Karine Gaëlle Le Roch, PhD
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EDUCATION

1998-2001	**Ph.D., University Paris-Sorbonne, France, Parasitology: Host-Parasite Interactions.**
1996-1997	**M. S., Oxford University, UK/ Lille II University, France, Host-Parasite Interactions.**
1991-1995	**B.A., University Paris-Sorbonne, France, Biochemistry/Chemistry - Microbiology.**

PROFESSIONAL APPOINTMENTS AND RESEARCH EXPERIENCES

2016-Present	**Director Center for Infectious Disease and Vector Research, University of California, Riverside, California (UCR), USA.**
2015- Present	**Professor, Department of Molecular, Cell and Systems Biology, UCR, USA.**
2011-2015	Associate Professor, Department of Cell Biology, UCR, USA.
2006-2011	Assistant Professor, Department of Cell Biology, UCR, USA.
2004-2006	Institute Fellow – Drug discovery program against malaria - Genomics Institute of the Novartis Research Foundation (GNF), La Jolla, California, USA.
2001-2003	Postdoctoral Fellow with *Prof. E. Winzeler* - Functional genomics in *Plasmodium falciparum* - The Scripps Research Institute (TSRI), La Jolla, California, USA.
1998-2001	Ph.D. student with *Prof. C. Doerig* – Molecular Biology and Cell cycle in *Plasmodium falciparum*, University Paris VI Sorbonne, France.
1997-1998	IBM_ PMU, Software tester, Paris, France.
1996-1997	Master Student with *Prof. A. Wakefield* – Molecular Biology *Pneumocyctis carinii*. Oxford University, UK
1995-1996	Assistant Researcher with *Pr. M. Doenhoff* - Vaccine Discovery *Schistosoma mansoni*. North Wales University, UK.
07/1994	Assistant Researcher, Laboratory of Cytogenetics and Molecular Biology, MERIEUX, Lyon, France.

AWARDS AND NOMINATIONS

2018-2019	**UC Women's Initiative for Professional Development**
2017-2018	**Provost Faculty Leadership Program, University of California, Riverside.**
2008	Academic Senate Regent Award for outstanding Research. University of California.
2002	Scholarship award. Drugs against Tropical Protozoan Parasites. Keystone Symposia.
2001	Ph.D. obtained with a first grade and congratulations of the jury committee.
1998-2001	Pre-doctoral fellowship. French Delegation General pour l'Armement (DGA) Defence ministry, France.
1996-1997	Graduate student fellowship. Education ministry, Paris, France.
1995-1996	ERASMUS fellowship. European community. Scientific Exchange

PRESENT and PAST RESEARCH SUPPORT

ONGOING SUPPORT

1- NIH/NIAID 1 R01 AI136511 PI: Le Roch 05/01/2018 – 04/30/2023

Title: Chromatin Structure and Control of Gene Expression in the human Malaria Parasite.

In this application, we develop state-of-the-art complementary approaches to functionally characterize proteins and lncRNAs that regulate the gene expression and 3D genome architecture of the malaria agent,

Plasmodium falciparum, throughout its life cycle. The proposed study will offer groundbreaking new insights into parasite biology and will also identify novel targets to kill the parasite.

2 - CDC 1U01CK000516-01 PIs: Barker (UCD)/Walton (UCR) 9/01/2017 – 12/30/2022
Title: Pacific Southwest Regional Center of Excellence for Vector-Borne Disease Research at the University of California (UCR and UCD).
This proposal combines cutting-edge research in surveillance, vector control, genetics, epidemiology, and sustainable, effective insecticide development to generate public knowledge and technology to prevent the spread of vector-borne diseases and train a multi-culturally diverse "community of practice" including public health professionals and entomology experts responsive to and reflective of the needs of the broader US Southwest population.
Role: Co-I

3 -NIH/R01 AI142743 PI: Le Roch 09/19/2018 - 08/31/2023
Title: RAPs-mediated post-transcriptional control in Apicomplexan parasites
The major goals of this project are to characterize at the molecular level, apicomplexan-specific mRNA-binding proteins (RAPs) that are essential to the parasite development throughout its infectious cycle and validate them as new drug targets.

4 -NIH/R01AI138139 PIs: Vanderwal, Le Roch, Ben Mamoun 09/21/2018 - 11/30/2023
Title: Hit-to-Lead Development of the Kalihinol Scaffold for Malaria Treatment
The major goal of this project is to specifically characterize the multistage potency of isocyanoterpenes against a large panel of drug-sensitive and -resistant Plasmodium strains throughout the malaria parasite life cycle. We will also elucidate the mechanism of action of kalihinols using a combination of modern molecular, genomics and chemical biological approaches.

5- NIH/ R21 AI142506-01 PI: Le Roch 12/01/2018 - 11/30/2020
No cost extension 11/30/2021
Title: Evolution of the 3D chromatin structure in apicomplexan parasites
The major goals of this project are to improve our understanding of the evolution of chromosomal organization in apicomplexan parasites (e.g. *Plasmodium*., the cause of malaria; *Toxoplasma gondii*, an opportunistic pathogen of immunocompromised patients; or *Babesia* that causes hemolytic disease in human or cattle) and how change in genome organization could be linked to change in gene expression and pathogenicity in apicomplexan parasites.

6- NIH/ R21 A1154386 PI: Jon P. Boyle 07/01/2020 - 06/30/2022
Title: Completing multiple EupathDB genomes using integrated sequencing and annotation pipeline
The goal of this proposal is to use advance technologies including Oxford Nanopore sequencing platform and Chromosome Conformation Capture methods (Hi-C) to generate gap free *de novo* sequence assemblies of several *Toxoplasma gondii* and *Neospora caninum* strains to resolve the impact of structural variation on parasite biology.
Role: Co-PI

7- NIAID - R01 AI158417 PIs: Wilson and White 04/01/2021-03/31/2026
Title: Defining the cell and molecular basis of Toxoplasma recrudescence.

This proposal seeks to develop an in vitro model of bradyzoite recrudescence to understand the molecular mechanisms regulating these processes at the cell and molecular level.
Role: Co-PI

PAST SUPPORT:

1- CIDVR seed Grant PIs: Barton and Le Roch 07/01/2018 – 06/30/2020
Title: Evolution of host-pathogen innate immunity in mosquito's arbovirus infection and transmission

This proposal seeks to define the repertoire of small RNA in mosquitos collected from the field and compare them with those reared in the lab to Explore the connection between viral sequence diversity and evolution in response to host immunity

2 - NIH/ 1 RO1 AI106775 PIs: Dr. Noble/Le Roch 07/01/2013 – 06/30/2017
No Cost extension 05/2018
Title: The spatial organization of the Plasmodium genome throughout its infectious cycle.

3 -NSF/ 1302134 PI: Dr. Lonardi 07/01/2013 – 06/30/2016
Title: Algorithms and Software Tools for Epigenetics Research.
Role: Co-PI

4 - NIH / 1 R01 A1085077 PI: Dr. Le Roch 09/15/2010 – 08/31/2015
Title: Understanding the role of nucleosome turnover in the malaria parasite infectious cycle.

5 - NIH / U01TW007401 PI: Dr. Hay 09/01/2009 – 08/31/2014
Title: Exploration, conservation & development of marine biodiversity in Fiji.
Role: Co-PI

TEACHING

Instructor of Record at the Undergraduate Level:

1 - Medical Molecular Parasitology - Biol 158 - 4 credits, 20 students 2008, 2010, 2013, 2014 and 2017.
2 - Fundamental of Cell biology - CBNS 101 - 4 credits, 180 students, 2007, 2008, 2009 2010 and 2011.
3 - Advanced Molecular Biology – Biol 107B - 4 credits, 40 students, 2013, 2014, 2015, 2016, 2017, 2018 and 2020.
4 - Molecular Biology- Biol 107A – 4 credits, 120 students, 2014.
5 - Freshman Seminars - 2 credits, 25 students, 2010, 2015 and 2020.
6 - CBNS 197 -Introduction to Research for undergraduates - Every year since 2006 – 1 to 4 undergraduate students every quarter.

Instructor of Record at the Graduate Level

1 - Molecular Biology - CMDB 201 - 4 credits, 20 students 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2019.
2 - Molecular Cell Biology - CMDB 200 - 4 credits, 20 students 2008, 2009, 2010, 2011, 2017 and 2018.
3 - Functional Genomics - MCBL 240 - 4 credits, 20 students, 2008
4 - Microbial genetics – MCBL 210 - 4 credits, 20 students, 2008 and 2010.
5 –Microbial Pathogenesis and Physiology - MCBL 202 - 4 credits, 20 students 2012, 2014, 2015 and 2016.

