

## Curriculum Vitae

**Lluís QUINTANA-MURCI**

Born 26 March 1970, Palma de Mallorca (Spain)

Head of the Human Evolutionary Genetics Unit, CNRS UMR2000, INSTITUT PASTEUR

Tel: +33 1 40 61 34 43; e-mail: [quintana@pasteur.fr](mailto:quintana@pasteur.fr)

ORCID ID: 0000-0003-2429-6320

### Research Interests

Human population genetics, genomics, evolution, infectious diseases, host genetic susceptibility to infectious diseases, evolution of innate immunity, gene regulation

### Academic Positions

Since 2017	Professor, Institut Pasteur, Paris
Since 2013-	Director of Research (DR1) CNRS, URA 3012, Institut Pasteur, Paris
Since 2007	Director Unit of Human Evolutionary Genetics, Institut Pasteur
2008- 2012	Director of Research (DR2) CNRS, URA 3012, Institut Pasteur, Paris
2001-2007	Research Scientist (CR) CNRS, FRE 2849, Institut Pasteur, Paris

### Education

2005	University of Paris VI, France	Accreditation to direct research (HDR)
1998	University of Pavia, Italy	PhD in Genetics
1993	University of Barcelona, Spain	B Sc Biological Sciences

### Invited Professor/Research Fellow

2018	Invited Professor, Rockefeller University, USA (July/August)
2007	University of Rome, Italy (January)
2002	University of Arizona, Tucson AZ, USA (January/November)
2000	Oxford University, UK (May)

### Honors and Awards Received

- Gold Medal of the Balearic Islands (Palma, 2018)
- Mergier-Bourdeix Award, French Academy of Sciences (2015)
- Grand Prix of Medicine and Medical Research of the City of Paris (2014)
- Member of the *Academia Europaea* (2014)
- EMBO Member (2014)
- CNRS Silver Medal (Paris, 2013)
- European Research Council (ERC) Awardee (2011)
- Debiopharm- EPFL Life Sciences Award (Lausanne, 2009)
- Georges, Jacques et Elias Canetti Award (Paris, 2009)
- Dagnan-Bouveret Award, French Academy of Sciences (Paris, 2009)
- CNRS Bronze Medal (Paris, 2008)
- European “Marie Curie Award” in Impact of Genetics on Science and Society (Dublin, 2001)

### Professional Service

- Scientific Director, Institut Pasteur, Paris (2016-2017)
- Co-coordinator of the LABEX Milieu Intérieur Consortium (since 2011)
- Board of Trustees of CEPH-Fondation Jean Dausset (since 2014)
- Member of the Scientific Council of the Pasteur Institute (2011-2015)
- Member of the CNRS- Section 22 (2010-2012) and 29 (2012-2016)
- Member of COMESP (Commission for recruitment of researchers) Pasteur Institute (2008- 2011)

- Editorial Board, *Genome Biology* (since 2015)
- Editorial Board, *Scientific Reports* (since 2014)
- Advisory Editorial Board, *Journal of Experimental Medicine* (2010-2017)
- Editorial Board, *PLoS One* (since 2008)

## Research Funding

### *Principal Investigator*

- FRM Equipes 2018 “Identifying host factors that modulate the outcome of influenza infection in humans: a cellular genomics approach”, 2018-2021
- ANR-14-CE02-0003-01 AGRHUM “Evaluating mechanisms of genetic adaptation to rapid environmental changes: agriculture and the human model”, 2014-2018
- European Research Council (ERC) “Human Evolutionary Immunogenomics: population genetic variation in immune responses”, 2011-2016
- Gabonese Republic and Institut Pasteur Research Agreement “Human history and adaptation to pathogens: a genomic approach”, 2013-2016
- Investissements d’avenir - LABEX “Genetic & environmental determinants of immune phenotype variance: establishing a path towards personalized medicine”, Co-PI, 2011-2019
- Foundation Simone & Cino del Duca Research Grant, 2010-2012
- CNRS – Infectious Diseases and Environment, 2010
- ANR-MIE “Evolvers: Evolutionary genomics of innate immunity microbial sensors: the human NLR, RLR and type-II CLR families”, 2009-2013
- FACCTS (France and Chicago Collaborating in the Sciences). “Evolutionary impacts of human subsistence modes in Central Africa”. Co-PI, 2008-2009
- FRM Equipes 2008 “Evolutionary Genomics of Innate Immunity Microbial Sensors”, 2009-2011
- ANR Grant “Human adaptation to pathogens: a genomic approach”, 2005-2008
- NATO Collaborative Grant “The genetic history of North African populations”, 2000-2002

### *Partner/PI working package*

- ANR-15-CE17-0011-02 MONALISA-GENBIO “Genetic susceptibility and biomarkers of listeria”, 2015-2019
- ANR-14-CE14-0007-02 TBPATHTGEN “Deciphering tuberculosis pathogenesis by identifying single-gene inborn errors of immunity in severe childhood forms of the disease” 2015-2018
- ANR-14-CE14-0008-02 IEIHSEER “Inborn errors of immunity to HSV-1 underlying childhood herpes simplex encephalitis: an exception or a rule ?” 2015-2018
- Horizontal initiative Institut Pasteur “The Genetics of Host Predisposition to Infectious Diseases”, PI of a work-package, 2007-2008
- National Geographic Society. Mitochondrial DNA variation in European populations. (European co-PI)

