

## CHANDRA RAMAKRISHNAN – CURRICULUM VITAE

**Surname:** Ramakrishnan  
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**Date and place of birth:** 16th April 1977, Zurich, Switzerland  
**Nationality:** Swiss



### HIGHER EDUCATION

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- 2014 – 2016      **Teaching Skills Certificate** in university level education University of Zurich, Teaching Skills Programme
- 2003 – 2007      **PhD in malaria research** – Imperial College London, UK  
*Supervisor:* Prof. Robert E. Sinden;  
*Title:* Analysis of CTRP, a *Plasmodium* ookinete micronemal protein
- 2002              **Final exams** – former Department of Biology – ETH Zürich, Switzerland
- 2001              **Diploma thesis** – Laboratory of Organic Chemistry, ETH Zürich, Switzerland  
*Supervisor:* Dr Peter Kast  
*Title:* Molecular evolutionary investigation of mechanism and topology of the unusual AroQ class chorismate mutase from the pathogen *Mycobacterium tuberculosis* (in German)
- 2000              **Semester thesis** – Laboratory of Organic Chemistry, ETH Zürich, Switzerland  
*Supervisor:* Dr Peter Kast  
*Title:* Cloning, expression and selection of the *aroQ* genes from *Mycobacterium tuberculosis* and *Pseudomonas aeruginosa* (in German)
- 1997 – 2002      Study of chemistry and molecular biology at the ETH Zürich, Switzerland

### ACADEMIC WORK EXPERIENCE

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- 2019 – present    **Senior Teaching and Research Associate/Oberassistentin** – Institute of Parasitology, University of Zurich, Switzerland, Research group of Prof. Adrian B. Hehl (Molecular Parasitology)
- 2013 – 2019      **Senior postdoc** – Institute of Parasitology, University of Zurich, Switzerland, Research group of Prof. Adrian B. Hehl (Molecular Parasitology)
- 2010 – 2013      **Postdoc** – Department of Life Sciences, Imperial College London, UK, Research group of Prof. Robert E. Sinden (*Plasmodium* cell biology and transmission blockade)
- 2008 – 2010      **Postdoc** – Institut de Biologie Moléculaire et Cellulaire (IBMC, CNRS Unit UPR9022), Strasbourg, France, Research group of Dr Elena A. Levashina (Immune response of the malaria vector *Anopheles gambiae*)
- 2007 – 2008      **Postdoc** – Department of Life Sciences, Imperial College London, UK, Research group of Prof. Robert E. Sinden (*Plasmodium* cell biology and transmission blockade)

- 2006 – 2007      **Research assistant** – Department of Life Sciences, Imperial College London, UK, *Plasmodium falciparum* unit of Prof. Robert E. Sinden
- 2000 – 2001      **Research assistant** – Laboratory of Organic Chemistry, ETH Zürich, Switzerland, Research group of Prof. Donald Hilvert (Chemical Biology), Project leader: Dr Peter Kast
- 2000 – 2000      **Work experience** – Institute of Molecular Biology & Biophysics, ETH Zürich, Switzerland, Research group of Prof. Rudolf Glockshuber (Molecular Biology)

## TECHNICAL EXPERTISE

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Standard molecular biological techniques, CRISPR/Cas9 and conventional transgenic techniques, drug assays, protein and antibody production, ELISA, immunoprecipitations, epi-fluorescence and confocal microscopy, quantitative real-time PCR, mammalian and insect cell cultures, intestinal crypt isolation and organoid culturing, *Plasmodium* spp., *Toxoplasma gondii* and *Giardia lamblia* culturing, small animal handling (Swiss LTK1 license), mosquito rearing and experimentation, RNA-Seq, genomics, proteomics, alignments, phylogenetic analysis

## CONFERENCES

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- 2021              Invited keynote presentation at the Joint Annual Meeting of the Swiss Society for Tropical Medicine and Parasitology, Montreux, Switzerland
- 2018              Poster and turbo talk at the EMBO workshop on molecular advances and parasite strategies in host infection, Les Embiez, France
- 2017              Poster at the 14<sup>th</sup> biennial conference of the *Toxoplasma gondii* research community (Toxo-14) in Tomar, Portugal
- 2014              Talk at the ParaTrop Meeting in Zurich, Switzerland: Transcriptomics of cat enteroepithelial stages of *Toxoplasma gondii* display a distinct repertoire of specialised organelle and surface proteins
- 2013              Talk at the annual Molecular Parasitology Meeting (MPM) in Woods Hole, USA: Transcriptomics of early cat enteroepithelial stages of *Toxoplasma gondii* reveals fundamental differences to known *T. gondii* biology
- 2006              Poster at the International Congress of Parasitology (ICOPA), Glasgow, UK (represented by Prof. Robert E. Sinden)
- 2006              Poster at BioMalPar annual Conference on Biology and Pathology of Malaria Parasites in Heidelberg, Germany