Guest Lecturer:

1 - Microarray Technologies. University of California, San Diego, extension (2003, 2004, 2006)

Student and Post-doc mentoring

Post-doctoral fellows:

1 - Nadia Ponts - 02/2007 to 12/2011 - Now Assistant Professor at INRA – France.
2 - Elisandra Rodrigues - 01/2009 to 12/2010 - Now Research Scientist – Brazil.
3 - Doug Chung – 06/2011 to 03/2012 - Now postdoctoral fellow at UCLA

4 - Sebastiaan Bol - 01/2012 to 01/04/2013 – Now Researcher at University of Texas Health Science Center at San Antonio.
5 - Evelien Bunnik - 07/20/2011 to 08/31/2016 - Now Assistant Professor at School of Medicine at the University of Texas Health Science Center at San Antonio.
6 - Eniyou C. Oriero – 06/2017 - present mentoring program - DELGEME Postdoc Fellow - MRC Unit - The Gambia.
7- Thomas Hollin – 09/2018 – Present.
8- Mohit Mohit Kumar Gupta – 05/2019 – Present.
9- Sage Davis – 08/2019 – Present.

UCR PhD students:
1 - Elena Harris - Computational Science, UCR, 2007- June 2010. Now assistant professor
2 - Doug Chung - Cellular Molecular and Developmental Biology, UCR 09/2007 – 06/2011. Now staff Scientist at UCLA
3 - Serena Cervantes - Cellular Molecular and Developmental Biology, UCR, 11/2007 - 8/2013. Now Specialist at Thermo Fisher Scientific.
4 - Anton Polishko - Computational Science, UCR, 06/2010 -06/2014 – Now Software Ebgineer/Head of Technology at Blockchain 48TM.
5 - Xueqing Lu – Genetics, Genomics, Bioinformatics – 04/2013 to 12/2017 – Now staff Scientist at UPenn.
6 - Gayani Batugedara - Cellular Molecular and Developmental Biology, UCR – 03/2014 to 12/2018 – Now Postdoctoral fellow at School of Medicine at the University of Texas Health Science Center at San Antonio.
7 - Steven Abel - Genetics, Genomics, Bioinformatics, UCR – Since 08/2017
8 - Desiree Williams - Cellular Molecular and Developmental Biology, UCR 05/2018 to 10/2019
9 - Zeinab Chahine – Microbiology graduate program, UCR since 09/2018
10 - Todd Lenz – Genetics, Genomics, Bioinformatics, UCR since 04/2019

Foreign PhD students:
1 - Zoraima Neto - 08/2011 to 12/2011 – Portugal
2- Marcela de Melo Burger - 06/3013 to 10/2013 – Brazil

Master Students:
1 - Jianfeng Yang - Computational Science, UCR, 2006-2007. Now working at Google.
2 - Neeti Pokhriyal - Computational Science, UCR, 2008-2009. Now PhD student.

Rotating graduate students:
1 - George Hsu - GGB – 2006
2 - Stephanie Turner - CMDB-2006
3 - Robin Clark - Biomed 2007
4 - Sourav Roy - GGB-2007
5 - En Hui Hsien (Gracie) - Biomed-2007
6 - Tatiana Cirico – GGB -2007 and 2008
7 - Kevin Keller - CMDB-2010
8 - Arit Ghosh - CMDB 2011
9 - Melania Ebrahimi (Microbiology 2011
10 - Jessica Jang - MCBL – 2012
11 - Cheryl Stork - CMDB 2013
12 - Michael Hamilton – CMBD 2012 to 2014
13- Sahah Radi -BMBG -2015
14 - Desiree Williams – CMDB - 05/2018 to 10/2019
15- Cheng-hung Tsai – GGB – 10/2020 to present

15 – Arafat Rahman – GGB 2017
16 – Sally Ireri – CMDB 2018
17 - Shyleen Frost – Biomed 2018

Undergraduate students:
1 – Eric McDaniel - 04/2006 to 06/2007 – Now in Medical School.
2 – Lynelle Garnica Guerrero – Summer 2007.
3 – Joseph Yacoub – 2007.
4 – Matthiew Bruton - 07/2007 to 06/2010 – Now research Assistant
5 – Allen Austin - 07/2008 to 06/2009 - MARC U* student
6 – Michael Cervantes - 09/2008 to 06/2012 – MARC U* - Now in Dental School
7 – Hans Meimban - 09/2009 to 03/2010
8 – Matthiew Braley - 07/2010 to 06/2011 - Now Research Assistant
9 – Anup Sarakki - 09/2010 to 06/2011
10 – Christopher Margano - 09/2011 to 01/2012
11 – Manny Torres - 07/2011 to 09/2012 - MARC U* student
12 – Sean Whitton - 03/2012 to 06/2013 – Now Research Assistant
13 – Aster Escalante - 06/2012 to 06/2014 – MARC U* student - Now PhD student
14 – David Ghim – 06/2013 to 06/2014 -
15 – Michael Lee – 4/2013 to 06/2015 - Now Graduate student at City of hope
16 – Christopher Conner - 06/2012 to 06/2015 - MARC U* student now Graduate student at UCSB
17 – Nichole Escamilla – 06/2014 to 06/2015 - MARC U* student - Now Biology High School teacher.
18 – Aaron Watson – 06/2014 – 12/2015 MARC U* student
19 – Sophia Vizcarra – 07/2015 to 09/2016
20 – Raphael Reyes – 09/2015 to 06/2017
21 – Steve Lu – 04/2016 to 06/2017
22 – Rossela (Stephanie) Guevara – HHMI summer student 2016
23 – Basava Jonnala 03/2016 to 09/2016
24 – Rahul Jalota – 08/2016 to 03/2017
25 – Xavier Faraj - 04/2017 to 06/2017
26 – Anjelika Grate - 04/2017 to 12/2017
27 – Anthony Cort - 04/2017 – to 06/2020 - MARC U* student (**Barry M. Goldwater National Research Scholarship award, UCR Research Mini-Grant Award, Phi Beta Kappa National Honors Society, UC Riverside Dean's Honor List, Dean's Academic Distinction Award, Honors Convocation)**
28 – Tina Wang – Since 09/2016
29 – Tran Thai – Since 01/2018
30 – Sonali Nair - HHMI summer student 2018
31 – Vincent Nguyen – Since 06/2019
32 – Joseline Sanchez – Summer 2019
33 – Lianne Quek – Since 06/2019
34 – Nicholas Alegre – Since 09/2019
35 – Marco Duenas – since 05/2020

SERVICES

Editorial Board Member:
Since 2015 Scientific Report.
Since 2019 Frontiers in Cellular and Infections Microbiology – Parasite and Host

Editorial Guest Editor:
2014- 2019 PLoS Computational Biology, PLoS Pathogen.

Ad hoc reviewer:

Since 2005 Over 300 manuscripts in Nature, Nature Method, Nature Biotech, Cell Host & Microbe, eLIFE, Genome Biology, Genome Research, Autophagy, Proc. Natl. Acad. Sci., Traffic, Journal of Biochemical Chemistry, PLoS Biology, PLoS Pathogen, Genome Medicine, PLoS One, PLoS Medicine, PLoS Computational Biology, Scientific Report, Cell Report, Bioorganic and Medicinal chemistry Bioinformatics, FEBBS letter, Molecular Microbiology, Journal of Antimicrobial Chemotherapy, Parasitology International, Malaria Journal, Future Medicinal Chemistry, BMC Genomics, Molecular Systems Biology, Trend in Parasitology, Genetica, Bioorganic & Medicinal Chemistry, Journal of Biochemistry, Cellular and Molecular Life Science, Methods in Molecular Biology.

Reviewer - Funding Agency Study Sections

2009 External reviewer for NIH Challenge Grants.
2009-2016 External reviewer for the Wellcome Trust, UK.
2009 External reviewer for the French Embassy, Chateaubriand fellowships, France.
2009 External reviewer the Canadian Foundation Innovation, Canada.
2009-2016 External reviewer the Medical Research Council, UK.
2010-2013 External reviewer for the Swiss National Science Foundation.
2009-2015 External reviewer for the National Medical Research Council (NMRC), Singapore.
2010- 2011 External reviewer for the Netherlands Organization for Scientific Research.
2011 External reviewer for the Bill and Melinda Gates Foundation.
2012-2016 Member of the Scientific Advisory Group for the NIH Malaria Center of Excellence in Southeast Asia _ meeting twice a year since 2012.
2013-2015 External reviewer for French National Research Agency, France.
2013-2016 NIAID study section - F13 Infectious Diseases and Microbiology Fellowship Panel.
2013 NIAID Pathogenic Eukaryotes Study Section (PTHE) Review Panel.
2014 -2016 External reviewer for the Institut National de la Santé et de la Recherché Medical (INSERM- France) and the French National Cancer Institute - Epigenome and Cancer Review Panel.
2016 NIAID/MIDB study section, Clinical Scientist Research Career Development Review panel, Ad Hoc member.
2016 External reviewer for the European Research Council Grant panel.
2017 External reviewer for the King Abdullah University of Science and Technology, Saudi Arabia
2018 CDC/UCD/UCR PacVec CoE Training Grants review committee.
2018-2019 External Grant reviewer - Israel Science Foundation.
2018 External Grant reviewer - United States-Israel Binational Science Foundation
2018 External Grant reviewer - The Wellcome Trust/DBT India Alliance Fellowship
2019 External Grant reviewer - NSF
2019 External Grant reviewer - Deutsche Forschungsgemeinschaft (DFG), Germany
2019 External Grant reviewer - Netherlands Organisation for Health Research and Development (ZonMw)
2019-2020 External Grant reviewer- CNRS/INSERM/ATIP Avenir Program Young group leader – France.
2019 NIH study section Special emphasis panel in the Genes, Genomes and genetics review Panel.
2019-2020 External Grant reviewer - Medical Research Council (MRC) – UK research and Innovation, UK.
2020 - 2025 Permanent Member of the NIH/NIAID Pathogenic Eukaryotes Study Section (PTHE) Review Panel.