## Teaching Duties

### *Direction*

- UNIVERSITÉ PARIS VII- DENIS DIDEROT: Joint-Director of course - Human Evolutionary Genetics - Master des Sciences et Techniques et la Mention Européenne de Génétique (one week per year)
- INSTITUT PASTEUR – ECOLE PASTEURIENNE D’INFECTIOLOGIE. Joint-Director of course - Human Population Genomics and Genetic Epidemiology (two weeks per year)

### *Teaching*

- Teaching of Human Population Genetic and Evolution in Parisian Universities (> 30h/year).
- In 2008, I co-coordinated (with Martin Kreitman and Massimo Vergassola) a 3-month program in Population Genetics and Genomics in the Kavli Institute for Theoretical Physics in the University of California, Santa Barbara.
- Faculty Member of the “Montreal Spring School of Population Genomics and Genetic Epidemiology” (2007 - 2013)

## Summary of Research Production

- 194 publications in peer-reviewed journals (citations > 8000, h-index: 54)
- 130 participations as invited speaker in workshops, conferences, and research institutions
- 8 Book chapters

## Ten most relevant publications

Piasecka B, Duffy D, Urrutia A, Quach H, Patin E, Posseme C, Bergstedt J, Charbit B, Rouilly V, MacPherson C, Hasan M, Albaud B, Gentien D, Fellay J, Albert M, Quintana-Murci L & the Milieu Intérieur Consortium (2018). Distinctive Roles of Age, Sex and Genetics in Shaping Transcriptional Variation of Human Immune Responses to Microbial Challenges. **Proc Natl Acad Sci U S A** 115(3):E488-E497

Lopez M, Kousathanas A, Quach H, Harmant C, Mougouma-Daouda P, Hombert JM, Froment A, Perry GH, Barreiro LB, Verdu P, Patin E, Quintana-Murci L (2018). The demographic history and mutational load of African hunter-gatherers and farmers. **Nature Ecology and Evolution** 2(4):721-730

Patin E, Lopez M, Grollemund R, Verdu P, Harmant C, Quach H, Laval G, Perry GH, Barreiro LB, Froment A, Heyer E, Massougoudji A, Fortes-Lima C, Migot-Nabias F, Bellis G, Dugoujon JM, Pereira JB, Fernandes V, Pereira L, Van der Veen L, Mougouma-Daouda P, Bustamante CD, Hombert JM, Quintana-Murci L (2017) Dispersals and genetic adaptation of Bantu-speaking populations in Africa and North America. **Science** 356: 543–546.

Quach H, Rotival M, Pothlichet J, Loh YE, Dannemann M, Zidane N, Laval G, Patin E, Harmant C, Lopez M, Deschamps M, Naffakh N, Duffy D, Coen A, Leroux-Roels G, Clément F, Boland A, Deleuze JF, Kelso J, Albert ML, Quintana-Murci L (2016) Genetic Adaptation and Neandertal Admixture Shaped the Immune System of Human Populations. **Cell** 167(3):643-656

Siddle KJ, Deschamps M, Tailleux L, Nedelec Y, Pothlichet J, Lugo-Villarino G, Libri V, Gicquel B, Neyrolles O, Laval G, Patin E, Barreiro LB, Quintana-Murci L (2014) A genomic portrait of the genetic architecture and regulatory impact of microRNA expression in response to infection. **Genome Research** 24(5):850-9.

Manry J, Laval G, Patin E, Fornarino S, Itan Y, Fumagalli M, Sironi M, Tichit M, Bouchier C, Casanova JL, Barreiro LB & Quintana-Murci L. (2011) Evolutionary genetic dissection of human interferons. **Journal of Experimental Medicine** 208, 2747-2759.

Barreiro, L.B., Ben-Ali, M., Quach, H., Laval, G., Patin, E., Pickrell, J.K., Bouchier, C., Tichit, M., Neyrolles, O., Gicquel, B., Kidd, J.R., Kidd, K.K., Alcais, A., Ragimbeau, J., Pellegrini, S., Abel, L., Casanova, J.L. & Quintana-Murci, L. (2009) Evolutionary dynamics of human Toll-like receptors and their different contributions to host defense. **PLoS Genetics** 5, e1000562.

Louicharoen, C., Patin, E., Paul, R., Nuchprayoon, I., Witoonpanich, B., Peerapittayamongkol, C., Casademont, I., Sura, T., Laird, N.M., Singhasivanon, P., Quintana-Murci, L.\* & Sakuntabhai, A\*. (2009) Positively selected G6PD-Mahidol mutation reduces Plasmodium vivax density in Southeast Asians. **Science** 326, 1546-1549 (\*corresponding authors).

Barreiro, L.B., Laval, G., Quach, H., Patin, E. & Quintana-Murci, L. (2008) Natural selection has driven population differentiation in modern humans. **Nature Genetics** 40, 340-345.

Quintana-Murci, L., Semino, O., Bandelt, H.J., Passarino, G., McElreavey, K. & Santachiara-Benerecetti, A.S. (1999) Genetic evidence of an early exit of Homo sapiens sapiens from Africa through eastern Africa. **Nature Genetics** 23, 437-441.