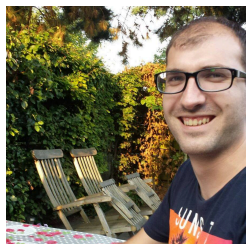


# sanderbollen

Bioinformatician / Scientific Programmer



## Personal details

**Full name:** Alexander  
Henriette Bernardus  
(Sander) Bollen

**Date of birth:** 11 June  
1990

**Place of birth:** Heerlen,  
the Netherlands

**Nationality:** Dutch

## contact

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sander@sndrtj.eu  
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## languages

Dutch: mother tongue  
English: Good  
German: Intermediate  
French: Basic

## programming

Python, Rust, Scala, R,  
Javascript, Java & Perl

## education

Sep 2011 - Apr 2014 **Master** of Science in Biomedical Sciences Utrecht University, Utrecht, NL  
Specialization: Cancer Genomics & Developmental Biology

Research master at Utrecht University in Biomedical Sciences, with a specialization in Cancer Genomics & Developmental Biology.

Master thesis: *CAFE: An R package on caffeine*

Sep 2007 - Jul 2011 **Bachelor** of Applied Science in Biomedical Sciences Zuyd University, Heerlen, NL  
Biomedical Sciences.

Four year programme. First two years mixed with Chemistry and Chemical Technology.

Sep 2002 - Jul 2007 **HAVO** high school certificate Porta Mosana College, Maastricht, NL  
HAVO at Porta Mosana College high school in Maastricht, the Netherlands.  
Mixed profile NG & EM.

## experience

Jun 2014 - current **Leiden University Medical Center** Leiden, NL  
*Bioinformatician / Scientific Programmer*

Building and maintaining Next-Generation Sequencing pipelines for diagnostics, using various pipeline frameworks while utilizing a great variety of bioinformatics tools, including Samtools, Variant Effect Predictor and the GATK.

Developing bioinformatics tools and (RESTful) services. Primary programming languages are python, scala and rust.

Applying machine learning and data science to bioinformatics.

Dec 2012 - Aug 2013 **Max Delbrück Center for Molecular Medicine** Berlin, Germany  
*Intern*

Master internship at the Computational Biology and Data Mining Group at the Max Delbrück Center for Molecular Biology in Berlin as part of my Master studies. I developed an R package called *CAFE* for the detection of chromosomal abnormalities from microarray expression data. *CAFE* includes a range of plotting tools for easy visualization of detected abnormalities.

An article describing *CAFE* was published in *Bioinformatics*.

- Sep 2011 - Aug 2012 **UMC Utrecht** Utrecht, the Netherlands  
*Intern*  
 Master internship at the department of Medical Oncology at the lab of Susanne Lens, as part of my Master studies. I investigated the spatial localization of the Chromosomal Passenger Complex onto chromosomal arms during prophase and prometaphase.  
 Primary research techniques were immunoprecipitation, and confocal immunofluorescence microscopy.
- Nov 2010 - Jun 2011 **Leiden University** Leiden, the Netherlands  
*Intern*  
 Internship as researcher at the department of Molecular Genetics at the lab of Remus Dame, as part of my bachelor studies. I conducted research on chromatin condensation and CRISPR.  
 Primary research techniques were Tethered Particle Motion and Atomic Force Microscopy.
- Aug 2010 - Feb 2011 **Koninklijke TNT Post** Maastricht, the Netherlands  
*Mail carrier*  
 Maastricht branch of Dutch postal services. Company now renamed to "PostNL".
- Sep 2009 - Feb 2010 **Erasmus Medical Center** Rotterdam, the Netherlands  
*Intern*  
 Internship as researcher at the department of *Pediatrics Oncology* at the lab of Ronald Stam, as part of bachelor studies. Conducted research on apoptosis inhibition in MLL-rearranged infant acute lymphoblastic leukemia.  
 Primary research techniques were RNA interference, RT-PCR and western blotting.
- Oct 2008 - Aug 2009 **Vroom & Dreesmann** Maastricht, the Netherlands  
*Cashier*  
 Maastricht branch of Vroom & Dreesmann department stores
- May 2006 - May 2007 **Albert Heijn** Maastricht, the Netherlands  
*Cashier*  
 Most successful branch of Albert Heijn supermarkets in the Netherlands

## other activities

- 2010 - 2012 **Apollo Rotterdam** Rotterdam, the Netherlands  
 Volunteer at Apollo Rotterdam, a social organization focused on providing a comfortable area for young LGBT people (up to 27 years old) in the Rotterdam metropolitan area. My activities included organizing *theme evenings* and bar tending.
- 2009 - 2011 **Zuyd University** Heerlen, the Netherlands  
 Member of the student education committee (*opleidingscommissie* in Dutch) of the Life Sciences faculty at Zuyd University. This committee is tasked with improving the level of education, in close cooperation with faculty staff.
- 2006 - 2008 **COC Maastricht** Maastricht, the Netherlands  
 Volunteer at the Maastricht branch of COC, a nation-wide LGBT rights organization in the Netherlands. I helped set up the *Jong & Out* youth group (until 18 years old), the first in the country. This concept later went nation-wide, with *Jong & Out* groups now available in most major cities in the Netherlands.

## Courses and Certificates

- |      |   |                       |
|------|---|-----------------------|
| 2017 | <b>Pattern recognition</b><br>Pattern recognition course by the BioSB Research School.<br>Certificate number: PR17-006. | BioSB Research School |
| 2014 | <b>Kwaliteitsborging van informatietechnologie in laboratoria</b><br>Quality assurance of IT in laboratories course     | QEducation            |

## publications

### article in peer-reviewed journal

Origin and clinical relevance of chromosomal aberrations other than the common trisomies detected by genome-wide NIPS: results of the TRIDENT study

Van Opstal, D., Maarle, M. C. van, Lichtenbelt, K., Weiss, M. M., Schuring-Blom, H., Bhola, S. L., Hoffer, M. J., Huijsdens-van Amsterdam, K., Macville, M. V., Kooper, A. J., Bollen, S., et al

*Genetics in Medicine (2017). Nature Publishing Group, 2017*

CAFE: an R package for the detection of gross chromosomal abnormalities from gene expression microarray data

Bollen, S., Leddin, M., Andrade-Navarro, M. A., and Mah, N.

*Bioinformatics (2014). 2014*

CRISPR immunity relies on the consecutive binding and degradation of negatively supercoiled invader DNA by Cascade and Cas3

Westra, E. R., Erp, P. B. van, Künne, T., Wong, S. P., Staals, R. H., Seegers, C. L., Bollen, S., Jore, M. M., Semenova, E., Severinov, K., et al

*Molecular cell 46.5 (2012) pp. 595–605. Elsevier, 2012*