University Services

Since 07/2016	**Director Center for Infectious Disease and Vector Research**
2019	UCR/RED reviewer for the selection of the Pew limited submission applications
2018	Chair of the CNAS Executive Committee fellowship award
2018-present	Member of the Executive Committee for the GGB graduate program
2015-2018	Member of the UCR CNAS Executive Committee (2015-2018)
2006- 2015	College and Department Search Faculty Committee Members (13 different Faculty searches)
2008- 2015	Chair of the Center for Disease Vector Research Seminar series
2007	Chair of the GGB Seminar Series
2008-2009	Session Chair / CMDB / 9th Annual Research Symposium
2008	Faculty Chair / American Society for Microbiology Student 2008
2008 – 2015	Graduate Writing Qualifying Exam Committee - CMDB
2012 – 2016	Member of the Executive Committee for the CMDB graduate program
2010-2011	Member of the Graduate GGB admission committee
2011-2012	Chair CMDB seminar series
2011-2014	Graduate Advisor for PhD Students-Microbiology
2012	Member of the CNAS Redesign Subcommittee on Excellence in Community Engagement & Service. 2012
2013-2016	Member of the department award committee.
2006- 2016	Master Defenses (2); PhD defenses (5), Oral-qualifying exams (19)
2015-2016	Reviewer for UCR SEED Grants (4-5 per year)
2016-2017	Member of the CNAS Scholarship Committee – Close to 100 grants to review each year.
2017-2018	Chair of the CNAS Scholarship Application Review Committee
2017-2018	Member of the Graduate Program in Microbiology admission committee
2018 – Present	**Member of the Executive Committee for the GGB graduate program**
2020-present	**Member of the Senate Committee on Charges.** The Committee on Charges receives in writing, from the Chancellor, unresolved complaints that allege violation of the Faculty Code of Conduct. Complaints are evaluated, mediated and resolved by the committee. Complaints can be initiated by a faculty member, a student, or a member of the administration. The complaints are filed with the campus administration, under the procedures outlined in UCR's Senate Bylaws. Complaints are considered by the Academic Senate Charges Committee when forwarded to that committee by the office of the Chancellor.

Conference Organizing

2010	Co-organizer of the Center for Disease Vector Research and the Institute for Integrative Genome Biology symposium - Facing the Challenges of Vector-Borne Diseases in the 21st Century - March 2010.
2011-Present	**Initiated and Co-organize the Annual Southern Californian Eukaryotic Pathogens Symposium (SCEP) at UCR since the fall of 2011. Over 100 participants from UCLA, UCSD, UCI, Loma Linda, University of Arizona and several Cal states.**
2017-2019	Initiated and Co-organizer of the Center for Infectious Disease Vector Research - Applying advance synthetic biology to engineer the fate of species - May 2017 and May 2019.

Public Services:

2008	The French Embassy and UCI seminar - The Ubiquitin proteasome system as a new therapeutic approach for the treatment of the human malaria parasite
2008	Women in Science at International High School. Los Angeles, CA

	Malaria: In search of new strategies to combat the disease
2012	Interview for a documentary "Man vs Malaria".
2013	Riverside TV interview "Face to Face".
2014	Malaria Day in High Tech Middle school students in San Diego CA
2018-2019	Science Seminar Series at the Lycée Français de San Diego.
2019	Sick: A YouTube show from Seeker, a digital publisher devoted to science that described how the disease can spread on the human body. I help in the design and creation of the Sick's crash course in malaria (https://www.youtube.com/watch?v=nFcvDVf1XRI).

PATENTS

1 - Disclosure of Record of Invention: UC case N0. 2008-427. Patent application 61/018609. Use of Salinosporamide A triazoles as antimalarial and antiparasitic agents. **K. Le Roch** (UCR) and M. Pirrung (UCR). 2008

2- Patent US-2011-0190338-A1: Compounds and compositions Useful in the Treatment of Malaria. J. Kubanek, M. Hay, A. Lane and **K. Le Roch**. U.S. Application Serial No. 13/021,171; Files February 4, 2011. Published in August 2011.

PEER REVIEWED PUBLICATIONS (Most recent listed first)

Google Scholar: *h-index: 44; i10-index: 79; citations over 16,000.*
See: https://scholar.google.com/citations?user=wczCugQAAAAJ&hl=en
Research Gate: *RG score: 41.6; See: https://www.researchgate.net/profile/Karine_Le_Roch*

105 – Hollin T., Abel S., Falla A., Flerida C., Kirkwood JA., Saraf A. Prudhomme J., Florens L., Niles JC., Le Roch KG.. Functional Characterization of RAP Proteins Essential for Mitochondrial Biogenesis in the Human Malaria Parasite, *Plasmodium falciparum*. **Manuscript submitted 2021.**

104 - Morillo RC, Tong X, Xie W, Lenz T, Batugedara G,Tabassum N, Orchard LM, Daher W, Patel D, Nobel WS, Llinás M, Le Roch KG, Kafsack BFC. "Homeodomain protein 1 is an essential regulator of gene expression during sexual differentiation of malaria parasites". **Preprint on bioRxiv:** https://www.biorxiv.org/content/10.1101/2020.10.26.352583v2. **Manuscript Submitted 2020.**

103 - Hollin T., Jaroszewski L., Stajich JE., Godzik A. and **Le Roch KG..** Identification and phylogenetic analysis of RNA binding domain abundant in Apicomplexans or RAP proteins. Manuscript in press at **Microbial Genomics 2021.**

102 - Davis S., Hollin T., Lenz T., and **Le Roch KG**. Three-dimensional Chromatin in Infectious Disease – A role for gene regulation and pathogenicity? PLoS Pathog. 2021 Feb 4;17(2):e1009207. doi: 10.1371/journal.ppat.1009207. eCollection 2021 Feb. PMID: 33539484

101 – Coban M., Morrison J., Freeman W.D., Radisky E., **Le Roch KG.**, Caulfield TR.. Attacking COVID-19 Progression using Multi-Drug Therapy for Synergetic Target Engagement. **Manuscript under revision, 2020.** https://arxiv.org/abs/2007.02557

100 – Hollin T. and **Le Roch KG..** From genes to transcripts, a tightly regulated journey in *Plasmodium.* Front Cell Infect Microbiol. 2020 Dec 17;10:618454. doi: 10.3389/fcimb.2020.618454. eCollection 2020. PMID: 33425787

99 – Hollin T., Gupta M., Lenz T. and **Le Roch KG..** Dynamic Chromatin Structure and Epigenetics Control the Fate of Malaria Parasites. Trends Genet. 2021 Jan;37(1):73-85. doi: 10.1016/j.tig.2020.09.003. Epub 2020 Sep 25. PMID: 32988634 .

98 – Xia J., Venkat A., Ay F., **Le Roch** K. and Jon P. Boyle. Single molecule long read sequencing revises the molecular karyotype for *Toxoplasma gondii* and identifies recently emerging copy number variants in sexual recombinants. **Genome Research. 2021 In press.**

97 - Clark, R.D., Morris, D.N., Chinigo, G., Lawless, M.S., Prudhomme, J., **Le Roch, K.G.,** Lafuente, M.J., Ferrer, S., Gamo, F.J., Gadwood, R., Woltosz, W.S.. Design and tests of prospective property predictions for novel antimalarial 2-aminopropylaminoquinolones. **Journal of Computer-Aided Molecular Design. 2020**, https://doi.org/10.1007/s10822-020-00333-x

96 - Lai, Y., Lu, XM., Daron, J., Wang, J., Wang, W., Tsuchiya, T., Holub, E., McDowell, JM., Slotkin RK., **Le Roch, KG.** & Eulgem, T.. The Arabidopsis PHD-finger protein EDM2 links TE silencing to NLR immune receptor expression control. **PLoS Genetics, 2020,** 2020 Sep 14;16(9):e1008993. doi: 10.1371/journal.pgen.1008993**.**

95 - Zeeshan M., Pandey R., Ferguson D.J.P., Tromer E.C., Markus R., Abel S., Brady D., Daniel E., Limenitakis R., Bottrill A.R., **Le Roch K.G.**, Holder A.A., Waller R.F., Guttery D.S., Tewari R.. Real-time Dynamics of *Plasmodium* NDC80 Reveals Unusual Modes of Chromosome Segregation During Parasite Proliferation. **J Cell Sci. 2020** May 22:jcs.245753. doi: 10.1242/jcs.245753.

