

# Curriculum Vitae

## Personal Data

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Surname: Meraldi                      Given name: Patrick  
Gender: male                              Date and place of birth: Zurich, 27. 09. 1972  
Nationality: Swiss                      Mail: [Patrick.meraldi@unige.ch](mailto:Patrick.meraldi@unige.ch)  
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## Present Position

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From 09 / 2012: Associate Professor in the Department of Cellular Physiology and Metabolism, Medical Faculty, University of Geneva, Switzerland

## Education

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1997 - 1999      PhD studies in Molecular Biology with Prof. Erich Nigg, Department of Molecular Biology, University of Geneva, Switzerland, working on the centrosome cycle  
1996              Certificat in Molecular Biology with Prof. Erich Nigg, Department of Molecular Biology, University of Geneva, Switzerland  
1995              Diplomawork with Prof. Joseph Brunner, Institute of Biochemistry, ETH Zurich, Switzerland  
1991 – 1995      Undergraduate studies in Biology, ETH Zurich, Switzerland

## Past Research Experience

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2005 – 2012      SNF-professor, Institute of Biochemistry, ETH Zurich, Switzerland working on human cell division  
2002 – 2005      EMBO post-doctoral fellow with Prof. Peter Sorger, Department of Biology, MIT, Cambridge, USA working on the spindle checkpoint and kinetochores  
1999 – 2002      SNF post-doctoral fellow with Prof. Erich Nigg, Max-Planck-Institute of Biochemistry, Martinsried, Germany working on the origin of supernumerary centrosomes

## Awards and Fellowships

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2011              Ernst Theodor Jucker prize for Cancer Research (Ernst Theodor Jucker foundation)  
2011              Walther Flemming Medal (from the German Cell Biology Society)  
2009              EMBO YIP (Young Investigator Program) award  
2007 and 2008      Marine Biology Laboratory Summer Research Fellowships  
2006              SNF-Research-Professorship  
2005              EURYI (European Young Investigator) award  
2002 - 2004      EMBO long-term fellowship  
2002              Max-Planck-Institute for Biochemistry Junior Research Award  
2000 – 2002      IHP Europe post-doctoral fellowship of the Swiss National Science Foundation

## Professional Societies

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Since 1996	USGEB/LS <sup>2</sup> membership
Since 2005	ASCB membership
Since 2006	Forschung für Leben membership
Since 2014	Societe académique de Genève membership

## Research Collaborations (current)

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My group studies human cell division following two lines of research:

- A) Investigating the fundamental molecular and cellular mechanisms of cell division
- B) Investigating the mechanistic causes of cell division defects in human cancers.

### National Collaborations

Ruedi Aebersold (ETH Zurich)  
Pierre-Yves Dietrich (University Hospital Geneva)  
Michelangelo Foti (University of Geneva)  
Monica Gotta (University of Geneva)  
Marcel Huber (CHUV Lausanne)  
Denis Jabaudan (University of Geneva)  
Erich Nigg (Univ. Basel)  
Matthias Peter (ETH Zurich)  
Phillipe Renaud (EPFL)

### International Collaborations

Andrew McAinsh (University of Warwick, UK)  
Helder Maiato (IBMC, Porto, P)  
John Meadows (University of Warwick, UK)  
Bert van der Reijden (Radboud Univ. Medical Centre, NL)  
Anna Santamaria (Vall Hebron Institute of Research, E)

## Administrative Roles

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- Member of the bureau of the Bioimaging platform of the Medical Faculty of the University of Geneva since 2013
- Responsible of the recruitment program of the PhD program of the Medical Faculty (University of Geneva) since 2013

## Teaching

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- 2<sup>nd</sup> year Medicine students, APP “Croissance et Vieillissement Cellulaire”
- 2<sup>nd</sup> or 3<sup>rd</sup> year Medicine students, cours à option “Biologie cellulaire médicale approfondie: les routes vers le cancer et autres pathologie”
- Master students in Biology, master course “ Le cytosquelette: structure, organization, fonctions. Maladies liées au cytosquelette”
- PhD students Biologie-Médecine, Chapitres choisis

## Original Peer-reviewed Publications as a Principal Investigator

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Summary of publication record: 43 publications, 3014 citations, h-index: 21

