How is it to work as a research scientist at Roche Pharma Research and Early Development

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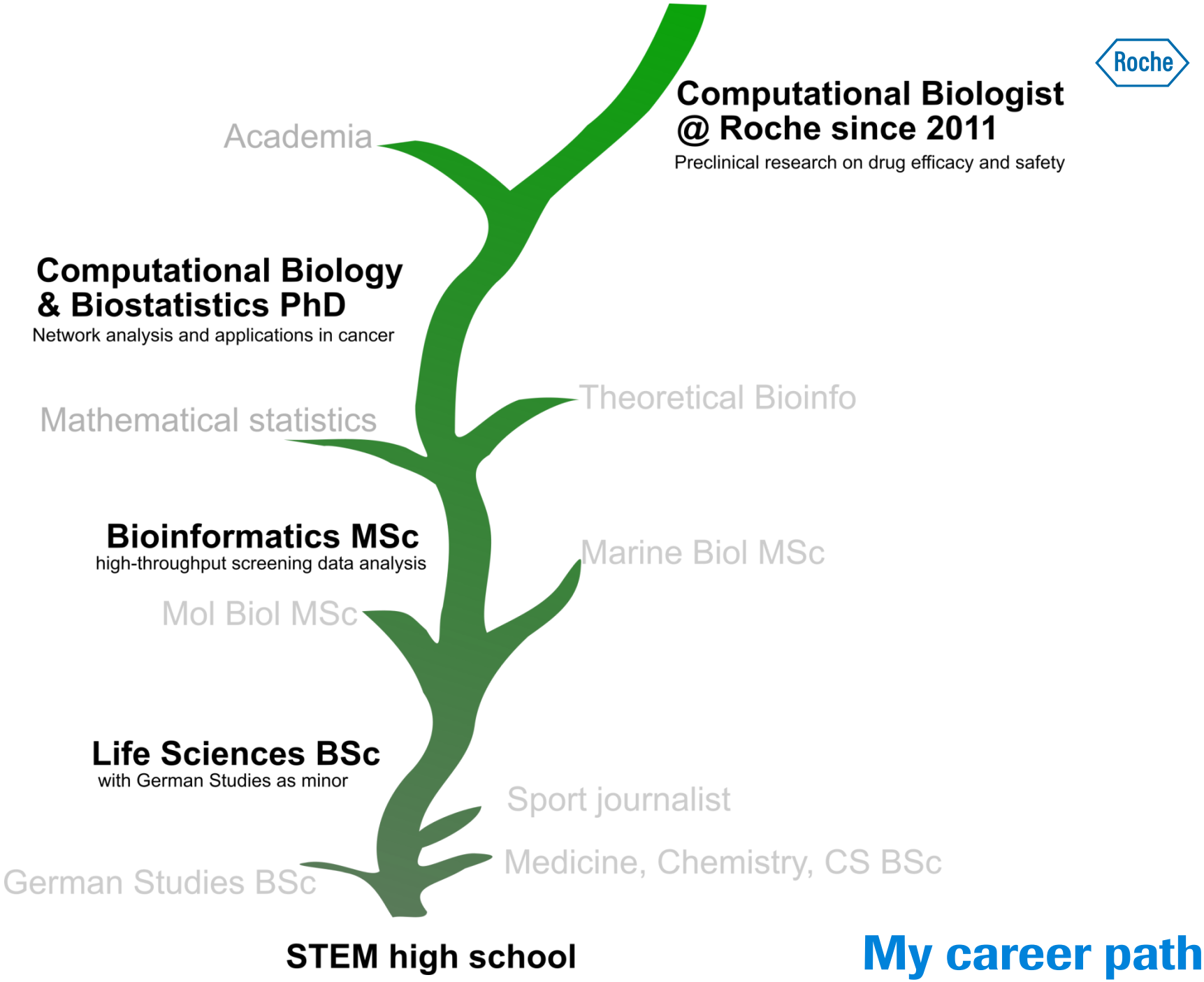
Roche Innovation Center Basel, F. Hoffmann-La Roche Ltd.
Zürich Life Science Day 2018

Roche *pRED*

Outline

1. Who I am, and what do I do at Roche?
2. Why should talented and motivated scientists join Roche?
3. What opportunities are there to start a scientific career at Roche?