94 - Pandey, R.*, Abel, A.*, Boucher, M., Wall, RJ., Zeeshan, M., ERea, E., Freville, A., Lu, XM., Brady, D., Daniel, E., Stanway, RR., Wheatley, S., Batugedara, G., Hollin, T., Bottrill, AR., Gupta, D., Holder, AA., **Le Roch KG.*** and Tewari R.*. *Plasmodium* condensin core subunits (SMC2/SMC4) mediate atypical mitosis and are essential for parasite proliferation and transmission. **Cell Rep. 2020** Feb 11;30(6):1883-1897.e6. doi: 10.1016/j.celrep.2020.01.033**. * Contributed equally to this work.**

93 - Cook, KB., **Le Roch, K.,** Vert, JP. and Noble SW. Measuring significant changes in chromatin conformation with ACCOST. **Nucleic Acids Res. 2020 Feb 8.**

92 -Batugedara G., Lu X.M., Prudhomme, J., Saraf A., Florens L., Bunnik E.M, **Le Roch, K**. The chromatome of the human malaria parasite *Plasmodium falciparum* ". **Microb Genom. 2020 Feb 4.** doi: 10.1099/mgen.0.000327.

91- Lenz T. and **Le Roch K.G.,** Three-Dimensional Genome Organization and Virulence in Apicomplexan Parasites. **Epigenetics Insights, 2019.** DOI: 10.1177/2516865719879436

90 - Zeeshan, M., Shilliday, F., Liu, T., Abel, S., Mourier, T., Ferguson, D.J.P., Rea, E., Stanway, R.R., Roques, M., Williams, D., Daniel, E., Brady, D., Roberts, A.J., Holder, A.A., Pain, A., **Le Roch, K.G.,** Moores, C.A. and Tewari, *R., Plasmodium* kinesin-8X associates with mitotic spindles and is essential for oocyst development during parasite proliferation and transmission. **PLoS Pathogen, 2019** Oct 15(10): e1008048**.**

89 - Read DF., Cook K., **Le Roch KG** and Noble SW. Predicting gene expression in the human malaria parasite *Plasmodium falciparum.* **PLoS Computational Biology**. **2019 Sep** 11;15(9):e1007329. **2019.**

88 – Zeeshan, M., Ferguson DJP., Abel, S., Burrrell, A. , Rea, E., Brady, D., Daniel, E., Delves, M., Vaughan, S., Holder, A.A., **Le Roch, K.G.,** Moores, C.A. and Tewari, R. Kinesin-8B controls basal

body function and flagellum formation and is key to malaria transmission. **Life Science Alliance.** 13 August, 2019 | Supp Info: http://doi.org/10.26508/lsa.201900488**. 2019.**

87 – Karns, AS., Ellis, B.D., Roosen, P.C., Chahine, Z., **Le Roch, K.G.,** and Vanderwal, C.D.. Concise Synthesis of the Antiplasmodial Isocyanoterpene 7,20-Diisocyanoadociane. **Angew Chem Int Ed Engl**. Jul 3. doi: 10.1002/anie.201906834. [Epub ahead of print]. **2019.**

86 - Abel S. and **Le Roch K.G**.. The role of epigenetics and chromatin structure in transcriptional regulation in malaria parasites. **Briefings in Functional Genomics. 2019** Apr 26. pii: elz005. doi: 10.1093/bfgp/elz005. [Epub ahead of print]

85 – Bunnik E.M., Venkat A., Shao J., McGovern K.E., Batugedara G., Worth D., Prudhomme J., Lapp S.A., Andolina C., Ross L.S, Lawres L., Brady D., Sinnis P., Nosten F., Fidock D.A., Wilson A.E, Tewari R., Galinski M.R., Ben Mamoun C., Ay F., and **Le Roch K.G.**. Comparative 3D Genome Organization in Apicomplexan Parasites. **Proc Natl Acad Sci** USA. Feb 19;116(8):3183-3192. doi: 10.1073/pnas.1810815116. Epub 2019 Feb 5. PMID: 30723152. **2019.**

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6 - Carlton, J., Sullivan, S., **Le Roch, K**.. *Plasmodium* genomics and the art of sequencing malaria parasite genomes. Comparative Genomics of Plasmodium Parasites. Editors: Jane Carlton. Horizon Scientific Press. 2013

5 - Chung DW, Ponts N, and **Le Roch KG**.. Genome-wide analysis of Gene Expression. Encyclopedia of Biological Chemistry 2nd edition, Elsevier. 2012.

4 – Ponts N. and **Le Roch K..** Malaria and personal genomic: Idealist or realist? 2nd edition of Genomic and Personalized Medicine. Edited by Hunt Willard and Geoffrey S Ginsburg. October 2012

3 - **Le Roch KG.** and Winzeler EA.. Understanding the transcriptome of the malaria parasite, *Plasmodium falciparum*. Molecular Approach to Malaria, Edited By Irwin Sherman, 2005.

2 - **Le Roch KG.** and Winzeler EA.. Biochip in Malaria for Anti-Parasitic Discovery. Biochips as Pathways to Discovery. Taylor & Frances. 2005

1 - **Le Roch KG.** and Winzeler EA.. Genome-wide analysis of Gene Expression. Encyclopedia of Biological Chemistry, Elsevier Inc. 2004.

SELECTED ORAL PRESENTATIONS

76 – Speaker: Small RNA genomics of field mosquitoes to identify patterns of viral abundance and specific mosquito immune response. Pacific SouthWest Center of Excellence in Vector- Borne Diseases. 4th Annual Meeting, University of California, Davis (Virtual Meeting). February 2021.

75 - Invited Speaker: A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Malaria parasites. University of Pennsylvania, School of Veterinary Medicine seminar series. February 2021.

74 – Speaker: Small RNA genomics of field mosquitoes to identify patterns of viral abundance and specific mosquito immune response. CIDVR symposium January 2020, University of California, Riverside.

73 – Invited Speaker: A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Malaria parasites. Western University seminar series, CA, USA. January 2021.

72 – Invited Speaker: A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Malaria parasites. Department of Infectious Diseases and Cellular Biology seminar series, Stanford University of Georgia, GA, USA. January 2021.

71 - Invited Speaker: Comparative 3D Genome Organization in Apicomplexan Parasites. ABACBS2020, the annual conference of the Australian Society of Bioinformatics and Computational Biology (https://www.abacbs.org/). Virtual meeting, Australia, November 2020.

70 - Invited Speaker: A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Malaria parasites. Department of Microbiology and Immunology seminar series, Stanford University School of Medicine, CA, USA. October 2020.

69 - Invited Speaker A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Malaria parasites. Indiana University School of Medicine seminar series, Indiana, USA. September 2020.

68 - Speaker- The Role of LncRNAs in Malaria Parasites: Deciphering the Non-Coding Code of Pathogenicity and Sexual Differentiation. MAM 2020, Lorne, Australia, February 2020.

67 - Invited Speaker - Chair: Comparative 3D Genome Organization in Apicomplexan Parasites. Cold Spring Harbor Meeting, New York, USA – Genome Informatics November 2019.

66 - Invited Speaker: A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Apicomplexan parasites, New York University, New York, USA –November 2019

65 - Invited Speaker: Comparative 3D Genome Organization in Apicomplexan Parasites The 18th Awaji International Forum on Infection and Immunity, Osaka, JAPAN, September 2019

64 – Invited Speaker: A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Human Malaria parasites. Seminar series Department of Environmental Parasitology, Tokyo Medical and Dental University (TMDU), Tokyo 113-8510 Japan. September 2019.

63 - Speaker: A Systems Biology Approach to Understand Gene Regulation and pathogenicity in Human Malaria parasites. University of Notre Dame, Indiana, Department Seminar series. April 2019.

62 – Speaker:A Systems Biology Approach to Understand Gene Regulation in Human Malaria Parasites"PacVac Seminar series, February 2019, UCR.

61 – Speaker: Insight into Vector-Borne Diseases – A Systems Biology Approach. Pacific Southwest Center of Excellence in Vector Borne Diseases. 2nd Annual Progress Meeting. University of California Davis, January 2019.

60 – Speaker: Comparative 3D Genome Organization in Apicomplexan Parasites link genome organization and gene expression in more virulent pathogens. Late Breaker Abstract. American Society of Tropical Medicine and Hygiene. 67th Annual Meeting. New Orleans October 2018.

59 - Invited Speaker: Chromatin Structure and Gene Regulation in Malaria and Apicomplexan parasites. Departmental seminar series, La Sierra University, Riverside, CA. USA. September 2018.

58 – Invited Speaker: Changes in Genome Organization of Parasites. International Conference on Systems Biology of Human Diseases, June 2018, Los Angeles, CA, USA.

57 – Invited Speaker: Multiple dimensions of gene regulation in the malaria parasites, Microbiology Department, Karolinska Institutet, Sweden, June 2017.

56 - Speaker: Let's talk about sex - and sex chromosomes - in human malaria parasites. CIDVR Vector Symposium, UCR, Applying advance synthetic biology to engineer the fate of species. May 2017.

55 – Invited Speaker: Taking a Closer Look at Human parasites: From Basic Science to Drug Discovery! Novartis Institutes for BioMedical Research, February 2017.

54 – Invited Speaker: Multiple dimensions of epigenetic gene regulation in malaria parasites - Transcriptional regulation via histone modifications, nucleosome positioning and nuclear architecture. Center for big Data, UCR, December 2016.