#equal contribution, §corresponding authorship

1. Tan, C.H., Huber-Reggi, S.P., Gasic, I., Barisic, M., Maiato, H. and Meraldi, P. Control of spindle symmetry, *submitted*
2. De Medina-Redondo, M., Monteferrario, D., Maiolica, A., Van der Reijden, B.A. and Meraldi, P. Triad1 regulates kinetochore function via Bub1 and the CCAN complex, *submitted*
3. Chopard, C., Meraldi, P., Gleich, T., Bachmann, D., Hohl, D., and Huber, M. The TRAF-interacting protein TRAIIP is a regulator of the spindle assembly checkpoint, *in revision in J. Cell Sci.*,
4. Maiolica, A., De Medina Redondo, M., Schoof, E.M., Chaikuad, A., Villa, F., Gatti, M., Jeganatgan, S., Lou, H.J., Novy, K., Hauri S., Toprak, U.H., Herzog, F., Meraldi, P., Penengo, L., Turk, B.E., Knapp, S., Linding, R. and Aebersold, R. Modulation of the chromatin phosphoproteome by the Haspin protein kinase, *Mol Cell Proteomics*, 2014 *in press*
5. Turgay, Y., Champion, L., Balazs, C., Held, M., Toso, A., Gerlich, D., Meraldi, P. and Kutay, U. SUN proteins facilitate the removal of membranes from chromatin during nuclear envelope breakdown, *J. Cell Biol.*, 2014, 204, 1099-109
6. #Vladimirou, E., #Mchedlishvili, N., #Gasic, I., Samora, C.P., Armond, J.W., Holtackers, R., §Meraldi, P. and §McAinsh A.D. Non-autonomous movements of chromosomes in mitosis, *Dev. Cell*, 2013, 27, 60-71
7. §Charnley, M., Anderegg, F., Holtackers, R., Textor, M and Meraldi, P. Effect of cell shape and dimensionality on spindle orientation and mitotic timing, *Plos One*, 2013, 8, e66918
8. Kress, E., #Schwager, F., #Holtackers, R., #Seiler, J., Prodon, F., Zanin, E., Eiteneuer, A., Toya, M., Sugimoto, A., Meyer, H.H., Meraldi, P. and Gotta, M. The UBXN-2/p37/p47 adaptors of CDC-48/p97 regulate mitosis by limiting the centrosomal recruitment of Aurora A kinase, *J. Cell Biol.*, 2013, 201, 559-75
9. Eskat, A. Deng, W., Hofmeister, A., Rudolphi, S., Emmerth, S., Hellwig, D., Ulbricht, T., Döring, V., Bancroft J.M., McAinsh A.D., Cardoso, M.C., Meraldi, P., Hoischen, C., Leonhardt, H. and Diekmann, S. Step-Wise Assembly, Maturation and Dynamic Behavior of the Human CENP-P/O/R/Q/U Kinetochore Subcomplex, *Plos One*, 2012, 7, e44717
10. Wandke, C., Barisic, M., Sigl, R., Rauch, V., Wolf, F., Amaro, A.C., Tan, C.H., Pereira, A.J., Kutay, U., Maiato, H., Meraldi, P. and Geley, S. Human chromokinesins promote congression and spindle microtubule dynamics during mitosis, *J. Cell Biol.*, 2012, 198, 847-63
11. Logarinho, E., Maffini, S., Barisic, M., Marques, A., Toso, A., Meraldi, P. and Maiato, H. CLASPs ensure spindle pole integrity in response to kinetochore traction forces on congressing chromosomes. *Nat Cell Biol.*, 2012, 14, 295-303
12. #Mchedlishvili, N., #Wieser, S., Holtackers, R., Moussyset, J., Belwal, M. and Meraldi, P. Kinetochores accelerate centrosome separation to ensure efficient alignment and segregation of chromosomes. *J. Cell Sci.*, 2012, 125, 906-18
13. Hagan, R., Maniak, M.S., Buch, H.K., Meier, M.G., Meraldi, P., §Shah, J.S., §Sorger, P.K. p<sup>31</sup>comet acts to ensure timely checkpoint silencing subsequent to kinetochore attachment. *MBoC*, 2011, 22, 4236-46

