

Jitao David Zhang

A Computational Biologist in Drug Discovery

F. Hoffmann-La Roche AG
4070 Basel, Switzerland
✉ jitao_david.zhang@roche.com
🌐 jdzhang.me

Key facts

- 15+ years of experience in computational biology and drug discovery.
- Contributed to drug candidates reaching clinical trials and the market.
- Developed and transferred cutting-edge tools for translational science.
- Founded and led interdisciplinary teams with scientific and strategic impact.
- Coordinated portfolio support and innovation across 60+ experts.
- Published 50+ peer-reviewed papers and filed multiple patents.
- Lecturer, mentor, and certified vocational trainer.
- Contributor to education and scientific communities.
- Collaborates across Roche, academia, and industry to advance research.

Professional experience

- 2026– **Dr. Habil. and Venia Docenti**, *University of Basel*, Basel, Switzerland
Habilitation and permission to teach computational biology and drug discovery.
- 2022– **Expert scientist**, *F. Hoffmann-La Roche AG*, Basel, Switzerland
Supporting portfolio projects by developing and applying emerging technologies, validating and developing human-relevant model systems, and designing and implementing computational tools to empower translational research. Highlights include critical support for entry into first-in-human and clinical trials of several drug candidates including Zosurabalpin (currently tested in Phase 3 clinical trials) and Selnoflast (Phase 1), research on protein turnover and applications for target and modality selection, a systematic analysis of reasons for attrition of drug discovery and development projects, as well as development of computational and experimental workflows to characterize efficacy and safety profiles of drug candidates using (phospho)proteomics and chemical probes.
- 2021– **Apprenticeship trainer and examination expert**, Switzerland
Training vocational apprentices specializing in computational sciences, application development, and platform development, and hosting qualification examinations.
- 2018– **Lecturer**, *University of Basel*, Basel, Switzerland
Teaching two graduate- and post-graduate-level courses at the Department of Mathematics and Computer Science, *Applied Mathematics and Informatics in Drug Discovery* (AMIDD) and *Computational and Mathematical Biology in Drug Discovery* (MCBDD), as well as contributing to other lecture series.

- 2018-2022 **Senior principal scientist**, *F. Hoffmann-La Roche AG*
Multiscale modelling of drug mechanism and safety, application of PACE (Pathway Annotated Chemical Ensemble, formerly known as SPARK) library for screening, development of machine-learning empowered toxicity screening assays. Highlights include the TeraTox assay, the identification of RepSox as a tool compound for ophthalmology, de-risking molecules in development, and informing key decisions for several projects.
- 2016-2018 **Principal scientist**, *F. Hoffmann-La Roche AG*
Developing the molecular phenotyping platform, developing the chemogenomic library SPARK, and supporting projects in the area of infectious diseases. Highlights include a pilot study of molecular phenotyping, identification of EGF uptake as an early readout for nephrotoxicity, and development of the BioQC software.
- 2013-2016 **Senior scientist**, *F. Hoffmann-La Roche AG*
Developing the molecular phenotyping platform, supporting Phase IV study of Oseltamivir/Tamiflu (the IRIS study), and applying multi-omics data analysis for disease modelling. Highlights include identification of the time-dependent critical role of TGF-beta signaling in breast cancer metastasis, and genomic analysis of the molecular neuropathology of tuberous sclerosis using a human stem cell model.
- 2011-2013 **Scientist**, *F. Hoffmann-La Roche AG*
Profiling compound efficacy and safety with omics methods, data mining, and machine learning. Highlights include the identification of a predictive gene network for drug safety by analyzing the TG-GATEs database, identification of the causal role of the JAK/STAT3 pathway in turning white adipose to brown, and informing decisions in multiple drug-discovery projects.
- 2008-2011 **Dr. rer. nat. Bioinformatics**, *German Cancer Research Center and Universität Heidelberg*, Heidelberg, Germany
Thesis: Computational and statistical approaches to study gene networks, supervised by Prof. Dr. Stefan Wiemann
- 2007 **Marie-Curie Fellow**, *European Institute of Bioinformatics*, Cambridge, UK
- 2006-2008 **M.Sc. Bioinformatics**, *Universität Heidelberg*, Germany
- 2006-2008 **Research associate**, *German Cancer Research Center*, Heidelberg, Germany
Bioinformatics algorithm and software development in the HUSAR Bioinformatics group
- 2005-2006 **Journalist and associate editor**, *Kicker China*, Beijing, China
Translating German articles on European football leagues and reporting on the German football league (German: *Bundesliga*) for Chinese readers
- 2002-2006 **B.Sc. Biology, hon.**, *Peking University*, Beijing, China
With a minor in German language and culture