53 – Speaker: New approaches to examining antigenic variation in multiple *Plasmodium* species and in the course of infections in humans, non-human primates and mosquitoes. American Society of Tropical Medicine and Hygiene 65th Annual Meeting, Atlanta, Georgia USA, Nov 2016.

52 - Speaker: The three-dimensional structure of *Plasmodium* genomes acts as a master gene regulator controlling pathogenicity, sexual differentiation, and transmission. Molecular approaches to Malaria, Lorne, Victoria, Australia. 2016.

51 – Invited Speaker: A system Biology approach to understand the biology of the human malaria parasite P. Falciparum. City of Hope, Department of Molecular Immunology - Jan 2016.

50 – Speaker: Association between chromatin structure, gene regulation and pathogenicity in the human malaria parasite; Plasmodium falciparum. Gordon Conference (malaria), Spain, July 2015.

49 - Speaker: Association between chromatin structure, gene regulation and pathogenicity in the human malaria parasite; Plasmodium falciparum. Keystone meeting (Epigenomics), Keystone, Colorado April 2015.

48 – Speaker: Three-dimensional modeling of the P. falciparum genome during the erythrocytic cycle: A major organizational role of virulence genes in the genome architecture. Gordon conference (GRC) Biology of Host-Parasite Interactions" Salve Regina University in New Port RI, USA, June 2014.

47 – Speaker: The three-dimensional architecture of the Plasmodium genome throughout the asexual cell cycle. World Malaria Day Symposium. April 25, 2014. UC Berkley/ Zagaya.

46 – Speaker: The three-dimensional architecture of the Plasmodium genome throughout the asexual cell cycle. 4th Annual Southern California Systems Biology Conference (SoCalSysBio)., Irvine, CA, USA, January 2014.

45- Invited Speaker: A system Biology approach to understand the biology of the human malaria parasite P. Falciparum. Boston College, January 2014.

44 – Speaker: The Spatial Organization of the *P. falciparum* genome. Gordon Conference, Italy August 2013.

43 – Invited Speaker: Seq Technologies to Understand the Human Malaria Parasite Infectious Cycle X-GENCongress, San Diego March 2013.

42 – Invited Speaker: Epigenomics and Virulence in the human malaria parasites: a system biology approach to understand the parasite infection cycle, Paul-Ehrlich-Institut Langen, Germany, November 2012.

41 – Invited speaker: Epigenmics and Virulence in the human malaria parasite. A system Biology approach to understand the parasite Infectious cycle. International symposium on Proteomics Beyong IDs. Pune India, November 2012.

40 - Invited Speaker: Using Next-Generation Sequencing technology To Understand the Parasite Infection Cycle. Illumina User meeting. Los Angeles, October 2011.

39 - Invited Speaker: Epigenomics and Virulence in the human malaria parasites: a system biology approach to understand the parasite infection cycle. UCLA, Sept 2011.

38 - Invited Speaker: Epigenomics and Virulence in the human malaria parasites: a system biology approach to understand the parasite infection cycle. USC, August 2011.

37 - Speaker: Epigenomics and Virulence in the human malaria parasites: a system biology approach to understand the parasite infection cycle. Gordon Conference, Italy August 2011.

36 - Invited speaker. Epigenomics and Virulence in the human malaria parasites: a system biology approach to understand the parasite infection cycle. California State University, Long Beach. March 2011.

35 - Invited speaker. Epigenomics and Virulence in the human malaria parasites: a system biology approach to understand the parasite infection cycle. Southern California System Biology Conference. University of California Irvine, January 2011.

34 - Invited Speaker. Genome–wide nucleosome positioning and DNA methylation in the human malaria parasite: Insights into differentiation and virulence. University of Florida November 2010.

33 - Speaker. Genome–wide nucleosome positioning and DNA methylation in the human malaria parasite: Insights into differentiation and virulence. International Conference on Intelligent System for Molecular Biology. Official Meeting of the international Society of Computational Biology. Boston, MA, USA, July 2010.

32 - Invited Speaker. Genome–wide nucleosome positioning and DNA methylation in the human malaria parasite: Insights into differentiation and virulence. Biology of Host parasite interaction, Gordon Conference, Salve Regina University, USA, RI, June 2010.

31 - Speaker. Malaria In search of new strategies to combat the disease: A genomics approach. International 2010 CDVR Symposium. Facing the Challenge of Vector-borne Disease in the 21st Century. California, USA, March 2010.

30 - Invited Keynote Speaker. Unravelling Gene Regulation Mechanisms in the Human Malaria Parasite: Insights Into Chromatin Remodelling. International Society for Computational Biology (ISCB) and Africa ASBCB Conference on Bioinformatics of Infectious Diseases. Bamako, Mali November 2009.

29 - Invited speaker. Mapping chromatin structure and nucleosome fluctuation by massive parallel sequencing: A Genomic-based approach to understand the Malaria parasite infectious cycle. Illumina Symposium, University of California, Riverside, USA November 2009.

28 - Invited speaker. Mapping Chromatin Structure and Nucleosome Fluctuation by Massive Parallel Sequencing: A Genomic Approach to Understand the Human Malaria parasite Infectious cycle. Seminar Series, Institute for Genomics and Bioinformatics, University of California Irvine, California, USA, November 2009.

27 - Invited Speaker. Malaria: In search of new strategies to combat the disease. Model United Nations, University of San Diego, USA Presented on 10/17/2009.

26 - Invited speaker. The ubiquitin proteasome system as a new therapeutic approach against the human malaria parasite. The Ubiquitin Drug Discovery and Diagnostics 2009 conference, Philadelphia, USA presented on 10/13/2009.

25 - Invited Speaker. Mapping Chromatin Structure and Nucleosome Fluctuation by Massive Parallel Sequencing: A Genomic Approach to Understand the Human Malaria Parasite. 5th Annual ChemGen IGERT Retreat, Lake Arrowhead, USA Presented on 10/03/2009.

24 - Invited speaker. Mapping chromatin structure and nucleosome fluctuation by massive parallel sequencing: A Genomic-based approach to understand the Malaria parasite infectious cycle. Illumina Latin America Genomics Symposium 2009 Cuernavaca Presented on 08/26/2009; Mexico City (UNAM) Presented on 08/27/2009 and Mexico City (Inmegen).

23 - Invited speaker. Malaria, in search of New Strategies to combat the disease. University of South California, USA Presented on 08/03/2009.

22 - Invited speaker. Binary Alterations of Chromatin Structure Control a Rigid transcriptional device in the Human Malaria Parasite. FABS 2009, French American Biotechnology Symposium. Lyon France 2009. Presented on 03/31/2009.

21 - Invited keynote speaker. Mapping chromatin structure controlling the human malaria parasite infection cycle. Bioinformatics of Plasmodium falciparum 2009. Paris France 2009, presented on 01/21/2009.

20 - Speaker. Mapping chromatin structure and nucleosome fluctuation by massive parallel sequencing: A genomic-based approach to understand the malaria parasite infection cycle UCSD Next-Gen Sequencing 2008 Meeting, San Diego, USA presented on 11/2008.

19 - Invited speaker. Mapping chromatin structure and nucleosome fluctuation by massive parallel sequencing: A genomic-based approach to understand the malaria parasite infection cycle. IBC's Discovery to Diagnostics 2008, San Diego, USA presented on 09/2008.

18 - Invited speaker The ubiquitin proteasome system as a new therapeutic approach for the treatment of the human malaria parasite. Seminar series in Infectious Diseases. University of Bordeaux II, France. Bordeaux. Presented on 07/2008.

17 - Invited speaker, Salinosporamides as broad-spectrum antimalarial agents. Medicines for Malaria Venture. MMV/WHO. Philadelphia. Presented on 07/2008.

16 - Invited speaker. Malaria and drug discovery; An integrated approach. 33rd Annual La Jolla Immunology Conference. The Salk Institute, La Jolla, USA. Presented on 10/2007.

15 -Invited speaker. The malaria UPS: A new therapeutic approach. Proteases Workshop. Palm Canyon Resort, Borrego Springs. Presented on 04/2007.

14 - Invited speaker Natural products as new Potential Antimalarials. UCSD. La Jolla. Presented on 04/2007.

13 - Invited speaker. Malaria and drug discovery; an integrated approach. Emerging challenges in microbiology & immunology. University of California, Davis. Presented on 01/2007.

12 - Invited speaker. Variation in response to drugs/perturbogens/immunity. Malaria think-tank. MIT. Broad Institute, MIT, Cambridge, MA. Presented on 09/2006.

11 - Invited speaker: Functional Genomics of the malaria parasite. Montreal Microarray Symposium, 4th edition, Biotechnology Research Institute, Montreal, Canada (17-18 March, 2005.

10 - Invited speaker. Functional Genomics of the malaria parasite. The seven China-Novartis symposium on infectious Diseases. Chengdu, China (November, 2004).

9 - Functional genomics of the antimalarial choline analogue T4 on *Plasmodium falciparum* reveal potential therapeutic targets. Molecular Parasitology meeting Woods Hole, Ma, USA (September, 2004).

