CURRICULUM VITAE

François Taddei

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Born **August 5, 1967** in Montreuil-sous-Bois **(France)**
French citizen

EDUCATION

1983 -1984: Lycée Frédéric Mistral, Avignon (France),
Baccalauréat série C (Mathematics/Physics), (Awarded with honours)

1984 -1986: Lycée Louis Le Grand, Paris: Equivalent to the first two years of university. Preparatory years for the competitive examination to the "Grandes Ecoles"

1986 -1989: Ecole Polytechnique, Palaiseau (France)
Leading French scientific school, Specialization in Molecular Biology

1989 - 1991: Ecole Nationale du Génie Rural et des Eaux et Forêts (ENGREF) School for higher civil servant of French Agriculture and Forest Administration

1990 - 1991: Graduate studies in Cellular and Molecular Genetics, University of Paris VI and XI, Professors P Slonimski and JL Rossignol, Awarded with highest honours

1991-1995: phD in Science, University Paris XI (Orsay) : Environment and controls of genetic variability in E. coli. Awarded with highest honours

1999: Habilitation à Diriger des Recherches (french diploma entitling to have phD students), Université Paris XI, France. Maintaining the integrity of the genome and of its expression, medical and evolutionary implications

SCIENTIFIC ACTIVITIES AND TEACHING

2007 : Founder of the interdisciplinary graduate school: life frontiers
2006 : Founder of the "Festival de sciences Paris-Montagne"
2005 : Founder of the Paris Interdisciplinary college (Faculty of Medecine, Paris 5)
Since 2004 : Head of the interdisciplinary (M2) master program for life sciences, Ecole Normale Supérieure, Paris 7 University and Paris 5 Universities.
Since 2000: Paris 5 Medical school Paris, INSERM U571 Causes and consequences of genetic and phenotypic variability
1991-1999: Institut J.Monod, Paris, laboratory of mutagenesis Molecular and evolutionary mecanisms controling genetic variability
1996-1997: Post-doct in J. Maynard Smith (UK) and PH Gouyon's lab (France) on evolution of mutation rate

TENURE POSITIONS HELD

1989-1997: higher civil servant of the French Agriculture and Forest Administration

since 1997: research scientist in INSERM (french medical research council)

AWARDS

The 2003 INSERM award for fundamental research
The Liliane Bettencourt award for life sciences 2004
European Young investigator (**EURYI**) award 2005
Human Frontier Science Program (**HFSP)** award 2006

PUBLICATIONS

in international peer-reviewed journals (* corresponding author)

1. Taddei, F.*, Matic, I., and Radman, M. (1995). Cyclic AMP-dependent SOS induction and mutagenesis in resting bacterial populations. **Proc. Natl. Acad. Sci. USA** 92, 11736-11740
2. Radman, M.*, Matic, I., Halliday, J., and Taddei, F. (1995). Editing DNA replication and recombination by mismatch repair: from bacterial genetics to mechanisms of predisposition to cancer in humans. **Phil. Trans. R. Soc. Lond.** B 347, 97-103.
3. Taddei, F.*, Radman, M., and Halliday, J. A. (1995). Mutation rate of the F episome. **Science** 269, 289-290.
4. Matic, I.*, Taddei, F., and Radman, M. (1996). Genetic barriers among bacteria. Trends Microbiol. 4, 69-73.
5. Taddei, F* , Radman, M., Maynard-Smith, J. Toupance, B. Gouyon, P. H., Godelle, B. (1997). Role of mutator alleles in adaptive evolution. **Nature** 387, 700-703
6. Matic, M., Radman, M., Taddei, F.*, Picard, B., Binguen, E., Denamur, E. and Helion, J. (1997). Highly variable mutation rates in commensal and pathogenic E. coli **Science** 277, 1833-1834
7. Vulic, M.*, Dionisio, F. Taddei, F. Radman M. (1997). Molecular keys to Speciation: DNA polymorphisms and the control of genetic exchange in bacteria. **Proc. Natl. Acad. Sci. USA** 94 9763-9767
8. Taddei, F.*, Halliday, J. A., Matic, M., and Radman, M. (1997). Genetic analysis of mutations in aging colonies of E. coli. **Molec. Gen. Genet.** 256 277-281
9. Taddei, F.* Matic, I., Godelle B., Radman, M. (1997). To be a mutator, or how pathogenic and commensal bacteria can evolve rapidly. **Trends Microbiol.** 5 427-428
10. Taddei, F.*, H. Hayakawa, M.-F. Bouton, A.-M. Cirinesi, I. Matic, M. Sekiguchi and M. Radman. (1997). Counteraction by MutT protein of transcriptional errors caused by oxidative damage. **Science**, 278, 128-130.
11. Tenaillon, O*. Toupance, B. Le Nagard, H. Taddei, F. Godelle, B. (1999) Mutators, population size, adaptive landscape and the adaptation of asexual populations. **Genetics** 152, 485-493
12. Radman*, M. Matic, I. Taddei, F. (1999) Evolution of evolvability, **Ann. N. Y. Acad. Sci.** 870, 146-55
13. Brégeon, D. Matic, I. Radman, M. Taddei, F*. (1999) Inefficient Mismatch repair : genetic defects and down regulation. **J. Genet.** 78, 21-28
14. Denamur E., Lecointre G., Darlu P., Acquaviva C., Sayada C., Sunjevaric I., Rothstein R., Elion J., Taddei F., Radman M*. and Matic I. 2000. Evolutionary implications of the frequent horizontal transfer of mismatch repair genes. **Cell** 152:149-157

