 2019

### Integration and analysis of CPTAC proteomics data in the context of cancer genomics in the cBioPortal

Pamela Wu, Zachary J Heins, James T Muller, Lizabeth Katsnelson, Ino De Bruijn, Adam A Abeshouse, Nikolaus Schultz, David Fenyo, Jianjiong Gao

*Molecular & Cellular Proteomics* 18.9 (2019) pp. 1893–1898. *American Society for Biochemistry and Molecular Biology*, 2019

### High-intensity sequencing reveals the sources of plasma circulating cell-free DNA variants

Pedram Razavi, Bob T Li, David N Brown, Byoungsok Jung, Earl Hubbell, Ronglai Shen, Wassim Abida, Krishna Juluru, Ino De Bruijn, Chenlu Hou

*Nature medicine* (2019) pp. 1–10. *Nature Publishing Group*, 2019

### Loss-of-function mutations in ATP6AP1 and ATP6AP2 in granular cell tumors

Fresia Pareja, Alissa H Brandes, Thais Basili, Pier Selenica, Felipe C Geyer, Dan Fan, Arnaud Da Cruz Paula, Rahul Kumar, David N Brown, Rodrigo Gularte-Mérida, Barbara Alemar, Rui Bi, Raymond S Lim, Ino De Bruijn

*Nature communications* 9.1 (2018) p. 3533. *Nature Publishing Group*, 2018

### Genetic heterogeneity in therapy-naive synchronous primary breast cancers and their metastases

François-Clément Bidard, Charlotte KY Ng, Salvatore Piscuoglio, Felipe C Geyer, Raymond Lim, Ino De Bruijn, Ronglai Shen, Fresia Pareja, Samuel Berman, Lu Wang

*Clinical Cancer Research* (2017) *clincanres*–3115. *American Association for Cancer Research*, 2017

### Ninety-nine de novo assembled genomes from the moose (*Alces alces*) rumen microbiome provide new insights into microbial plant biomass degradation

Olov Svartström, Johannes Alneberg, Nicolas Terrapon, Vincent Lombard, Ino De Bruijn, Jonas Malmsten, Ann-Marie Dalin, Emilie EL Muller, Pranjul Shah, Paul Wilmes

*The ISME journal* 11.11 (2017) p. 2538. *Nature Publishing Group*, 2017

### Diverse BRCA1 and BRCA2 reversion mutations in circulating cell-free DNA of therapy-resistant breast or ovarian cancer

Britta Weigelt, Iñaki Comino-Méndez, Ino De Bruijn, Lei Tian, Jane L Meisel, Isaac Garcia-Murillas, Charlotte Fribbens, Ros Cutts, Luciano G Martelotto, Charlotte KY Ng

*Clinical Cancer Research* (2017) *clincanres*–0544. *American Association for Cancer Research*, 2017

### Genomic and transcriptomic heterogeneity in metaplastic carcinomas of the breast

Salvatore Piscuoglio, Charlotte KY Ng, Felipe C Geyer, Kathleen A Burke, Catherine F Cowell, Luciano G Martelotto, Rachael Natrajan, Tatiana Popova, Christopher A Maher, Raymond S Lim, Ino De Bruijn

*NPJ breast cancer* 3.1 (2017) p. 48. *Nature Publishing Group*, 2017

### Reconstructing a hydrogen-driven microbial metabolic network in Opalinus Clay rock

Alexandre Bagnoud, Karuna Chourey, Robert L Hettich, Ino De Bruijn, Anders F Andersson, Olivier X Leupin, Bernhard Schwyn, Rizlan Bernier-Latmani

*Nature communications* 7 (2016) p. 12770. *Nature Publishing Group*, 2016

### A minimalistic microbial food web in an excavated deep subsurface clay rock

Alexandre Bagnoud, Ino De Bruijn, Anders F Andersson, Nikitas Diomidis, Olivier X Leupin, Bernhard Schwyn, Rizlan Bernier-Latmani

*FEMS microbiology ecology* 92.1 (2016). *Oxford University Press*, 2016

### Uterine adenocarcinomas are mesenchymal neoplasms

Salvatore Piscuoglio, Kathleen A Burke, Charlotte KY Ng, Anastasios D Papanastasiou, Felipe C Geyer, Gabriel S Macedo, Luciano G Martelotto, Ino De Bruijn, Maria R De Filippo, Anne M Schultheis  
*The Journal of pathology* 238.3 (2016) pp. 381–388. *John Wiley & Sons, Ltd Chichester, UK, 2016*