8 - Invited speaker. Functional genomics of Malaria. 7th International Meeting of the Microarray Gene Expression Data Society. Toronto, Canada. (September, 2004).

7 - Invited speaker. Functional genomics of *Plasmodium falciparum*: A new approach for identifying therapeutic targets against malaria. 42ème Réunion du Groupement des Protistologues de Langue Française Montpellier, France. (May, 2004).

6 - Invited speaker. Functional genomics of *Plasmodium falciparum*: A powerful approach to find new therapeutic targets against Malaria. Department Genetics Cell Biology and Anatomy, Nebraska Medical Center Omaha, USA, (April, 2004).

5 - Invited speaker. Functional genomics of *Plasmodium falciparum*: A powerful approach to find new therapeutic targets against Malaria. 2nd International Symposium on Social Responsibility and Tropical Diseases., Sao Paulo, Brazil (February, 2004).

4 - Highly-parallel discovery of gene function by expression profiling of the malaria parasite life cycle. XIV Molecular Parasitology meeting Woods Hole, Ma, USA (September, 2003).

3 - A genome-wide study using high-density oligonucleotide arrays. XIII Molecular Parasitology meeting Woods Hole, Ma, USA (September, 2002).

2 - Development of an *in vitro* inhibition essay for the CDKs of *Plasmodium falciparum* using chemical inhibitors of cyclin-dependant kinases. Second Symposium of the INCO-DC network on *Plasmodium falciparum* differenciation. Johannesbourg, South Africa, (March, 1999).

1 - Highly divergent types of *Pneumocystis carinii* infected ferret lungs. Fifth International Workshop on opportunistic protists, Lille, France (September 1997).

POSTERS

60 - Abel SM., Hong Z., Williams D., Ireri S., Brown MQ., Su T., Hung KY., Henke JA., Barton JP., and Le Roch KG.. Small RNA sequencing of field Culex mosquitoes identifies patterns of viral abundances and the mosquito immune response. 10th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA. October 2020.

59 – Hollin T., Abel S., Falla A., Pasaje F., Kirkwood KG., Saraf A., Prudhomme J., Florens L., Niles J., and Le Roch KG. Functional characterization of two RAP proteins essential for the mitochondrial biogenesis of *P. falciparum* asexual stages. Molecular Parasitology Meeting, Virtual meeting, USA, Sept 2020.

58 - Chahine Z, Prudhomme J, Daub ME, Ben Mamoun C, Vanderwal CD and Le Roch KG. A Multi-omics Approach to Understand the Mode of Action of a Kalihinol Analogue, a Potent New Antimalarial against *Plasmodium falciparum*. Molecular Parasitology Meeting, Virtual meeting, USA Sept 2020.

57- Abel S., Williams D., Ireri S., Brown M., Su S., Hung K, Henke J. and Le Roch KG.. A deep investigation into the virome of Culex mosquitoes in California using small RNA sequencing. The Mosquito and Vector Control Association of California (MVCAC) - 88th Annual Conference San Diego, January 26-28, 2020.

56- Chahine, Z., Prudhomme, J., Daub, ME., Ben Mamoun, C., Vanderwal, CD. and Le Roch KG. Targeting the Human Malaria Parasite P. falciparum with Kalihinol Analogues. 9th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA. November 2019.

55 - Xia, J., Bainbridge, R., Venkat, A., Ay, F., Le Roch KG. and Boyle JP.. Revising the karyotype of Toxoplasma gondii and synteny with Neospora caninum using single molecule sequencing. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2019.

54 - Pasaje, CFA., Hollin, T., Abel, S., Lukens, AK., Summers, RL., Vanaerschot, M., Murithi, J., Ruth, MR., Ottilie, S., Le Roch, KG., Wirth, DF., Fidock, DA., Winzeler EA., Niles,JC.. Characterization of a *Plasmodium falciparum* acetyl-CoA synthetase and targeted discovery of inhibitors using functional genomics. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2019.

53 - Hollin, T., Prudhomme, J., Pasaje, CF., Falla, A., Saraf, A., Florens, L., Niles, JC. and Le Roch, KG. The role of RNA-binding proteins abundant in Apicomplexans (RAPs) in mitochondrial biogenesis of the human malaria parasite, *P. falciparum*. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2019.

52- Chahine, Z., Prudhomme, J., Daub, ME., Ben Mamoun, C., Vanderwal, CD. and Le Roch KG. Targeting the Human Malaria Parasite P. falciparum with Kalihinol Analogues. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2019.

51- Bunnik E.M., Venkat A., Shao J., McGovern K.E., Batugedara G., Worth D., Prudhomme J., Lapp S.A., Andolina C., Ross L.S, Lawres L., Brady D., Sinnis P., Nosten F., Fidock D.A., Wilson A.E, Tewari R., Galinski M.R., Ben Mamoun C., Ay F., and Le Roch K.G. Comparative 3D Genome Organization in Apicomplexan Parasites. 7th International Conference on *Plasmodium vivax* Research (ICPvR)" Institute Pasteur, Paris, June 2019.

50 - Pandey, R., Abel, A., Boucher, M., Wall, RJ., Zeeshan, M., ERea, E., Freville, A., Lu, XM., Brady, D., Daniel, E., Stanway, RR., Wheatley, S., Batugedara, G., Hollin, T., Bottrill, AR., Gupta, D., Holder, AA., Le Roch KG. and Tewari R.. *Plasmodium* condensin core subunits (SMC2/SMC4) mediate atypical mitosis and are essential for parasite proliferation and transmission. BioMalpar. Germany 2019.

49 - Mohammad Zeeshan, David J. P. Ferguson, Tobias Mourier, Steven Abel,Edward Rea, Declan Brady,Emili Daniel, Michael Delves, Sue Vaughan, Arnab Pain, Anthony A. Holder, Karine Le Roch, Carolyn A. Moores and Rita Tewari. *Plasmodium* Kinesin-8B is a male gametocyte-specific kinesin that is essential for axonemeformation during male gametogenesis. BioMalpar. Heidelberg, Germany May 2019.

48 - Bunnik E.M., Venkat A., Shao J., McGovern K.E., Batugedara G., Worth D., Prudhomme J., Lapp S.A., Andolina C., Ross L.S, Lawres L., Brady D., Sinnis P., Nosten F., Fidock D.A., Wilson A.E, Tewari R., Galinski M.R., Ben Mamoun C., Ay F., and Le Roch K.G. Comparative 3D Genome Organization in Apicomplexan Parasites. Keystone Symposia Conference. 3D Genome: Gene Regulation and Disease. Fairmont Banff Springs, Banff, Alberta, Canada. March 2019

47 - Batugedara, XM. Lu, S. Abel, T. Lenz, D. Williams, A. Cort, T. Wang, J. Prudhomme and KG. Le Roch. The Role of LncRNAs in Malaria Parasites: Deciphering the Non-Coding Code of Pathogenicity and Sexual Differentiation. Keystone meeting on Long Non-Coding RNAs: From Molecular Mechanism to Functional Genetics. Whistler British Columbia, Canada February 2019.

46 - Bunnik E.M., Venkat A., Shao J., McGovern K.E., Batugedara G., Worth D., Prudhomme J., Lapp S.A., Andolina C., Ross L.S, Lawres L., Brady D., Sinnis P., Nosten F., Fidock D.A., Wilson A.E, Tewari R., Galinski M.R., Ben Mamoun C., Ay F., and Le Roch K.G. Comparative 3D Genome Organization in Apicomplexan Parasites. 4DN-ASCB Satellite Meeting. San Diego California. December 2018.

45 -Mohammad Zeeshan, Edward Rea, Declan Brady, Emilie Daniel, Steven Abel, Anthony Holder, Carolyn Moores, Karine Le Roch and Rita Tewari. *Plasmodium* Kinesin 8, is localized on mitotic spindles and is required for parasite proliferation and transmission during mosquito stages. EMBO workshop on Molecular advances and parasite strategies in host infection. Les Embiez Island, France. Sept 2018

44- Campelo R, Tong X, Xie W, Batugedara G, Cook KB, Orchard LM, Llinas M, Noble WS, Le Roch KG, Patel DJ, Kafsack BK. Homeo Domain-like Protein 1 regulates chromatin structure and gene expression during the early stages of *P. falciparum* sexual development. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2018.

43- Gayani Batugedara, Desiree Williams, Xueqing M. Lu, Anita Saraf, Anthony Cort, Steven Abel, Jacques Prudhomme, Laurence Florens, Evelien M. Bunnik and Karine G. Le Roch. The chromatin-bound proteome of the human malaria parasite, and functional characterization of a novel plant-like protein analogous to the animal nuclear lamina. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2018.

42 – Bunnik E.M., Cook K.B., Varoquaux N., Batugedara G., Prudhomme G., Shi L. , Andolina C., Ross L.S., Brady D., Fidock A.D., Nosten F., Tewari R., Sinnis P., Ay F., Vert JP., Noble WS., Le Roch K.G.. Genome organization as regulator of transcription during the transmission stages of *Plasmodium* parasites. Malaria Gordon Conference, Switzerland, July 2017.

