

**Curriculum Vitae**  
**Dr. ir. Peter De Wulf**

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**Contact information**

European Institute of Oncology  
Department of Experimental Oncology  
Via Adamello 16  
20139 Milan, Italy  
E-mail: peter.dewulf@ieo.eu  
Tel: (++39) 0294375036  
Fax: (++39) 0294375990

**Position**

08/2005 - present      Principal Investigator  
Director Kinetochore and Chromosome Segregation Research Unit  
Department of Experimental Oncology  
European Institute of Oncology  
Milan, Italy

**Education and training**

11/1999 - 06/2005      Post-Doctoral Research in Yeast Kinetochore Biology  
Department of Biology  
Massachusetts Institute of Technology  
77 Massachusetts Avenue  
02139 Cambridge (MA), USA  
Mentor: Prof. Dr. Peter K. Sorger  
(now at Harvard Medical School, Department of Systems Biology)

07/1996 - 10/1999      Post-Doctoral Research in Bacterial Two-Component Signal  
Transduction  
Department of Microbiology and Molecular Genetics  
Harvard Medical School  
210 Longwood Avenue  
02115 Boston (MA), USA  
Mentor: Prof. Dr. Edmund C.C. Lin (deceased)

04-20/07/1999          Course in Protein Purification and Characterization  
Cold Spring Harbor Laboratory. Cold Spring Harbor (NY), USA  
Instructors: Dr. Richard Burgess, Dr. Albert Courey, Dr. Sue-Hwa  
Lin, Dr. Sheenah Mische

06-20/06/1997          Course in Advanced Bacterial Genetics  
Cold Spring Harbor Laboratory. Cold Spring Harbor (NY), USA  
Instructors: Dr. Bonnie Bassler, Dr. Colin Manoil, Dr. James Slauch

06/1995 - 06/1996      Training in Yeast Cell Biology  
Department of Applied Biochemistry  
University of Milan  
via Celoria 26  
20133 Milan, Italy  
Mentor: Prof. Dr. Lilia Alberghina  
(now at the University of Milan-Bicocca, Department of  
Biotechnology and Biosciences)

- 01/1992-05/1995      Ph.D. in Industrial Microbiology and Biocatalysis  
 Department of Biochemical and Microbial Technology  
 School of Bioengineering  
 University of Ghent  
 Coupure Links 653  
 B-9000 Ghent, Belgium  
Mentor: Prof. Dr. ir. E.J. Vandamme (retired)
- 10/1986 – 07/1991    M.Sc. in Bioengineering; Major in Cell and Gene Technology  
 School of Bioengineering  
 University of Ghent  
 Coupure Links 653  
 B-9000 Ghent, Belgium  
M.Sc. thesis mentor: Prof. Dr. ir. E.J. Vandamme (retired)

### **Additional professional activities**

- 2014                    ASN – Abilitazioni Scientifiche Nazionali  
                           05/F1 Experimental Biology (Biologia Applicata), seconda fascia.  
                           05/E2 Molecular Biology (Biologia Molecolare), seconda fascia.  
                           05/E1 General Biochemistry and Clinical Biochemistry (Biochimica  
                                   Generale e Clinica), seconda fascia (under evaluation).
- 2005 - 2012          Lecturer at the European School of Molecular Medicine, Ph.D.  
 program. “Yeast as a Model System”
- 2005-2007            Lecturer at the University of Milan, and the University of Milan-Bicocca.  
 Ph.D. programs. “Mitosis and Chromosome Segregation”
- 2007 - 2012          Member of the Educational Committee, European School of Molecular  
 Medicine
- 2005 - present        Manuscript reviewer for the Journal of Cell Biology, Molecular and  
 Cellular Biology, Current Biology, Molecular Microbiology, Journal of  
 Pharmacy and Pharmacology, PLoS Genetics
- 2005 - present        Grant reviewer for The Wellcome Trust (UK), The Wellcome Trust  
 (UK)-India alliance, National Science Foundation (USA), ETH  
 Research Commission (Switzerland)
- 2009                    Co-editor textbook "The Kinetochores: from Molecular Discoveries to  
 Cancer Therapy". Eds. De Wulf P., Earnshaw W.C.; Springer Publ.,  
 New York City, pp. 509

