

**BIOGRAPHICAL SKETCH**

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NAME Cartailler, Jean-Philippe		POSITION TITLE Director, Vanderbilt Center for Stem Cell Biology (VCSCB) Informatics	
eRA COMMONS USER NAME (credential, e.g., agency login) CARTAIJ			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Rutgers U. (Cook College), New Brunswick, NJ	B.Sc.	1993-1997	Biological Sciences
Univ. of California, Irvine, Irvine, CA	Ph.D.	1997-2003	Protein Crystallography
Vanderbilt University Med. Ctr., Nashville, TN	Postdoc	2003-2004	Protein Crystallography

**A. Personal Statement**

I received my doctoral training in the structural and computational biology of membrane protein systems. My post-doctoral training exposed me to new frontiers in scientific data management, analysis and visualization. Therefore, I decided to change my career direction to focus on integrating science and information technology. I have spent the last 15 years on providing solutions to scientists that increase the impact and optimize the effectiveness of their data, promote collaborative discovery of primary and secondary data, and overall manage large-scale data infrastructures.

**B. Positions and Honors**

1996-1997	George H. Cook Honors Research Program, Cook College, Rutgers University, New Brunswick NJ (undergraduate)
1997-2003	Graduate Research, University of California, Irvine (with Hartmut Luecke)
1998-2001	National Institute of Health Training Grant Fellowship in "Structure and Synthesis", University of California Irvine, Irvine CA
2001	Schneiderman Graduate Fellowship in Biological Sciences, University of California, Irvine CA, Award for excellence in research.
2003	Research Assistant, Department of Molecular Biology & Biochemistry, University of California, Irvine CA
2003-2014	Postdoctoral Fellow, Vanderbilt University (with Munirathinam Sundaramoorthy)
2004-2005	Senior Information Officer, Beta Cell Biology Consortium (BCBC), Vanderbilt University Medical Center, Nashville TN
2006-2007	Assistant Director, Vanderbilt Center for Stem Cell Biology, Vanderbilt University Medical Center, Nashville TN
2008-2011	Associate Director, Vanderbilt Center for Stem Cell Biology, Vanderbilt University Medical Center, Nashville TN
2009-2011	Chair, dkCOIN Working Group
2011-present	Director of VCSCB Informatics, Vanderbilt Center for Stem Cell Biology, Vanderbilt University Medical Center, Nashville TN
2015-present	Director of the Vanderbilt Creative Data Solutions Shared Resource, Vanderbilt Center for Stem Cell Biology, Vanderbilt University Medical Center, Nashville TN

### C. Selected peer-reviewed publications (in chronological order)

1. McKenna NJ, Howard CL, Auffero M, Easton-Marks J, Steffen DL, Becnel LB, Magnuson MA, McIndoe RA, **Cartailler JP**. Research resource: dkCOIN, the National Institute of Diabetes, Digestive and Kidney Diseases (NIDDK) consortium interconnectivity network: a pilot program to aggregate research resources generated by multiple research consortia. *Mol Endocrinol*. 2012. 26(10):1675-81
2. Vanacore R.M., Ham A.J., **Cartailler J.P.**, Sundaramoorthy M., Todd P., Pedchenko V., Sado Y., Borza D.B., Hudson B.G. A role for collagen IV cross-links in conferring immune privilege to the Goodpasture autoantigen: structural basis for the crypticity of B cell epitopes. *J Biol Chem*. 2008. 283(33):22737-48
3. Khoshnoodi J., **Cartailler J.P.**, Alvares K., Veis A., Hudson B.G. Molecular recognition in the assembly of collagens: terminal noncollagenous domains are key recognition modules in the formation of triple helical protomers. *J Biol Chem*. 2006. 281(50):38117-21
4. Khoshnoodi, J., Sigmundsson, K., **Cartailler, J.P.**, Bondar, O., Sundaramoorthy, M., Hudson, B.G. Mechanism of Chain Selection in the Assembly of Collagen IV: A Prominent Role for the  $\alpha 2$  Chain. *J Biol Chem*. 2006, 281(9):6058-69
5. **Cartailler J.P.**, Luecke H. Structural and functional characterization of  $\pi$ -bulges and other short intrahelical deformations. *Structure*. 2004, 12(1):133-44
6. Isas J.M., Patel D.R., Jao C., Jayasinghe S., **Cartailler J.P.**, Haigler H.T., Langen R. Global structural changes in annexin 12. The roles of phospholipid, Ca<sup>2+</sup>, and pH. *J Biol Chem*. 2003, 278(32):30227-34
7. **Cartailler J.P.**, Luecke H. X-ray crystallographic analysis of lipid-protein interactions in the bacteriorhodopsin purple membrane. *Annu. Rev. Biophys. Biomol. Struct.* 2003, 32:285-310.
8. Rouhani-Manshadi S., **Cartailler J.P.\***, Facciotti M., Walian P., Needleman R., Lanyi J.K., Glaeser R.M., Luecke H. Crystal structure of the D85S mutant of bacteriorhodopsin: Model of an O-like photocycle intermediate. *J Mol Biol*. 2001, 313(3):615-628. (\*refinement, modeling, analysis and manuscript)
9. Luecke H., Schobert B., **Cartailler J.P.**, Richter H.T., Rosengarth A., Needleman R., Lanyi J.K. Coupling photoisomerization of retinal to directional transport in bacteriorhodopsin. *J Mol Biol*. 2000, 28;300(5):1237-55
10. Isas J.M., **Cartailler J.P.**, Sokolov Y., Patel D.R., Langen R., Luecke H., Hall J.E., Haigler H.T. Annexins V and XII insert into bilayers at mildly acidic pH and form ion channels. *Biochemistry*. 2000, 39(11):3015-22
11. **Cartailler J.P.**, Haigler H.T., Luecke H. Annexin XII E105K crystal structure: identification of a pH-dependent switch for mutant hexamerization. *Biochemistry*. 2000, 39(10):2475-83
12. Luecke H., Schobert B., Richter H.T., **Cartailler J.P.**, Lanyi J.K. Structural changes in bacteriorhodopsin during ion transport at 2 Angstrom resolution. *Science*. 1999 286(5438):255-61.
13. Luecke H., Schobert B., Richter H.T., **Cartailler J.P.**, Lanyi J.K. Structure of bacteriorhodopsin at 1.55 Å resolution. *J. Mol. Biol*. 1999 291(4):899-911