41- Batugedara G., Saraf A., Lu XM., Prudhomme J., Florens L., Bunnik EM, and Le Roch KG.. Discovery of protein complexes that control the chromatin structure of the human malaria parasite. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2016.

40 - Xueqing Lu, Gayani Batugedara, Evelien Bunnik, Jacques Prudhomme, and Karine G. Le Roch. Nascent RNA sequencing reveals transcriptional regulation mechanisms in the human malaria parasite life cycle. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2016.

39 – Bunnik EM, Cook K., Varoquaux N., Prudhomme J., Ross LS., Shi L., Andolina C., Voss T., Nosten F., Fidock D., Sinnis P., Ay F., Vert JP, Noble WS and Le Roch KG. The three-dimensional structure of Plasmodium genomes acts as a master gene regulator controlling pathogenicity, sexual differentiation, and transmission CSHL Meeting: Nuclear Organization & Function. NY, (May 2016).

38 – Bunnik EM, Batugedara G., Saraf A., Prudhomme J., Florens L., and Le Roch KG . *A catalog of RNA-binding proteins in Plasmodium falciparum.* Molecular Approaches to Malaria, Lorne, VIC, Australia. (February 2016).

37 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Prudhomme J., Vert JP., Noble WS. and Le Roch K. The three-dimensional architecture of the Plasmodium genome throughout the asexual cell cycle. Gordon Conference. Biology of Host parasite interactions. Salve Regina University, Newport, RI, USA (June 2014).

36 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Prudhomme J., Vert JP., Noble WS. and Le Roch K. Three-dimensional modelling of the *P. falciparum* genome during the erythrocytic cycle reveals a

strong connection between genome architecture and gene expression. Systems Biology Cold Spring Harbor, NY, USA (March 2014).

35 - Bunnik E., Polishko A., Prudhomme J., Ponts N., Gill SS., Lonardi S., Le Roch K. DNA-encoded nucleosome occupancy regulates transcription levels in the human malaria parasite *Plasmodium falciparum.* Systems Biology: Cold Spring Harbor, NY, USA (March 2014).

34 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Prudhomme J., Vert JP., Noble WS. and Le Roch K. The dynamic 3D model of the *P. falciparum* genome reveals the role of genome architecture in regulating gene expression. Keystone conference Transcriptional Regulation and Cancer Epigenetics (joint meeting), Santa Fe, NM, USA (February 2014).

33 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Prudhomme J., Vert JP., Noble WS. and Le Roch K. The three-dimensional architecture of the *Plasmodium falciparum* genome throughout the asexual cell cycle. Molecular parasitology meeting, Woods Hole, MA, Sept 2013. (Best poster award).

32 - Bunnik E., Polishko A., Prudhomme J., Ponts N., Gill SS., Lonardi S., Le Roch K. DNA-encoded nucleosome occupancy regulates transcription levels in the human malaria parasite Plasmodium falciparum. Molecular parasitology meeting, Woods Hole, MA, Sept 2013.

31 - Bunnik E., Polishko A., Prudhomme J., Ponts N., Gill SS., Lonardi S., Le Roch K. Analysis of nucleosome positioning in *P. falciparum* using a MAINE, FAIRE and ChIP-Seq approach in combination with a novel accurate nucleosome positioning method: PuFFiN. Malaria Keystone meeting New Orleans, January 2013.

30 - Noble W., Kundaje A. and Le Roch K. Meta-analysis of chromatin architecture and epigenetic assays in *Plasmodium.* Infectious Disease Genomics and Global health meeting, Cambridge, UK 2012.

29 - Cervantes S., Prudhomme J., Ponts N. and Le Roch K. The role of autophagy in the human malaria parasite life cycle. Gordon Conference Autophagy, April 2012.

28 - Cervantes S., Prudhomme J., Ponts N. and Le Roch K. The role of autophagy in the human malaria parasite life cycle Molecular parasitology meeting, Woods Hole, MA, Sept 2012

27 - Ponts N., Harris E.Y., Chung DW., Prudhomme J., Saraf S., Florens L., Lonardi S and Le Roch K.G. An Integrated View of the Human Malaria Parasite's Epigenome. Molecular parasitology meeting. Woods Hole, MA, USA, September 2011.

26 - Saraf S., Cervantes S., Washburn S., Le Roch K. and Laurence Florens. Mapping the chromatin structure controlling life cycle progression of Plasmodium falciparum. 58th ASMS Conference on Mass Spectrometry, Salt Lake City, Utah, USA. Presented on 05/27/2010.

25 - Cervantes M., Cervantes S., Burton M., Prudhomme J., and Karine Le Roch. High content live cell imaging of *Plasmodium falciparum* using RNA probes for high-throughput antimalarial drug discovery. 2010 UCR Annual Symposium for Undergraduate Research, Presented on 05/07/2010.

24 - Ponts N., Harris RY., Elisandra Rodrigues, Prudhomme J., Hicks G., Lonardi S. and Le Roch KG. DNA methylation in the human malaria parasite. San Diego Consortium for Systems Biology 2010. Presented on 05/21/ 2010.

23 - Ponts N., Harris RY., Elisandra Rodrigues, Prudhomme J., Hicks G., Lonardi S. and Le Roch KG. DNA methylation in the human malaria parasite. Illumina user meeting, Nappa Valley, California. Presented on 04/04/ 2010.

22 - Chung D., Prudhomme J. and Le Roch K. Elucidating the ubiquitination machinery within the human malaria parasite, Plasmodium falciparum. International 2010 CDVR Symposium. Facing the Challenge of Vector-borne Disease in the 21st Century. California, USA, March 2010.

21 - Bruton M., Cervantes S., Prudhomme J., Carter D., Gopi KG., Li Q., Chang YT. and Le Roch KG: High-content live cell imaging with RNA probes: advancements in high-throughput antimalarial drug discovery. International 2010 CDVR Symposium. Facing the Challenge of Vector-borne Disease in the 21st Century. California, USA, March 2010.

20 - Cervantes M., Cervantes S., Prudhomme J. and Le Roch K: High content live cell imaging of *Plasmodium falciparum* using RNA probes for high-throughput antimalarial drug discovery. CAMP Symposium, Irvine, USA. Presented on 02/2010.

19 - Cervantes S., Prudhomme J., Carter D., Gopi KG., Li Q., Chang YT. and Le Roch KG: High-content live cell imaging with RNA probes: advancements in high-throughput antimalarial drug discovery. Molecular Parasitology meeting Woods Hole, MA, USA. Presented on 09/15/2009.

18 - Chung D., Prudhomme J. and Le Roch K. Elucidating the ubiquitination machinery within the human malaria parasite, Plasmodium falciparum. Molecular Parasitology meeting Woods Hole, USA presented on 09/14/2009.

17 - Ponts N., Harris E., Prudhomme J., Hicks G., Hardiman G., Lonardi S. and Le Roch K. Mapping chromatin structure and nucleosome fluctuation by massive parallel sequencing: A Genomic-based approach to understand the Malaria parasite infectious cycle. Gordon Conference, Oxford September 2009.

16 - Cervantes M., Cervantes S., Burton M., Prudhomme J., and Karine Le Roch. High content live cell imaging of *Plasmodium falciparum* using RNA probes for high-throughput antimalarial drug discovery. MARCU Symposium, 2009 UCR. Presented on 08/28/2009.

14 - Saraf A., Cervantes S., Florens L., and Le Roch K. Mapping the chromatin structure controlling life cycle progression of the human malaria parasite. Ninth International Symposium on Mass Spectrometry in the Health & Life Sciences: Molecular & Cellular Proteomics. San Francisco, USA presented on 08/2009.

14 - Ponts N., Harris EY, Prudhomme J, Wick I, Eckhardt C, Hicks G, Hardiman G., Lonardi S. and Le Roch K. Mapping chromatin structure and nucleosome fluctuation by massive parallel sequencing: A genomic-based approach to understand the malaria parasite infection cycle. UCSD Illumina meeting, April 2009.

13 - Chung D., Prudhomme J and Le Roch K. Elucidating the ubiquitination machinery within the Plasmodium falciparum apicoplast for antimalarial drug targeting. Molecular Parasitology meeting Woods Hole, USA presented on 09/24/2008.

12 - Ponts N., Yang J., Chung DW., Prudhomme J., Girke T. and Le Roch K. Deciphering the ubiquitin-mediated pathway in malaria: a potential strategy to interfere with parasite virulence. FABS. French Marican Biotechnology Symposium. The Salk Institute, La Jolla, USA. Presented on 04/2008.

11 - Ponts N., Yang J., Chung DW., Prudhomme J., Girke T. and Le Roch K The ubiquitin proteasome system as a new therapeutic approach for the treatment of the human malaria parasite. Molecular Approach to Malaria. Lorne, Australia. Presented on 02/2008.

10 - Ponts N., Yang J., Chung DW., Prudhomme J., Girke T. and Le Roch K. The ubiquitin-proteasome system and the erythrocytic cell cycle progression of the human malaria parasite, Plasmodium falciparum. Molecular Parasitology Meeting. Woods Hole (MA). Presented on 09/2007.