Roche
Computational Biologist
@ Roche since 2011
Preclinical research on drug efficacy and safety
Academia
Computational Biology
& Biostatistics PhD
Network analysis and applications in cancer
Theoretical Bioinfo
Mathematical statistics
Bioinformatics MSc
high-throughput screening data analysis
Marine Biol MSc
Mol Biol MSc
Life Sciences BSc
with German Studies as minor
Sport journalist
Medicine, Chemistry, CS BSc
German Studies BSc
STEM high school
My career path

A typical working day of mine

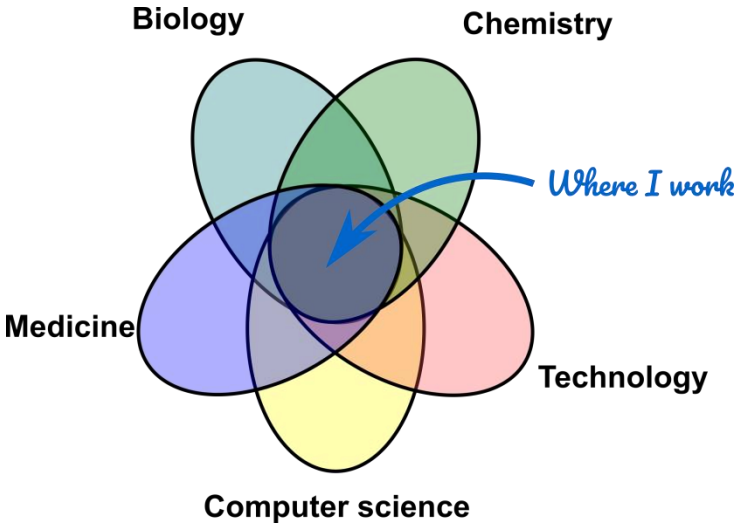
1. **Meeting** with >20 people: presenting the results of an experiment of drug candidates in project X, get feedback, and contribute to making decisions about next steps;
2. **Work** on an integrative analysis of RNA-seq and phosphoproteomics data generated in project Y;
3. **Teleconference**: consultation on experiment design and data analysis plan of a new project in Shanghai;
4. Continue with **work** item 2;
5. **Discuss** with a master student about a specific problem in his project;
6. Continue with **work** item 2;
7. **Lunch** appointment with colleagues from other departments;
8. Continue with **work** item 2, and search literature about some interesting findings;
9. **Meeting** with three people via *Webex*: trouble shooting for experiments of project Z;
10. **Discuss** a recent paper and its implications with a PostDoc co-supervised by me;
11. 1-1 meeting: prepare for a bigger meeting on a research initiative next week;
12. Continue with **work** item 2, document the results and codes generated, and start making presentations.

pRED: International, Interdisciplinary, and Impactful

The composition of the group I am in

Bioinformatics and Exploratory Data Analysis in Pharmaceutical Sciences, pRED (N=29)

We bring different expertise together and learn from each other



We support three Disease & Therapeutic Areas with a strong pipeline

Oncology

Neuroscience, Ophthalmology, and Rare Diseases (NORD)

Immunology, Inflammation, and Infectious Diseases (I3)

Where I currently support most projects

I am thankful that I can benefit from a great environment, and that I can contribute to it

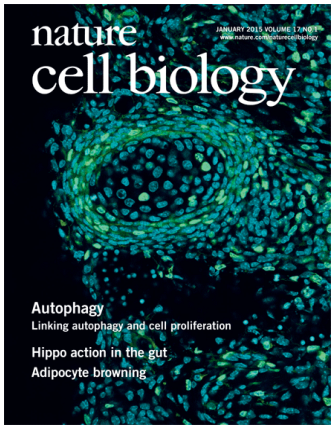
Projects

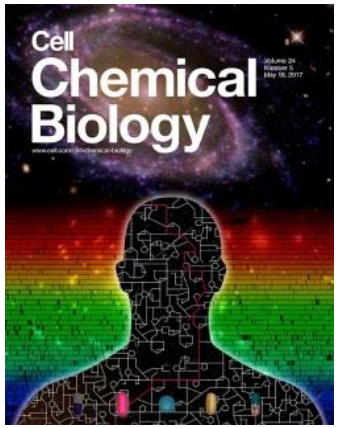
I have contributed to two projects in which the drug candidate is now in clinical trials: RG7314 (autism) and RG7907 (HBV). Most projects are still in the pre-clinical phase.