**Massively parallel sequencing of phyllodes tumours of the breast reveals actionable mutations, and TERT promoter hotspot mutations and TERT gene amplification as likely drivers of progression**

Salvatore Piscuoglio, Charlotte KY Ng, Melissa Murray, Kathleen A Burke, Marcia Edelweiss, Felipe C Geyer, Gabriel S Macedo, Akiko Inagaki, Anastasios D Papanastasiou, Luciano G Martelotto, Caterina Marchio, Raymond S Lim, Rafael A Ioris, Pooja K Nahar, Ino De Bruijn  
*The Journal of pathology* 238.4 (2016) pp. 508–518. *John Wiley & Sons, Ltd Chichester, UK, 2016*

**Binning metagenomic contigs by coverage and composition**

Johannes Alneberg, Brynjar Smári Bjarnason, Ino De Bruijn, Melanie Schirmer, Joshua Quick, Umer Z Ijaz, Leo Lahti, Nicholas J Loman, Anders F Andersson, Christopher Quince  
*Nature methods* 11.11 (2014) p. 1144. *Nature Publishing Group, 2014*

## TCGA Working Group Papers

Spatial organization and molecular correlation of tumor-infiltrating lymphocytes using deep learning on pathology images

Joel Saltz, Rajarsi Gupta, Le Hou, Tahsin Kurc, Pankaj Singh, Vu Nguyen, Dimitris Samaras, Kenneth R Shroyer, Tianhao Zhao, Rebecca Batiste

*Cell reports 23.1 (2018) p. 181. NIH Public Access, 2018*

Integrated Genomic Analysis of the Ubiquitin Pathway across Cancer Types

Zhongqi Ge, Jake S Leighton, Yumeng Wang, Xinxin Peng, Zhongyuan Chen, Hu Chen, Yutong Sun, Fan Yao, Jun Li, Huiwen Zhang

*Cell reports 23.1 (2018) pp. 213–226. Elsevier, 2018*

The Cancer Genome Atlas Comprehensive Molecular Characterization of Renal Cell Carcinoma

Christopher J Ricketts, Aguirre A De Cubas, Huihui Fan, Christof C Smith, Martin Lang, Ed Reznik, Reanne Bowlby, Ewan A Gibb, Rehan Akbani, Rameen Beroukhim

*Cell reports 23.1 (2018) pp. 313–326. Elsevier, 2018*

Genomic and molecular landscape of DNA damage repair deficiency across The Cancer Genome Atlas

Theo A Knijnenburg, Linghua Wang, Michael T Zimmermann, Nyasha Chambwe, Galen F Gao, Andrew D Cherniack, Huihui Fan, Hui Shen, Gregory P Way, Casey S Greene

*Cell reports 23.1 (2018) p. 239. NIH Public Access, 2018*

Pan-Cancer analysis of lncRNA regulation supports their targeting of cancer genes in each tumor context

Hua-Sheng Chiu, Sonal Somvanshi, Ektaben Patel, Ting-Wen Chen, Vivek P Singh, Barry Zorman, Sagar L Patil, Yinghong Pan, Sujash S Chatterjee, Anil K Sood

*Cell reports 23.1 (2018) p. 297. Elsevier, 2018*

Somatic mutational landscape of splicing factor genes and their functional consequences across 33 cancer types

Michael Seiler, Shouyong Peng, Anant A Agrawal, James Palacino, Teng Teng, Ping Zhu, Peter G Smith, Samantha J Caesar-Johnson, John A Demchok, Ina Felau

*Cell reports 23.1 (2018) pp. 282–296. Elsevier, 2018*

Driver fusions and their implications in the development and treatment of human cancers

Qingsong Gao, Wen-Wei Liang, Steven M Foltz, Gnanavel Mutharasu, Reyka G Jayasinghe, Song Cao, Wen-Wei Liao, Sheila M Reynolds, Matthew A Wyczalkowski, Lijun Yao

*Cell reports 23.1 (2018) pp. 227–238. Elsevier, 2018*

Genomic, pathway network, and immunologic features distinguishing squamous carcinomas

Joshua D Campbell, Christina Yau, Reanne Bowlby, Yuexin Liu, Kevin Brennan, Huihui Fan, Alison M Taylor, Chen Wang, Vonn Walter, Rehan Akbani