9 - Prudhomme J., McDaniel E., Ponts N., Bertani S., Fenical W. Jensen P, and Le Roch K. Novel Anti-Malarial Discovery and the Fruits of Our Bountiful Seas. Molecular Parasitology Meeting. Woods Hole (MA). Presented on 09/2007.

8 - Yang J., Prudhomme J. and Le Roch K. Ubiquitin/Proteasome system: A new class of targets for the development of novel drugs against malaria and Apicomplexan parasites. Keystone. Big Sky, Montana. Presented on 02/2007.

7 - Le Roch K. Comparative genome analysis of the ubiquitin /proteasome system in Apicomplexan parasites. Molecular Parasitology meeting. Woods Hole (MA). Presented on 09/2006.

6 - Le Roch K., Johnson J.R., Ahiboh H., Plouffe D. Henson K., Zhou Y., Ben Mamoun C., Yates J.R, Vial H., and E. Winzeler. Genomic profiling of the malaria Parasite response to choline analog reveals drug mechanism of action. Keystone Symposia, Taos New Mexico, USA, (February-March 2006).

5 - Le Roch K, Ghislain Breton, Felix Marr, David Plouffe, Claire Kidgell, Carsten Anderson, Nathanael Gray, Jeff Harper, Peter G. Schultz, Elizabeth Winzeler. Development of the drug discovery program of the malaria parasite, Gordon Research Conferences. Queen's College, Oxford, UK, (August, 2005).

4 - Le Roch K. Winssinger N, Shipway A., Winzeler E. and Harris J. Functional profiling of malarial proteases. Molecular Approaches to Malaria, Lorne, Victoria, Australia (January, 2004).

3 - Le Roch K., Dorin D., Gray N., Knockaert M., Harmse L., Meijer L., Winzeler E. and Doerig C. Plasmodium falciparum casein kinase 1 as probable drug target. Drug against Tropical Protozoan Parasites. Keystone Symposia meeting Co, USA (February, 2002).

2 - Le Roch K., Dorin D., Gray N., Knockaert M., Harmse L., Meijer L., and Doerig C., Identification of Plasmodium falciparum casein kinase 1 as probable target of a purine derivative inhibiting parasite groth ex vivo. European Cooperation in the field of Scientific and Technical Research, COST-B9 Antiprotozoal Chemotherapy, Bruges, Belgium (March, 2000).

1 - Le Roch K., Sestier C., Dorin D., Waters N., Kappes B., Meijer L. and Doerig C. Activation of a cyclin-dependant kinase of plasmodium falciparum. British Society of Parasitology, London, UK (September, 1999).

ORAL PRESENTATIONS from my Students and Post-Doctoral Fellows

22- Hollin, T., Prudhomme, J., Pasaje, CF., Falla, A., Saraf, A., Florens, L., Niles, JC. and Le Roch, KG. Functional genomics approaches to understand the role of RAP proteins that are essential for the mitochondrial biogenesis of P. falciparum asexual stages. 10th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA. October 2020.

21 - Chahine Z, Prudhomme J, Daub ME, Ben Mamoun C, Vanderwal CD and Le Roch KG. A Multi-omics Approach to Understand the Mode of Action of a Kalihinol Analogue, a Potent New Antimalarial against *Plasmodium falciparum*. 10th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA. October 2020.

20 – Hollin, T., Prudhomme, J., Pasaje, CF., Falla, A., Saraf, A., Florens, L., Niles, JC. and Le Roch, KG. The role of RNA-binding proteins abundant in Apicomplexans (RAPs) in mitochondrial biogenesis of the human malaria parasite, *P. falciparum*. 9th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA. November 2019.

19 – Batugedara G., Lu X.M., Abel S., Lenz T., Williams D., Cort A., Wang T., Prudhomme J. and Le Roch K.G. The Role of LncRNAs in Malaria Parasites: Deciphering the Non-Coding Code of Pathogenicity and Sexual Differentiation. 8th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA. November 2018.

18 – Steven Abel, William Fondrie, Alex Zelter, Tonya Skuse, Jacques Prudhomme, John Yates, Bill Noble and Karine Le Roch. Defining the molecular architecture of malaria parasite chromatin complexes by cross-linking based mass spectrometry and structural modeling. Genetics, Genomics, and Bioinformatics annual symposium, UCR, September 2018

17 - Gayani Batugedara, Xueqing Lu, Anita Saraf, Anthony Cort, Laurence Florens, Jacques Prudhomme, Evelien Bunnik and Karine G. Le Roch. The chromatin-bound proteome of the human malaria parasite, *Plasmodium falciparum*. 7th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA (November 2017).

16 - Xueqing Lu, Gayani Batugedara, Evelien Bunnik, Jacques Prudhomme, and Karine G. Le Roch. Nascent RNA sequencing reveals transcriptional regulation mechanisms in the human malaria parasite life cycle. 6th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA (November 2016).

15 - Xueqing Lu, Gayani Batugedara, Evelien Bunnik, Jacques Prudhomme, and Karine G. Le Roch. Nascent RNA sequencing reveals transcriptional regulation mechanisms in the human malaria parasite life cycle. Molecular Parasitology Meeting, Woods Hole, MA, Sept 2016.

14 - Xueqing Lu, Gayani Batugedara, Evelien Bunnik, Jacques Prudhomme, and Karine G. Le Roch. Nascent RNA sequencing reveals transcriptional regulation mechanisms in the human malaria parasite life cycle. 5th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA (November 2015).

13 - Bunnik EM, Ay F., Varoquaux N., Bol SM., Shi L., Polishko A., Prudhomme J., Ponts N., Sinnis P., Lonardi S., Vert JP., Noble W, Le Roch KG.. The role of chromatin structure in gene regulation in the human malaria parasite *Plasmodium falciparum.* 4th Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA (November 2015).

12 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Polishko, A., Ponts, N., Prudhomme J., Vert JP., Lonardi, S., Noble WS and Le Roch. Regulation of gene expression in the human malaria parasite *Plasmodium falciparum.* UCR Post-doctoral Symposium, Riverside, CA, USA (September 2014). Best talk award.

11 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Polishko, A., Ponts, N., Prudhomme J., Vert JP., Lonardi, S., Noble WS and Le Roch. The association between chromatin structure and gene regulation in the human malaria parasite *Plasmodium falciparum.* Woods Hole, MA, USA. September 2014.

10 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Prudhomme J., Polishko, A., Vert JP., Lonardi, S., Noble WS. and Le Roch. The three-dimensional architecture of the Plasmodium genome throughout the asexual cell cycle. Ist Annual UCR post-doc Symposium, Riverside, CA, USA (June 2014). Best talk award.

9 - Bunnik E., Farhat Ay, Varoquaux N, Bol S., Prudhomme J., Vert JP., Noble WS. and Le Roch. The three-dimensional architecture of the Plasmodium genome throughout the asexual cell cycle. 3rd Annual Southern California Eukaryotic Pathogen Symposium, Riverside, CA, USA (October 2013).

8 - Bunnik E., Prudhomme J., and Le Roch K. Polysome profiling in *Plasmodium falciparum.* Molecular parasitology meeting. Woods Hole, MA, USA. September 2013.

7 - Cervantes S., Prudhomme J., Ponts N. and Le Roch K. The role of autophagy in the human malaria parasite life cycle. Gordon Conference Authophagy, Ventura, CA April 2012.

6 - Chung DW., Ponts N., Prudhomme J., Tran J., Ferdig M. and Le Roch K.G. Elucidating the ERAD and ERAD-like Systems within the Plasmodium falciparum. Molecular parasitology meeting. Woods Hole, MA, USA. September 2011.

5 - Chung DW., Ponts N., Harris E.Y., Zhang J., Prudhomme J., Rodrigues E., Hicks GR, Wang Y., Lonardi S and Le Roch K.G. Genome-wide DNA methylation occurs in the malaria parasite and regulates differentiation and virulence. Molecular Parasitology Meeting. Woods Hole (MA). Presented on 09/2010.

4 - Bruton M., Prudhomme P., Stout EP., Aalbersberg W., Hay ME., Kubanek J. and Le Roch KG. Marine Natural Compounds as New Drug against Malaria. Symposium for Undergraduate Research, UCR, CA, USA. May 2010.

3 - Ponts N., Harris E.Y., Prudhomme J., Hicks GR, Lonardi S and Le Roch K.G. Genome-wide DNA methylation in the human malaria parasite. Illumina symposium, UCR, CA, USA, April 2010.

2 - Ponts N., Harris RY., Prudhomme J., Wick I., Eckhardt C., Hicks G., Hardiman G., Lonardi S. and Le Roch KG. Nucleosome Landscape and Control of Transcription in the Human Malaria Parasite. Workshop for French Young Scientists. French Consulate and the University of Southern California, Los Angeles, CA, USA. November 2009.

1 - McDaniel E., Prudhomme J., Ponts N., Bertani S., Fenical W. Jensen P and Le Roch K. Novel Anti-Malarial Discovery and the Fruits of Our Bountiful Seas. Symposium for Undergraduate Research. UCR 2008.