14. Hellwig, D., Emmerth, S., Ulbricht, T., Doering, V., Hoischen, C., Martin, R., Samora, C., McAinsh, A.D., Carroll, C., Straight, A., Meraldi, P. and Diekmann, S. Dynamics of CENP-N kinetochore binding during the cell cycle. *J. Cell Sci.*, 2011, 124, 3871-83
15. Amaro, A.C., Samora, C., Holtackers, R., Wang, E., Kingston, I.J., Alonso, M., Lampson, M., <sup>§</sup>McAinsh, A.D., <sup>§</sup>Meraldi, P. Molecular control of kinetochore-microtubule dynamics and chromosome oscillations. *Nat. Cell Biol.*, 2010, 12, 319-29
16. <sup>#</sup>Jaqaman, K., <sup>#</sup>King, E.M., <sup>#</sup>Amaro A.C., <sup>#</sup>Winter, J.R., Dorn, J., Elliot, H., Mchedlishvili, N., McClelland, S., Porter, I.M., Posch, M., Toso, A., <sup>§</sup>Danuser, G., <sup>§</sup>McAinsh, A.D., <sup>§</sup>Meraldi, P. and <sup>§</sup>Swedlow, J.R. Quantitative 4D live-cell imaging reveals regulation of kinetochore alignment within the metaphase plate by centromere stiffness and microtubule depolymerases. *J. Cell Biol.*, 2010, 188, 665-79
17. <sup>#</sup>Thoma, C.R., <sup>#</sup>Toso, A., Gutbordt, K.L., Reggi, S.P., Frew, I.J., Schraml, P., Hergovich, A., Moch, H., <sup>§</sup>Meraldi, P. and <sup>§</sup>Krek, W. VHL loss causes spindle mis-orientation and chromosome instability. *Nat. Cell Biol.*, 2009, 11, 994-1001
18. Klebig, C., Korinth, D. and Meraldi, P. Bub1 regulates chromosome segregation in a kinetochore independent manner. *J. Cell Biol.*, 2009, 185, 841-58
19. <sup>#</sup>Toso, A., <sup>#</sup>Winter, J.R., Garrod, A.J., Amaro, A.C., <sup>§</sup>Meraldi, P. and <sup>§</sup>McAinsh, A.D. Kinetochore-generated pushing forces separate centrosomes during bipolar spindle assembly. *J. Cell Biol.*, 2009, 184, 365-72
20. <sup>#</sup>McClelland, S.E., <sup>#</sup>Borusu, S., Amaro A.C., Winter, J.R., Belwal, M., <sup>§</sup>McAinsh, A.D. and <sup>§</sup>Meraldi, P. The CENP-A<sup>NAC/CAD</sup> kinetochore complex controls chromosome congression and spindle bipolarity. *EMBO J.*, 2007, 26, 5033-47
21. <sup>§</sup><sup>#</sup>McAinsh, A.D., <sup>§</sup><sup>#</sup>Meraldi, P., <sup>#</sup>Draviam, V.M., Toso, A. and Sorger, P.K. The human kinetochore proteins Nnf1R and Mcm21R are required for accurate chromosome segregation. *EMBO J.*, 2006, 25, 4033-49
22. <sup>#</sup>Meraldi, P., <sup>#</sup>McAinsh, A.D., Rheinbay, E. and Sorger, P.K. Phylogenetic and structural analysis of centromeric DNA and kinetochore proteins. *Genome Biol.*, 2006, 7, R23

### Peer-reviewed Reviews as a Principal Investigator

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23. Earnshaw, W.C., Allshire, R.C., Black, B.E., Bloom, K., Brinkley, B.R., Brown, W., Cheeseman, I.M., Choo, K.H.A., Copenhaver, G.P., DeLuca, J.G., Desai, A., Diekmann, S., Erhardt, S., Fitzgerald-Hayes, M., Foltz, D., Fukagawa, T., Gassmann, R., Gerlich, D.W., Glover, D.M., Gorbsky, G.J., Harrison, S.C., Heun, P., Hirota, T., Jansen, L.E.T., Karpen, G., Kops, G.J.P.L., Lampson, M.A., Lens, S.M., Losada, A., Luger, K., Maiato, H., Maddox, P.S., Margolis, R.L., Masumoto, H., McAinsh, A.D., Mellone, B.G., Meraldi, P., Musacchio, A., Oegema, K., O'Neill, R.J., Salmon, E.D., Scott, K.C., Straight, A.F., Stukenberg, P.T., Sullivan, B.A., Sullivan, K.F., Sunkel, C.E., Swedlow, J.R., Walczak, C.E., Warburton, P.E., Westermann, S., Willard, H.F., Wordeman, L., Yanagida, M., Yen, T.J., Yoda, K. and Cleveland, D.W. Esperanto for histones: CENP-A, not CenH3, is the centromeric histone H3 variant, *Chromosome Res*, 2013, PMID 23580138
24. Noatynska, A., <sup>§</sup>Gotta M. and <sup>§</sup>Meraldi, P. Mitotic Spindle (Dis)orientation and DISEase: cause or consequence, 2012, *J. Cell Biol.*, 2012, 199, 1025-35
25. Meraldi, P. Keeping Kinetochores on track. *Eur. J. Cell Biol.*, 2011, 91, 103-6
26. <sup>§</sup>McAinsh, A.D. and <sup>§</sup>Meraldi, P. The CCAN complex: linking centromere specification to control of kinetochore microtubule-dynamics. *Sem. Cell Dev. Biol.*, 2011, 22, 946-52