### **Honors**

- 2014                    International Innovation, Featured Biomedical Scientist – European  
 Healthcare (<http://www.research-europe.com>)
- 2012                    Number 1 ranked Principal Investigator Grant, Italian Association for  
 Cancer Research (AIRC) (highest score of 5,000 grant applications)
- 2001 - 2003            Post-Doctoral Fellowship from the Charles A. King Trust-The Medical  
 Foundation, Boston (MA), USA
- 2001                    Elected Full Member to the Sigma Xi Research Society of Science and  
 Engineering (MIT Chapter), USA
- 2000                    Merck Co.-MIT Best Poster Award, MIT Department of Biology Retreat
- 1998 - 1999            Dr. D. Collen-B.A.E.F. Post-Doctoral Research Fellowship (Belgium-  
 USA)
- 1996                    Studax Post-Doctoral Training Fellowship (Belgium)
- 1995 - 1996            Commett Scholarship (European Community)

1995 Erasmus Scholarship (European Community)  
1995 Greatest Distinction, Ph.D., University of Ghent, Belgium  
1995 Finalist European Technology Awards, Delft, The Netherlands  
1994 - 1995 Winner of the "Biannual VCV-Exxon Co. Prize for Biochemistry 1994-1995"  
1992 - 1995 Pfeifer & Langen Doctoral Fellowship (Germany)

### **Peer-reviewed publications**

Iacovella M.G., Golfieri C., Massari L.F., Pagliuca C., Infantino V., Dal Maschio M., Busnelli S., Visintin R., **De Wulf P.** The Rio1 kinase downregulates RNA polymerase I to promote rDNA stability and segregation. Submitted.

Bock L.J., Pagliuca C., Kobayashi N., Grove R.A., Oku Y., Alfieri C., Golfieri C., Oldani A., Dal Maschio M., Bermejo R., Hazbun T.R., Tanaka T.U., **De Wulf P.** (2012). Cnn1 inhibits the interactions between the KMN complexes of the yeast kinetochore. *Nature Cell Biology*, 14:614-624.

Nguyen T.L., Cera M.T., Pinto A., Lo Presti L., Hamel E., Conti P., Gussio R., **De Wulf P.** (2012). Evading Pgp activity in drug-resistant cancer cells: a structural and functional study of antitubulin furan metotica compounds. *Molecular Cancer Therapeutics*, 11:1103-1111.

Cho-U-S, Corbett K.D., Al-Bassam J., Belizzi J.J.Illrd, **De Wulf P.**, Espelin C.W., Miranda J.J., Simons K., Sorger P.K., Harrison S.C. (2011). Molecular structures and interactions in the yeast kinetochore. *Cold Spring Harbor Symposium in Quantitative Biology*, 75:395-401.

**De Wulf P.**, Cheeseman IM (2010). Tension at EMBO's Aneuploidy Workshop. *EMBO Reports*, 11:727-729.

Screpanti E., Santaguida S., Nguyen T.L., Silvestri R., Gussio R., Musacchio A., Hamel E., **De Wulf P.** (2010). A screen for kinetochore-microtubule interaction inhibitors identifies novel antitubulin compounds. *PLoS ONE*, 5:e11603.

Pagliuca C., Draviam V.M., Marco E., Sorger P.K., **De Wulf P.** (2009). Roles for the conserved Spc105p/Kre28p complex in kinetochore-microtubule binding and the spindle assembly checkpoint. *PLoS ONE*, 4:e7640.

**De Wulf P.**, Montani F., Visintin R. (2009) Protein phosphatases take the mitotic stage. *Current Opinion in Cell Biology*, 21:806-815.

Fukagawa T., **De Wulf P.** (2009). Kinetochore composition, formation and organization. In: "The Kinetochore: from Molecular Discoveries to Cancer Therapy". Eds. De Wulf P., and Earnshaw W.C. Springer Publ., New York City, p. 133-191.

Cohen R.L., Espelin C.W., **De Wulf P.**, Sorger P.K., Harrison S.C., Simons K.T. (2008). Structural and functional dissection of Mif2p, a conserved DNA-binding kinetochore protein. *Molecular Biology of the Cell*, 19:4480-4491.

**De Wulf P.**, Visintin R. (2008). Cdc14B and APC/C tackle DNA damage. *Cell*, 134:210-212.

Ciferri C., Pasqualato S., Screpanti E., Maiolica A., Polka J., DeLuca J.B., **De Wulf P.**, Salek M., Rappsilber J., Moores C.A., Salmon E.D., Musacchio A. (2008). Implication for kinetochore-microtubule attachment from the structure of an engineered Ndc80 complex. *Cell*, 133:427-439.

Miranda J.J.M., **De Wulf P.**, Sorger P.K., Harrison S.C. (2005). The yeast DASH complex decorates microtubules as a closed ring. *Nature Structural and Molecular Biology*, 12:138-43.

Liu X.Q., **De Wulf P.** (2004). Probing the ArcA-P signal transduction modulon of *Escherichia coli* by whole-genome transcriptional analysis and promoter-recognition profiling. *Journal of Biological Chemistry*, 279:12588-12597.