## SUPERVISION AND TEACHING

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- 2020- present      **Design, realisation and co-teaching** at methodology course for PhD students
- 2015 – present      **Supervision and training** of PhD students and technicians
- 2019– present      **Co-teacher** in seminar for PhD students: Cell Biology for Postgraduates
- 2017, 2019          **Lectures and Journal Club** for students of the Biology Undergraduate Summer School (BUSS) Zurich
- 2013 – 2014          **Lectures** at Blockkurs BIO295 (University of Zurich) about *Cryptosporidium* and malaria; in 2014, also supervision of practical course and poster preparations
- 2011 – 2012          **Supervision** of ERASMUS internship student
- 2007                  **Supervision** of bachelor student for final year project

- 2003 – 2008      **Training** of students and co-workers in mouse handling, parasite work and molecular biology during PhD
- 2001              **Supervision** of student practical in biological chemistry
- 2000              Chemistry teaching at Grammar School, Sarnen, Switzerland

#### FELLOWSHIPS, GRANTS AND AWARDS

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- 2014              **SNF** (Swiss National Science Foundation) Short Visit Fellowship for visit of the Robert Koch Institut in Berlin, Germany, to acquire skills in intestinal crypt isolation and organoid culturing from Dr. Christian Klotz
- 2014 – 2015      **Forschungskredit** (research grant) from University of Zurich for the project: From cats to test tubes: Characterisation and cultivation of *Toxoplasma gondii* feline stages
- 2003 – 2006      **ORS** (Overseas Research Students) award from Universities UK for partial reimbursement of tuition fees
- 2003 – 2006      PhD Fellowship from **Boehringer Ingelheim Fonds**

#### SELECTED PUBLICATIONS

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Lentini G.\*, Ben Chaabene R.\*, Vadas O.\*, **Ramakrishnan C.**, Mukherjee B., Mehta V., Lunghi M., Grossmann J., Maco Bohumil., Visentin R., Hehl A.B., Korkhov V.M., Soldati-Favre D., Structural insights into an atypical secretory pathway kinase crucial for *Toxoplasma gondii* invasion, *Nat Commun*, **2021**, 2(1):3788.

**Ramakrishnan C.**, Smith N.C., Recent achievements and doors opened for coccidian parasite research and development through transcriptomics of enteric sexual stages, *Mol Biochem Parasitol*, **2021**, 243:111373.

**Ramakrishnan C.\***, Maier S.\*, Walker R.A., Basso W.U., Grigg M.E., Hehl A.B., Deplazes P., Smith N.C., An experimental genetically attenuated live vaccine to prevent transmission of *Toxoplasma gondii* by cats, *Sci Rep*, **2019**, 9(1):1474.

Lippuner C.\*, **Ramakrishnan C.\***, Basso W.U., Schmid M.W., Okoniewski M., Smith N.C., Hässig M., Deplazes P. RNA-Seq analysis during the life cycle of *Cryptosporidium parvum* reveals significant differential gene expression between proliferating stages in the intestine and infectious sporozoites, *Int J Parasitol*, **2018**, 48(6):413-422.

**Ramakrishnan C.**, Walker R.A., Eichenberger R.M., Hehl A.B., Smith N.C., The merozoite-specific protein, TgGRA11B, identified as a component of the *Toxoplasma gondii* parasitophorous vacuole in a tachyzoite expression model, *Int J Parasitol*, **2017**, 47(10, 11):597-600.

Delves M.J., **Ramakrishnan C.**, Blagborough A.M., Leroy D., Wells T.N. C., Sinden R.E., A high-throughput assay for the identification of malarial transmission-blocking drugs and vaccines, *Int J Parasitol*, **2012**, 42(11):999-1006.

\*equal contributions

#### LANGUAGES

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German, English, French and mother tongue (Tamil): all fluent

#### HOBBIES

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Sports (hiking, running, yoga, skiing), travelling, reading, cooking and baking, gardening