27. Thoma, C. Toso, A., Meraldi, P. and Krek, W. Mechanisms of aneuploidy and its suppression by tumor suppressor proteins. *Swiss Med Wkly*, 2011, 141,w13170
28. §Kops, G.J.P.L, Saurin, A.T. and §Meraldi, P. Finding the middle ground: How kinetochores power chromosome congression. *Cell. and Mol. Life Sciences*, 2010, 67, 2145-61
29. Thoma C., Toso, A., §Meraldi, P. and §Krek, W. Double-trouble in mitosis caused by von Hippel-Lindau tumour suppressor protein inactivation. *Cell Cycle*, 2009, 8, 3619-20
30. De Medina-Redondo, M. and Meraldi P. A life outside kinetochores for Bub1 kinases? *Cell Cycle*, 2009, 8, 3250-1
31. Amaro, A.C. and Meraldi, P. COMA puts Ipl1-Sli15 at the right spot. *Cell Cycle*, 2009, 8, 2484-8

### Peer-reviewed Book chapter as a Principal Investigator

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32. §De Medina-Redondo, M. and §Meraldi, P. The spindle assembly checkpoint: clock or domino? *Results ProL Cell Diff.*, 2011, 53 ,75-91
33. Klebig, C., Toso, A., Borusu, S. and Meraldi, P. Probing kinetochore function: spindle checkpoint and chromosome congression. *Methods in Molecular Biology*, 2009, 545, 205-20

### Publications as post-doctoral researcher or PhD student

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34. A dual role for Bub1 in the spindle checkpoint and chromosome congression. Meraldi, P. and Sorger, P.K., 2005, *EMBO J.*, 24, 1621-33
35. Coordinate regulation of the mother centriole component Nlp by Nek2 and Plk1 protein kinases. Rapley, J., Baxter, J.E., Wattam, S.L., Casenghi M., Meraldi, P., Nigg, E.A., and Fry, A.M., 2005, *MCB*, 25, 1309-24
36. Timing and checkpoint in the regulation of mitotic progression. #Meraldi, P., #Draviam, V.M. and Sorger, P.K., 2004, *Dev Cell.*, 7, 45-60
37. Aurora kinases link chromosome segregation and cell division to cancer susceptibility. Meraldi, P., Honda, R. and Nigg, E.A., 2004, *Curr Opin Gen Dev.*, 15, 29-36
38. Polo-like kinase 1 regulates Nlp, a centrosome protein involved in microtubule nucleation. #Casenghi, M., #Meraldi, P., Weinhart, U., Duncan, P.I., Koerner, R., and Nigg, E.A., 2003, *Dev Cell.*, 5, 113-25
39. The centrosome cycle Meraldi, P. and Nigg, E.A., 2002, *FEBS letter* , 521, 9-13
40. Human TPX2 is required for targeting Aurora-A kinase to the spindle. Kufer, T.A., Sillje, H.H., Koerner, R., Gruss, O.J., Meraldi, P. and Nigg, E.A., 2002, *J Cell Biol.*, 158, 617-23.
41. Aurora-A overexpression reveals tetraploidization as a major route to centrosome amplification in p53(-/-) cells. Meraldi, P., Honda, R. and Nigg, E.A., 2002, *EMBO J.*, 21, 483-92
42. Centrosome cohesion is regulated by a balance of kinase and phosphatase activities. Meraldi, P., and Nigg, E.A., 2001, *J Cell Sci.*, 114 (Pt 20), 3749-57

43. Protein kinases in control of the centrosome cycle Mayor, T., Meraldi, P., Stierhof, Y-D., Nigg, E.A. and Fry, A.M., 1999, **FEBS letter**, 452, 92-95
44. Centrosome duplication in mammalian somatic cells requires E2F and Cdk2-Cyclin A. Meraldi, P., Lukas, J., Fry, A.M., Bartek, J. and Nigg, E.A., 1999, **Nat. Cell Biol.**, 1, 88-93
45. C-Nap1, a novel centrosomal coiled-coil protein and candidate substrate of the cell cycle-regulated protein kinase Nek2. Fry, A.M., Mayor, T., Meraldi, P., Stierhof, Y-D., Tanaka, K. and Nigg, E.A., 1998, **J. Cell. Biol.**, 141, 1563-1574
46. A centrosomal function for the human Nek2 protein kinase, a member of the NIMA family of cell cycle regulators. Fry, A.M., Meraldi, P. and Nigg, E.A., 1998, **EMBO J.**, 17, 470-481