**De Wulf P.**, McAinsh A.D., Sorger P.K. (2003). Hierarchical assembly of the budding yeast kinetochore from multiple subcomplexes. *Genes and Development*, 17:2902-2921.

**De Wulf P.**, McGuire A.M., Liu X.Q., Lin E.C.C. (2002). Genome-wide profiling of promoter recognition by the two-component response regulator CpxR-P in *Escherichia coli*. *Journal of Biological Chemistry*, 277:26652-26661.

**De Wulf P.**, Lin E.C.C. (2000). Cpx two-component signal transduction in *Escherichia coli*: excessive CpxR-P levels underlie CpxA\* phenotypes. *Journal of Bacteriology*, 182:1423-1426.

**De Wulf P.**, Akerley B.J., Lin E.C.C. (2000). Presence of the Cpx system in bacteria. *Microbiology*, 146:247-248.

**De Wulf P.**, Brambilla L., Vanoni M., Porro D., Alberghina L. (2000). Real-time flow cytometric quantification of GFP expression and Gfp fluorescence generation in *Saccharomyces cerevisiae*. *Journal of Microbiological Methods*, 42:57-64.

**De Wulf P.**, Soetaert W., Vandamme E.J. (2000). Optimized synthesis of L-sorbose by C5-dehydrogenation of D-sorbitol with *Gluconobacter oxydans*. *Biotechnology and Bioengineering*, 69:339-343.

McGuire A.M.\*, **De Wulf P.\***, Church G.M., Lin E.C.C. (1999). A weight matrix for binding recognition by the redox-response regulator ArcA-P of *Escherichia coli*. *Molecular Microbiology*, 32:219-221 (\*Contributed equally).

Membrillo-Hernandez J., Kwon O., **De Wulf P.**, Finkel S.E., Lin E.C.C. (1999). Regulation of *adhE* (encoding ethanol oxidoreductase) by the Fis protein in *Escherichia coli*. *Journal of Bacteriology*, 181:7390-7393.

Pellicer M.T., Lynch A.S., **De Wulf P.**, Boyd D., Aguilar J., Lin E.C.C. (1999). A mutational study of the ArcA-P binding sequences in the *aldA* promoter of *Escherichia coli*. *Molecular and General Genetics*, 261:170-176.

**De Wulf P.**, Kwon O., Lin E.C.C. (1999). The CpxRA two-component signal transduction system of *Escherichia coli*: growth-related autoactivation and control of unanticipated target operons. *Journal of Bacteriology*, 181:6772-6778.

Georgellis D., Kwon O., **De Wulf P.**, Lin E.C.C. (1998). Signal decay through a reverse phosphorelay in the Arc two-component signal transduction system. *Journal of Biological Biochemistry*, 273:32864-32869.

Pogliano J., Dong J.-M., **De Wulf P.**, Furlong D., Boyd D., Losick R., Pogliano K., Lin E.C.C. (1998). Aberrant timing of cell division and random positioning of the cell division site in *Escherichia coli cpxA\** mutants. *Journal of Bacteriology*, 180:3486-3490.

**De Wulf P.** (1998). Presence of the ribulose monophosphate pathway in *Bacillus subtilis*. *Microbiology*, 144:596-597.

Vandamme, E.J., De Baets S., Vanbaelen A., Joris K., **De Wulf P.** (1998). Improved production of bacterial cellulose and its application potential. *Polymer Degradation and Stability*, 59:93-99.

**De Wulf P.**, Soetaert W., Schwengers D., Vandamme E.J. (1997). Specific organic acids enhance the D-ribose productivity of a transketolase-defective *Bacillus subtilis* strain. *Journal of Chemical Technology and Biotechnology*, 70:311-315.

**De Wulf P.**, Vandamme E.J. (1997). Microbial synthesis of D-ribose: metabolic deregulation and fermentation process. *Advances in Applied Microbiology*, 44: 167-214.

**De Wulf P.**, Vandamme E.J. (1997). Production of D-ribose by fermentation. *Applied Microbiology and Biotechnology*, 48:141-148.

**De Wulf P.**, Soetaert W., Schwengers D., Vandamme E.J. (1997). Optimization of D-ribose production with a transketolase-affected *Bacillus subtilis* mutant strain in glucose and gluconic acid-based media. *Journal of Applied Microbiology*, 83:25-30.

**De Wulf P.**, Soetaert W., Schwengers D., Vandamme E.J. (1996). D-Glucose does not catabolite repress a transketolase-deficient D-ribose producing *Bacillus subtilis* mutant strain. *Journal of Industrial Microbiology and Biotechnology*, 17:104-109.