Founding, leading, and serving teams

- 2024-2025 I assumed the role of Portfolio Lead for cardiovascular metabolism, immunology, infectious disease, and ophthalmology within the Predictive Modeling and Data Analytics team. I coordinated project support and innovation activities with input from more than 60 experts with a wide range of expertise in computational biology, biostatistics, translational modeling and simulation, disease modeling, and pharmacometrics. I worked closely with other Portfolio Leads to present the team in communities and decision boards. Our teamwork made a critical impact on dozens of portfolio projects ranging from entry into portfolio to clinical trials and filing.

- 2024–2025 I served as a core team member of the PADCo (PBPK-ADME-DPL) community, organizing and facilitating meetings, exchanges, and activities of the community, which consists of more than 100 experts in modelling and simulation, drug absorption, distribution, metabolism, and excretion, translational drug metabolism-pharmacokinetics-pharmacodynamics, and clinical pharmacology.
- 2022–2024 I co-founded and led a new research group within my organization, with 6 permanent positions, 2 postdocs, and interns. The team consisted of computational scientists with training or working experience in toxicology, chemistry, biology, and statistics. I led the interviews and the onboarding of new employees. I was responsible for integrating the team in the working environment, embedding the team in the process of drug discovery and development, and defining the team's vision, strategy, and scientific focus. The team grew to become an indispensable unit in our organization.
- 2022–2023 I led a cross-functional team of about 30 people to improve the productivity and efficiency with regard to data, insight, and knowledge management. Stakeholders and team members gave positive feedback on the team's organization and output. The outcome has led to changes in how data and computational models are captured and used.

Supervision and mentoring

Postdoctoral researchers

- Dr. Silvan Käser 2025- (co-supervision with Dr. Neil Parrott, Dr. Nenad Manevski, and Dr. Michael Reutlinger), predicting ADME/PK properties of emerging drug modalities
- Dr. Davide Bassani 2023-2024 (co-supervision with Dr. Neil Parrott and Dr. Nenad Manevski), computational approaches to preclinical pharmacokinetic property prediction
- Dr. Milad Adibi 2020-2022 (co-supervision with Dr. Ekaterina Breous-Nystrom), multiscale modeling of drug-induced liver toxicity
- Dr. Simon Gutbier 2018-2020 (co-supervision with Dr. Christoph Patsch and Dr. Markus Britschgi), immune pathway characterization with tool-compound screening for Parkinson's Disease

Student interns

- Alessio D'Addio 2025, internship working on knowledge and data integration for target and modality selection
- Alexandra Valeanu 2023, internship working on inferring causal kinases with phosphoproteomics data
- Simon Crouzet 2022, internship working on predicting protein-ligand interaction with graph neural networks
- Anja Lieberherr 2022-2023 (co-supervision with Prof. Niko Beerenwinkel at ETH), master thesis on applying graph neural networks in drug discovery
- Sarah Morillo 2021-2022, internship working on proteomics data and protein half-life