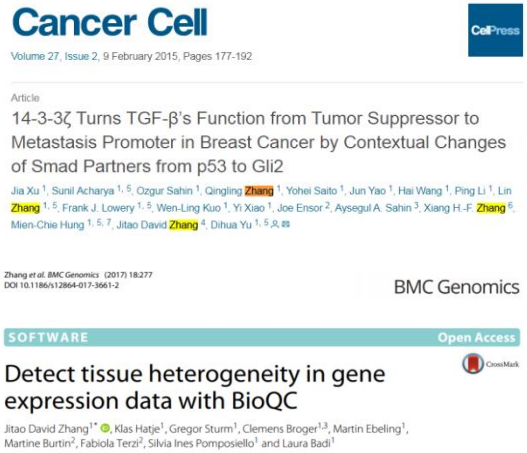
Trainings

- Presentation skills
- Medicinal chemistry
- Clinical trials
- People management
- Chemoinformatics
- Deep neural networks
- Coaching & feedback
- Toxicology and mechanistic safety

Publications







Three reasons why I believe that talented and motivated life scientists should join Roche

- **The Grand Challenge of Human Diseases**: make tangible impact on patients' lives
- **Preferential attachment**: join the circle of talented, motivated, and well connected scientists
- **3D growth**: develop yourself personally, professionally, and get a fair understanding of the drug-discovery process

Internships for MSc/PhD students

Maria **Lourdes Rosano** Gonzalez

Disease target prioritization with gene expression data

Moaraj Hasan

(Semi-)automatic mining of publicly-domain gene expression data

Tao Fang

Deep learning for prediction of drug safety profiles

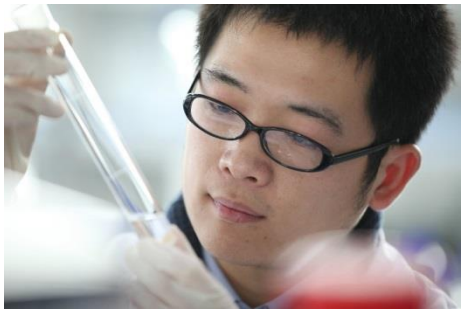
We are looking for talented and motivated MSc/PhD students for a 6-12 month internship on an interdisciplinary bioinformatics-chemoinformatics project

Talk with me afterwards if you are interested

Opportunities for PhD students and PostDocs

- **Internships,** for instance **RISE** (Roche Internships for Scientific Exchange), and RICH/RISM for medical chemistry and small molecules. **Key information on RISE**:
  - 3-9 months projects in **Neuroscience**, **Ophthalmology** or **Rare Diseases**;
  - Opportunity for hands-on experience in industrial scientific research, and publication of results is strongly encouraged and supported;
  - Interns receive salary, travel expenses and accommodation;
  - A letter of support from academic mentor is mandatory;
  - All positions are posted on careers.roche.ch/rise in May and November.

- **RPF** (Roche Postdoc Fellowship). Two positions that were recently fulfilled with highly talented and motivated PhD/PostDocs:
  - Personalized Safety
  - **IMPACTS** (IMmune-PAthway Characterisation with Tool-compound Screening), co-supervised by a neuroscientist with immunological background, an iPS expert, and me, a computational biologist.



- Other temporary and permanent positions

Conclusions

- I am a computational biologist working on drug discovery. I contribute to developing new, efficacious and safe drugs with my know-how and by collaborating with colleagues.
- **I believe that talented and motivated life scientists should join Roche.**
- We open internship, RPF (Roche Postdoc Fellowship), and other types of positions from time to time. Please check out careers.roche.ch regularly if you are interested.

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- Erich Küng
- Ulrich Certa
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- Lisa Sach-Peltason
- Matthias Nettekoven
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- Marco Berrera
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- Fethallah Benmansour
- Miriam Triyatni
- John Young
- Ravi Jagasia
- Michael Prummer
- Michael Hennig
- Lorenzo Gatti
- Maria Anisimova
- Verdon Taylor

Doing now what patients need next