**De Wulf P.**, Soetaert W., Schwengers D., Vandamme E.J. (1996). Screening and mutational improvement of a D-ribose secreting *Candida pelliculosa*. *Journal of Fermentation and Bioengineering*, 82:1-7.

**De Wulf P.**, Joris K., Vandamme E.J. (1996). Improved cellulose formation by an *Acetobacter xylinum* mutant limited in (keto)gluconate synthesis. *Journal of Chemical Technology and Biotechnology*, 67:376-380.

Joris K., Billiet F., **De Wulf P.**, Vandamme E.J. (1993). Enhanced bacterial cellulose yield in aerated *Acetobacter xylinum* cultures by adding micro-particles. In: "Cellulosics: Materials for Selective Separations and Other Technologies" (Polymer Science and Technology). Eds. Kennedy J.F., Phillips G.O., Williams P.A.; Ellis Horwood, New York, p. 239-245.

### **Patent applications**

Amici R., Fagá G., Cera M.R., **De Wulf P.** (2010). 6(-2-Furyl)-3-methyl-4-oxo-1,5,6,7-tetrahydroindole-2-carboxylate derivatives and use thereof. PCT/IB2010/055845.

**De Wulf P.** (2009). Anti-tubulin and anti-kinetochore compounds and methods of use and identification thereof. US Priority Claim 61/287,073.

**De Wulf P.**, Soetaert W., Schwengers D. and Vandamme E.J. (1995). Verfahren zur Herstellung von D-Ribose (*Development of a D-ribose production method using Bacillus spp.*). German Patent Application 44,132,97.2

**De Wulf P.**, Soetaert W., Schwengers D. and Vandamme E.J. (1995). Verfahren zur Herstellung von D-Ribose mit einer Oxoverbindung (*Development of a bacterial D-ribose production method based on oxo acids*). German Patent Application 44,132,98.0

### **Invited talks (selected)**

24/02/2006                      Cell Cycle Club Milano  
IFOM-IEO Campus  
Organizer: Prof. Marco Foiani

- “Molecular dissection of the budding yeast kinetochore”
- 08-10/06/2006 Società Italiana di Biofisica e Biologia Molecolare  
Secondo Seminario Nazionale - Il Ciclo Cellulare  
Università La Sapienza  
Rome, Italy  
Organizers: Dr. Andrea Musacchio, Dr. Patrizia Lavia  
“Molecular analysis of the Spc105p-Kre28p budding yeast kinetochore subcomplex”
- 25-29/08/2007 16<sup>th</sup> International Chromosome Congress  
Structure and Function of Centromeres  
Amsterdam, The Netherlands  
Organizer: Dr. William Earnshaw  
“Roles of conserved kinetochore protein Spc105 in kinetochore maturation, spindle checkpoint activity and chromosome segregation”
- 07-09/06/2007 Società Italiana di Microbiologia Generale e Biotechnologie Microbiche  
Associazione Genetica Italiana  
ZYMI 2007 – Meeting of the Italian Yeast Group  
Università degli Studi di Firenze  
Florence, Italy  
Organizers: Dr. Carlo Bruschi, Dr. Patricia Filetici  
“Architectural and functional organization of the budding yeast kinetochore”
- 19-23/06/2010 EMBO Workshop on Chromosome Segregation and Aneuploidy  
Royal College of Surgeons, University of Edinburgh  
Scotland, UK  
Organizers: Dr. William Earnshaw, Dr. Kevin Hardwick, Dr. Margarete Heck  
“Novel kinetochore factor Cnn1 contributes to sister chromatid bi-orientation by supporting KMN network activity in budding yeast”
- 15-18/06/2011 2<sup>nd</sup> Dynamic Kinetochore Workshop  
The Research Institute of Molecular Pathology (IMP)  
Vienna, Austria  
Organizers: Dr. Stefan Westermann, Dr. Silke Hauf, Dr. Lars Jansen  
“Cnn1 promotes kinetochore-spindle binding and sister chromatid bi-orientation by supporting KMN activity in budding yeast”
- 15-18/05/2013 3<sup>rd</sup> Dynamic Kinetochore Workshop  
Instituto de Biologia Molecular e Cellular (IBMC)  
Porto, Portugal  
Organizers: Dr. Helder Maiato, Dr. Iain Cheeseman, Dr. Paul Maddox  
“Mtc5 mediated ubiquitylation antagonises high levels of inner kinetochore protein Cnn1”

### **Languages**

Dutch: Mother tongue.

English: Second language. Excellent understanding, speaking, reading and writing.

Italian: Excellent understanding, speaking and reading.

French: Good understanding and reading, decent speaking and writing.

German: Good understanding and reading, decent speaking and writing.