- Andreea Ciuprina 2020 (co-supervision with Prof. Niko Beerenwinkel), internship and master thesis on computational inference of immune-cell contribution to drug-induced liver toxicity
- Rudolf Biczok 2018-2019 (co-supervision with Prof. Alexandros Stamatakis, KIT), internship and master thesis on building a gene-expression database and evaluating gene-set comparison metrics
- Moaraj Hasan 2017-2018, internship working on automating gene-expression data analysis
- Tao Fang 2017-2018 (co-supervision with Prof. Mark Robinson, UZH), internship and master thesis on histopathology prediction with deep neural networks
- Gregor Sturm 2016-2017, internship working on gene signatures and the BioQC software

Vocational apprentices specializing in computer sciences

- Rigani Jegath-eeswaran 2025-2026, currently working with Roche
- David Weber 2025-2026, currently working with Roche
- Nina Lareida 2024-2025, currently working part-time at Roche
- Niklas Trapp 2024-2025, currently working with Roche
- Giulia Ferraina 2023-2024, currently working part-time at Roche and studying computer science at FHNW
- Jannick Lippuner 2023-2024, currently working with Roche
- Yannik Benndorf 2022-2023, currently studying computer sciences at TU München
- Paul Geser 2022-2023, currently studying AI in Hochschule Luzern (HSLU). I am Mr. Geser's Roche mentor as part of the *Study With Roche* offer that sponsors the study.
- Lukas Rinke 2021-2022, currently studying Data Sciences at FHNW. I am Mr. Rinke's Roche mentor as part of the *Study With Roche* offer that sponsors the study.
- Leonardo Seminatore 2021-2022, currently pursuing a bachelor of science in geomatics, FHNW

Outreach

Teaching activities

- 2026– European Center of Pharmaceutical Medicines (ECPM), Faculty of Medicine, University of Basel, teaching in the module *From Non-Clinical Testing to First-in-Human*
- 2020–2023 Courses on causal inference and computational toxicology for the PSI (Statisticians in the Pharmaceutical Industry) community, once a year

- 2019– Lecture series *Mathematical and Computational Biology in Drug Discovery* at the University of Basel, 2 hours per week in the spring semester
- 2018– Lecture series *Introduction to Applied Mathematics and Informatics in Drug Discovery* at the University of Basel, 2 hours per week in the fall semester
- 2018– Lecture series *From Novel Targets to Novel Therapeutic Modalities*, Master Programme Drug Sciences, University of Basel, one lecture per semester
- 2012– Leading company-internal courses, seminars and workshops about computational biology in drug discovery, on average 2 hours per week

Selected public talks

- 2025 *Defining Human Dosing for Covalent Inhibitors with Translational PK/PD and Protein Turnover Data*, co-presenting with Neil John Parrott, DMDG Meeting *Focusing on Targeted Covalent Drugs: how to best identify and develop Target Covalent Inhibitors*, Basel, Switzerland
- 2025 *Oneness of Target and Modality Selection in Drug Discovery*, Institute of Molecular Systems Biology, ETH Zürich
- 2024 *Towards intelligent benefit-risk assessment of drug candidates*, Swiss Society of Pharmacology and Toxicology (SSPT) Spring Meeting 2024, Bern, Switzerland
- 2023 *Finding hope in a hopeless time — How Predictive Modeling and Data Analytics shifts our perspectives about antimicrobial discovery*, workshop on the promise of artificial intelligence to antibacterial drug discovery, 7th AMR Conference, Basel, Switzerland
- 2022 *Towards causal modelling of drug-induced toxicity for preclinical to clinical translation*, the Third In Silico Toxicology meeting, online
- 2021 *Optimization of the TeraTox assay for preclinical teratogenicity assessment*, co-presentation with Manuela Jaklin, OpenTox Virtual Conference, online
- 2019 *Bioinformatics and exploratory data analysis in drug discovery: an industrial perspective*, ISMB/ECCB, Basel, Switzerland
- 2018 *Mathematics in drug discovery: a practitioner's view*, Perlen-Kolloquium, University of Basel, Switzerland