*Cell reports 23.1 (2018) p. 194. NIH Public Access, 2018*

Molecular Characterization and Clinical Relevance of Metabolic Expression Subtypes in Human Cancers

Xinxin Peng, Zhongyuan Chen, Farshad Farshidfar, Xiaoyan Xu, Philip L Lorenzi, Yumeng Wang, Feixiong Cheng, Lin Tan, Kamalika Mojumdar, Di Du

*Cell reports 23.1 (2018) pp. 255–269. Elsevier, 2018*

Systematic analysis of splice-site-creating mutations in cancer

Reyka G Jayasinghe, Song Cao, Qingsong Gao, Michael C Wendl, Nam Sy Vo, Sheila M Reynolds, Yanyan Zhao, Héctor Climente-González, Shengjie Chai, Fang Wang

*Cell reports 23.1 (2018) pp. 270–281. Elsevier, 2018*

A comprehensive Pan-Cancer molecular study of gynecologic and breast cancers

Ashton C Berger, Anil Korkut, Rupa S Kanchi, Apurva M Hegde, Walter Lenoir, Wenbin Liu, Yuexin Liu, Huihui Fan, Hui Shen, Visweswaran Ravikumar

*Cancer Cell 33.4 (2018) pp. 690–705. Cell Press, 2018*

Comparative molecular analysis of gastrointestinal adenocarcinomas

Yang Liu, Nilay S Sethi, Toshinori Hinoue, Barbara G Schneider, Andrew D Cherniack, Francisco Sanchez-Vega, Jose A Seoane, Farshad Farshidfar, Reanne Bowlby, Mirazul Islam  
*Cancer Cell 33.4 (2018) pp. 721–735. Cell Press, 2018*

**lncRNA Epigenetic Landscape Analysis Identifies EPIC1 as an Oncogenic lncRNA that Interacts with MYC and Promotes Cell-Cycle Progression in Cancer**

Zehua Wang, Bo Yang, Min Zhang, Weiwei Guo, Zhiyuan Wu, Yue Wang, Lin Jia, Song Li, Samantha J Caesar-Johnson, John A Demchok  
*Cancer Cell 33.4 (2018) pp. 706–720. Cell Press, 2018*

**Genomic and functional approaches to understanding cancer aneuploidy**

Alison M Taylor, Juliann Shih, Gavin Ha, Galen F Gao, Xiaoyang Zhang, Ashton C Berger, Steven E Schumacher, Chen Wang, Hai Hu, Jianfang Liu  
*Cancer Cell 33.4 (2018) pp. 676–689. Cell Press, 2018*

**The immune landscape of cancer**

Vésteinn Thorsson, David L Gibbs, Scott D Brown, Denise Wolf, Dante S Bortone, Tai-Hsien Ou Yang, Eduard Porta-Pardo, Galen F Gao, Christopher L Plaisier, James A Eddy  
*Immunity 48.4 (2018) pp. 812–830. Cell Press, 2018*

**Comprehensive analysis of alternative splicing across tumors from 8,705 patients**

André Kahles, Kjong-Van Lehmann, Nora C Toussaint, Matthias Hüser, Stefan G Stark, Timo Sachsenberg, Oliver Stegle, Oliver Kohlbacher, Chris Sander, Samantha J Caesar-Johnson  
*Cancer cell 34.2 (2018) pp. 211–224. Cell Press, 2018*

**A Pan-Cancer Analysis Reveals High-Frequency Genetic Alterations in Mediators of Signaling by the TGF- $\beta$  Superfamily**

Anil Korkut, Sobia Zaidi, Rupa S Kanchi, Shuyun Rao, Nancy R Gough, Andre Schultz, Xubin Li, Philip L Lorenzi, Ashton C Berger, Gordon Robertson  
*Cell systems 7.4 (2018) pp. 422–437. Cell Press, 2018*

**Comprehensive molecular characterization of the Hippo signaling pathway in cancer**

Yumeng Wang, Xiaoyan Xu, Dejan Maglic, Michael T Dill, Kamalika Mojumdar, Patrick Kwok-Shing Ng, Kang Jin Jeong, Yiu Huen Tsang, Daniela Moreno, Venkata Hemanjani Bhavana  
*Cell reports 25.5 (2018) pp. 1304–1317. Elsevier, 2018*