15. Dukan S., Farewell A., Ballesteros M., Taddei F., Radman M. and Nystrom T*. 2000. Protein oxidation in response to increased transcriptional or translational errors. **Proc Natl Acad Sci USA** 97: 5746-9.
16. Matic I.*, Taddei F. and Radman M. 2000. No genetic barriers between salmonella enterica serovar typhimurium and escherichia coli in SOS-induced mismatch repair-deficient cells. **J. Bacteriol** 182: 5922-4.
17. Matic I*., Taddei F. and Radman M. 2000. Interspecies recombination and mismatch repair. Generation of mosaic genes and genomes. Methods Mol. Biol. 152: 149-57.
18. Radman M*., Taddei F. and Matic I. 2000. Evolution-driving genes. **Res. Microbiol.** 151: 91-95.
19. Tenaillon O.*, Le Nagard H., Godelle B. and Taddei F. 2000. Mutator and Sex in Bacteria: Conflict between Adaptive Strategies. **Proc Natl Acad Sci USA** 97: 10465-10470.
20. Picard B., Duriez P., Gouriou S., Matic I., Denamur E*. and Taddei F. 2001. Mutator natural Escherichia coli isolates have an unusual virulence phenotype. **Infect. Immun.** 60:9-14
21. Giraud, A., Matic, I., Tenaillon, O., Clara, A., Radman, M., Fons, M., and Taddei, F*. 2001. Costs and benefits of high mutation rates: adaptive evolution of bacteria in the mouse gut. **Science**, 291:2606-8
22. Tenaillon O, Taddei, F, Radmian M, Matic I. Second-order selection in bacterial evolution: selection acting on mutation and recombination rates in the course of adaptation. **Res Microbiol.** 2001 152(1):11-6
23. Bregeon D, Colot V, Radman M, Taddei, F*. Translational misreading: a tRNA modification counteracts a +2 ribosomal frameshift. **Genes Dev.** 2001 15(17):2295-306
24. Giraud A, Radman M, Matic I, Taddei, F. The rise and fall of mutator bacteria. **Curr Opin Microbiol.** 2001 4(5):582-5
25. Denamur E, Bonacorsi S, Giraud A, Duriez P, Hilali F, Amorin C, Bingen E, Andremont A, Picard B, Taddei, F, Matic I. High frequency of mutator strains among human uropathogenic Escherichia coli isolates. **J Bacteriol**. 2002 184(2):605-9
26. Giraud A, Matic I, Radman M, Fons M, Taddei, F*. Mutator bacteria as a risk factor in treatment of infectious diseases. **Antimicrob Agents Chemother.** 2002 46(3):863-5
27. Rocha EP, Matic I, Taddei, F. Over-representation of repeats in stress response genes: a strategy to increase versatility under stressful conditions? **Nucleic Acids Res.** 2002 30(9):1886-94
28. Dionisio F, Matic I, Radman M, Rodrigues OR, Taddei, F. Plasmids spread very fast in heterogeneous bacterial communities. **Genetics.** 2002 Dec;162(4):1525-32
29. Bjedov I, Tenaillon O., Gérard B, Souza V, Denamur E., Radman M, Taddei, F, and Matic I. Stress-Induced Mutagenesis in Bacteria **Science** 2003 300: 1404-1409
30. Bambou JC, Giraud A, Menard S, Begue B, Rakotobe S, Heyman M, Taddei F, Cerf-Bensussan N, Gaboriau-Routhiau V. In vitro and ex vivo activation of the TLR5 signaling pathway in intestinal epithelial cells by a commensal Escherichia coli strain. **J Biol Chem**. 279:42984-92, 2004
31. Saint-Ruf C., Taddei F., Matic I.,stress and survival of aging Escherichia coli rpoS colonies. **Genetics**, 2004. 168(4): p. 541-546.
32. Stewart E.J., Madden R., Paul G., Taddei F. (2005) Aging and Death in an Organism that Reproduces by Morphologically Symmetric Division. **PloS Biol**, 3(2): e45.
33. Le Chat L., Fons M, Taddei F., Escherichia coli mutators : selection criteria and migration effect. **Microbiology**, 2006 Jan; 152 (Pt1):67-73
34. De Paepe M., Taddei F. (2006) Viruses'life history: towards a mechanistic basis of a trade-off between survival and reproduction among phages. **PloS Biol**, 4(7): e193.
35. Brown SP., Le Chat L., De Paepe M., Taddei F. (2006) Ecology of microbial invasions: amplification allows virus carriers to invade more rapidly when rare. **Current Biology,** 16(20): 2048-2052.