Voluntary engagement in education

- 2026– Examination validation expert for vocational apprenticeship in computer sciences
- 2025– Elected member of School Council (*Schulrat*) of the Wasserstelzen primary school, Riehen, Basel, Switzerland
- 2024– Examination expert for vocational apprenticeship in computer sciences
- 2023– Member of interview and selection committees for tenure-track positions in universities
- 2022– Co-organizer of Roche PMDA (Predictive Modeling and Data Analytics) Summer Schools for PhD students, a one-week event taking place annually
- 2021– Member of Parents' Council (*Elternrat*) of the Erlensträsschen primary school, Riehen, Basel, Switzerland

- 2021– Certified vocational trainer (*Lehrmeister*) for vocational apprenticeship in computer sciences
- 2020– Certified Software and Data Carpentry instructor, hosting company-internal courses on programming and data analysis
- 2014– Reviewing research proposals and funding grants for multiple national funding agencies
- 2012– Reviewer of scientific manuscripts for journals including *Bioinformatics*, *PLOS Comp. Biol.*, *NAR Genom. and Bioinform.*, etc.

Publications with (co-)first or correspondence authorship

- [1] Jitao David Zhang et al. “Leveraging protein turnover in drug discovery: a practical guide”. In: *Medicinal Chemistry Reviews, Volume 60* (2025).
- [2] Davide Bassani et al. “Another string to your bow: machine learning prediction of the pharmacokinetic properties of small molecules”. In: *Expert Opinion on Drug Discovery* 19.6 (2024), pp. 683–698.
- [3] Simon Crouzet et al. “G-PLIP: Knowledge graph neural network for structure-free protein-ligand bioactivity prediction”. In: *Computational and Structural Biotechnology Journal* (2024).
- [4] Tom Michoel and Jitao David Zhang. “Causal inference in drug discovery and development”. In: *Drug Discovery Today* 28.10 (2023), p. 103737.
- [5] Li Wang et al. “Discovery of a first-in-class orally available HBV cccDNA inhibitor”. In: *Journal of Hepatology* 78.4 (2023), pp. 742–753.
- [6] Manuela Jaklin et al. “Optimization of the TeraTox assay for preclinical teratogenicity assessment”. In: *Toxicological Sciences* 188.1 (2022), pp. 17–33.
- [7] Gregor Sturm, Markus List, and Jitao David Zhang. “Tissue heterogeneity is prevalent in gene expression studies”. In: *NAR Genomics and Bioinformatics* 3.3 (2021), lqab077.
- [8] Jitao David Zhang. “Ten simple rules for doing a postdoc in pharma”. In: *PLOS Computational Biology* 17.6 (2021), e1008989.
- [9] Filip Roudnicky et al. “Inducers of the endothelial cell barrier identified through chemogenomic screening in genome-edited hPSC-endothelial cells”. In: *Proceedings of the National Academy of Sciences* 117.33 (2020), pp. 19854–19865.
- [10] Jitao David Zhang et al. “Multiscale modelling of drug mechanism and safety”. In: *Drug Discovery Today* 25.3 (2020), pp. 519–534.
- [11] Faye Marie Drawnel et al. “Molecular Phenotyping Combines Molecular Information, Biological Relevance, and Patient Data to Improve Productivity of Early Drug Discovery”. In: *Cell Chemical Biology* 24.5 (2017), pp. 624–634.
- [12] Jitao David Zhang et al. “Detect tissue heterogeneity in gene expression data with BioQC”. In: *BMC Genomics* 18 (2017), pp. 1–9.
- [13] Jitao David Zhang et al. “Pathway reporter genes define molecular phenotypes of human cells”. In: *BMC Genomics* 16.1 (2015), pp. 1–10.

- [14] Jitao David Zhang et al. “Data mining reveals a network of early-response genes as a consensus signature of drug-induced in vitro and in vivo toxicity”. In: *The Pharmacogenomics Journal* 14.3 (2014), pp. 208–216.
- [15] Jitao David Zhang et al. “Highly sensitive amplicon-based transcript quantification by semiconductor sequencing”. In: *BMC Genomics* 15.1 (2014), pp. 1–8.
- [16] Jitao David Zhang et al. “Time-resolved human kinome RNAi screen identifies a network regulating mitotic-events as early regulators of cell proliferation”. In: *PloS ONE* 6.7 (2011), e22176.
- [17] S Uhlmann et al. “miR-200bc/429 cluster targets PLC γ 1 and differentially regulates proliferation and EGF-driven invasion than miR-200a/141 in breast cancer”. In: *Oncogene* 29.30 (2010), pp. 4297–4306.
- [18] Jitao David Zhang and Stefan Wiemann. “KEGGgraph: a graph approach to KEGG PATHWAY in R and Bioconductor”. In: *Bioinformatics* 25.11 (2009), pp. 1470–1471.

Other peer-reviewed publications

- [19] Georgiev et al. “Current Status of Prediction of IL-6 Mediated Cytochrome P450 Activity Modulation using In Vitro Data and PBPK Modeling”. In: *Drug Metabolism and Pharmacokinetics* (2025).
- [20] Hatje et al. “Comparison of Fixed Single Cell RNA-seq Methods to Enable Transcriptome Profiling of Neutrophils in Clinical Samples”. In: *Cell Reports Methods* (2025).
- [21] Joel Rügger et al. “CellEKT: a robust chemical proteomics workflow to profile cellular target engagement of kinase inhibitors”. In: *Molecular & Cellular Proteomics* (2025).
- [22] Gregor Rot et al. “splicekit: an integrative toolkit for splicing analysis from short-read RNA-seq”. In: *Bioinformatics Advances* (2024).
- [23] Miriam Bosch et al. “A liver immune rheostat regulates CD8 T cell immunity in chronic HBV infection”. In: *Nature* (2024).
- [24] Noelia Rodriguez-Iglesias et al. “A bottom-up approach identifies the antipsychotic and antineoplastic trifluoperazine and the ribose derivative deoxytubercidin as novel microglial phagocytosis inhibitors”. In: *Glia* (2024).
- [25] Barbara Klughammer et al. “A randomized, double-blind phase 1b study evaluating the safety, tolerability, pharmacokinetics and pharmacodynamics of the NLRP3 inhibitor selnoflast in patients with moderate to severe active ulcerative colitis”. In: *Clinical and Translational Medicine* 13.11 (2023), e1471.
- [26] Dongdong Chen et al. “Discovery of Novel cccDNA Reducers toward the Cure of Hepatitis B Virus Infection”. In: *Journal of Medicinal Chemistry* 65.16 (2022), pp. 10938–10955.
- [27] Lorenzo Gatti et al. “Cross-reactive immunity potentially drives global oscillation and opposed alternation patterns of seasonal influenza A viruses”. In: *Scientific Reports* 12.1 (2022), p. 8883.
- [28] Sophia Clara Mädler et al. “BESCA, a single-cell transcriptomics analysis toolkit to accelerate translational research”. In: *NAR Genomics and Bioinformatics* 3.4 (2021), lqab102.