Other publications

1. Radman, M.*, Taddei, F., and Halliday, J. (1994). Correction des erreurs dans l'ADN : de la génétique bactérienne aux mécanismes de la prédisposition héréditaire aux cancers chez l'homme. Médecine/Sciences 10, 1024-1030

2. Matic, I.*, Taddei, F., and Radman, M. (1996). Vers une génétique moléculaire de l'évolution des espèces. Médecine/Sciences 12, 891-898.

3. Taddei, F.*, Matic, I., and Radman, M. (1997). Mutagenèse et adaptation. bulletin de la Société Française de Génétique (in Médecine/Sciences) 13, I-VI 2) TaMaRa (Taddei, F., Matic, I., and Radman, M.) (1996). Du nouveau sur l'origine des espèces. La Recherche 291, 52-59

4. Taddei, F.*, and Radman, M. (1996). Evolution de l'ADN. In Dictionnaire de l'Evolution et du Darwinisme. P. Tort, eds. (Paris: Presses Universitaires de France), pp. 1487-1500.

5. Taddei, F.*, Vulic, M., Radman, M., and Matic, I. (1997). Stress and mutagenesis in bacteria. In Stress, adaptation and evolution, K. Bijlsma and V. Loeschcke, eds. (Basel: Birkhäuser). 271-290.

6. Bangham, C.*, Anderson, R.M., Baquero, F., Bax, R., Hastings, I., Koella, J., Lipsitch, M., McLean,, A., Taddei, F. and Levin, B., (1997). Group report: Evolution of infectious diseases: the impact of vaccines, drugs and social factors. In Evolution in health and disease S. Stearns eds. (Oxford: Oxford University Press). p 152-160.

7. Read*, A., Aaby, P., Antia, R., Ebert, D., Ewald, P., Gupta, S., Holmes, E., Moxon, R., Sasaki, A., Shields, D. and Taddei, F. (1997). Group report: What can evolutionary biology contribute to understanding virulence? In Evolution in health and disease S. Stearns eds. (Oxford: Oxford University Press). p 205-215.

8. TaMaRa (Taddei, F., Matic, I., and Radman, M.) (2000) . SOS génome : réparation et évolution. Pour la Science 269, 66-73.

9. Radman M., Taddei F. and Matic I. (2000) DNA repair systems and bacterial evolution. Cold Spring Harbour symposia on Quantitative Biology. Vol. LXV. 1-9

CONFERENCES

Every year FT gives a dozen conferences or seminars in congresses or in research institutions belonging to different european countries or to USA, Canada, Japan or Brasil.

OTHER

Member of the different french (medical research council =INSERM) or american (NIH) study sections or commitee (including the ethic comitee from INSERM)

Organizer of conference on the cost of antibiotic resistance (Pasteur institute Paris 1999)

Organizer in September 2005 of an interdisciplinary conference on « innovations » for the Institut des Hautes études scientifiques in Bures/yvette, France, which hosts 7 fields medals.

Organizer of an EMBO meeting on prokaryote complexity in 2006 in Heidelberg.

Organizer of interdisciplinary summer schools in MEDILS since 2006.

Coordinator of a multidisciplinary program of the french ministry of research including MDs, ecologist population geneticist, molecular geneticist on the role of enhanced genetic variability on evolution of infectious disease and on the emergence of antibiotic resistance

Interviews with journalist from news papers, TV and radio

Referee for different journals including PloS Biol, Nature and Science