- [29] Marvin Reich et al. “Alzheimer’s Risk Gene TREM2 Determines Functional Properties of New Type of Human iPSC-Derived Microglia”. In: *Frontiers in Immunology* 11 (2021), p. 617860.
- [30] Solveig Badillo et al. “An introduction to machine learning”. In: *Clinical Pharmacology & Therapeutics* 107.4 (2020), pp. 871–885.
- [31] Simon Gutbier et al. “Large-Scale Production of Human iPSC-Derived Macrophages for Drug Screening”. In: *International Journal of Molecular Sciences* 21.13 (2020), p. 4808.
- [32] Manuela Jaklin et al. “Focus on germ-layer markers: A human stem cell-based model for in vitro teratogenicity testing”. In: *Reproductive Toxicology* 98 (2020), pp. 286–298.
- [33] Mohamad Zaidan et al. “Signaling pathways predisposing to chronic kidney disease progression”. In: *JCI Insight* 5.9 (2020).
- [34] Sarvenaz Choobdar et al. “Assessment of network module identification across complex diseases”. In: *Nature Methods* 16.9 (2019), pp. 843–852.
- [35] Filip Roudnicky et al. “Modeling the Effects of Severe Metabolic Disease by Genome Editing of hPSC-Derived Endothelial Cells Reveals an Inflammatory Phenotype”. In: *International Journal of Molecular Sciences* 20.24 (2019), p. 6201.
- [36] Gregor Sturm et al. “Comprehensive evaluation of transcriptome-based cell-type quantification methods for immuno-oncology”. In: *Bioinformatics* 35.14 (2019), pp. i436–i445.
- [37] Henrik Mueller et al. “A novel orally available small molecule that inhibits hepatitis B virus expression”. In: *Journal of Hepatology* 68.3 (2018), pp. 412–420.
- [38] Franziska Boess et al. “Use of early phenotypic in vivo markers to assess human relevance of an unusual rodent non-genotoxic carcinogen in vitro”. In: *Toxicology* 379 (2017), pp. 48–61.
- [39] Annie Moisan et al. “Inhibition of EGF Uptake by Nephrotoxic Antisense Drugs In Vitro and Implications for Preclinical Safety Profiling”. In: *Molecular Therapy-Nucleic Acids* 6 (2017), pp. 89–105.
- [40] Nils Grabole et al. “Genomic analysis of the molecular neuropathology of tuberous sclerosis using a human stem cell model”. In: *Genome Medicine* 8.1 (2016), pp. 1–14.
- [41] U Raza et al. “The miR-644a/CTBP1/p53 axis suppresses drug resistance by simultaneous inhibition of cell survival and epithelial-mesenchymal transition in breast cancer.” In: *Oncotarget* (2016).
- [42] Erhard van der Vries et al. “Outcomes and susceptibility to neuraminidase inhibitors in individuals infected with different influenza B lineages: the influenza resistance information study”. In: *The Journal of Infectious Diseases* 213.2 (2016), pp. 183–190.
- [43] Florian Haller et al. “Combined DNA methylation and gene expression profiling in gastrointestinal stromal tumors reveals hypomethylation of SPP1 as an independent prognostic factor”. In: *International Journal of Cancer* 136.5 (2015), pp. 1013–1023.
- [44] Nicole Lenz et al. “Antiviral Innate Immune Activation in HIV-Infected Adults Negatively Affects H1/IC31-Induced Vaccine-Specific Memory CD4+ T Cells”. In: *Clinical and Vaccine Immunology* 22.7 (2015), pp. 688–696.

- [45] Annie Moisan et al. “White-to-brown metabolic conversion of human adipocytes by JAK inhibition”. In: *Nature Cell Biology* 17.1 (2015), pp. 57–67.
- [46] Jia Xu et al. “14-3-3 ζ turns TGF- β 's function from tumor suppressor to metastasis promoter in breast cancer by contextual changes of Smad partners from p53 to Gli2”. In: *Cancer Cell* 27.2 (2015), pp. 177–192.
- [47] Stefan Aigner et al. “Human pluripotent stem cell models of autism spectrum disorder: emerging frontiers, opportunities, and challenges towards neuronal networks in a dish”. In: *Psychopharmacology* 231 (2014), pp. 1089–1104.
- [48] Umar Raza, Jitao David Zhang, and Özgür Şahin. “MicroRNAs: master regulators of drug resistance, stemness, and metastasis”. In: *Journal of Molecular Medicine* 92 (2014), pp. 321–336.
- [49] Sumaiyah K Rehman et al. “14-3-3 ζ Orchestrates Mammary Tumor Onset and Progression via miR-221–Mediated Cell Proliferation”. In: *Cancer Research* 74.1 (2014), pp. 363–373.
- [50] Inn H Yuk et al. “Effects of copper on CHO cells: insights from gene expression analyses”. In: *Biotechnology progress* 30.2 (2014), pp. 429–442.
- [51] Liana Adam et al. “Plasma microRNA profiles for bladder cancer detection”. In: *Urologic Oncology: Seminars and Original Investigations*. Vol. 31. 8. Elsevier. 2013, pp. 1701–1708.
- [52] Emőke-Ágnes Horvát et al. “A network-based method to assess the statistical significance of mild co-regulation effects”. In: *PloS ONE* 8.9 (2013), e73413.
- [53] Aoife Ward et al. “Re-expression of microRNA-375 reverses both tamoxifen resistance and accompanying EMT-like properties in breast cancer”. In: *Oncogene* 32.9 (2013), pp. 1173–1182.
- [54] Sarah Jurmeister et al. “MicroRNA-200c represses migration and invasion of breast cancer cells by targeting actin-regulatory proteins FHOD1 and PPM1F”. In: *Molecular and cellular biology* 32.3 (2012), pp. 633–651.
- [55] I Keklikoglou et al. “MicroRNA-520/373 family functions as a tumor suppressor in estrogen receptor negative breast cancer by targeting NF- κ B and TGF- β signaling pathways”. In: *Oncogene* 31.37 (2012), p. 4150.
- [56] S Uhlmann et al. “Global miRNA regulation of a local protein network: Case study with the EGFR-driven cell cycle network in breast cancer”. In: *Molecular Systems Biology* 8 (2012), p. 570.
- [57] Florian Haller et al. “Localization-and mutation-dependent microRNA (miRNA) expression signatures in gastrointestinal stromal tumours (GISTs), with a cluster of co-expressed miRNAs located at 14q32. 31”. In: *The Journal of Pathology: A Journal of the Pathological Society of Great Britain and Ireland* 220.1 (2010), pp. 71–86.

Publications in other forms

Essays

2024 How young people benefit from Swiss apprenticeships, in *Nature*

Patents

2020 Oligonucleotides for modulating RTEL1 expression

2018 Pyrrolo[2,3-b]pyrazine compounds as cccDNA inhibitors for the treatment of Hepatitis B Virus (HBV) infection

[Book chapters](#)

2016 Applied Biclustering Methods for Big and High-Dimensional Data Using R, Chapman & Hall/CRC Biostatistics Series, edited by Adetayo Kasim, S. H., Ziv Shkedy, Sebastian Kaiser & Talloen, W.

[Selected open-source software](#)

BESCA Single-cell omics data analysis pipeline, built together with BEDA colleagues

BioQC Detecting tissue heterogeneity in high-throughput expression data

ddCt A pipeline to collect, analyse and visualize qRT-PCR results

HBVourobos A Snakemake-based workflow for hepatitis B virus (HBV) drug discovery

KEGGgraph Data mining and network analysis of biological pathways as graphs

Kinex Inference of causal serine/threonine kinases from phosphoproteomics data

ribios A collection of R packages for computational biology tasks in drug discovery

RTCA Analysis and visualization of data from Roche(R) xCELLigence RTCA systems

[Preprints \(not peer-reviewed\)](#)

2023 Valeanu *et al.* Kinex infers causal kinases from phosphoproteomics data

2022 Geser and Zhang. Gene symbol recognition with GeneOCR

2021 Zhang *et al.* A Novel, Anatomy-Similar in Vitro Model of 3D Airway Epithelial for Anti-Coronavirus Drug Discovery

2019 Fang *et al.* Gene-set enrichment with regularized regression