Curriculum Vitae — Kiran Raosaheb Patil

Name: Kiran Raosaheb Patil

Date of birth: 05-06-1977. **Nationality:** Indian.

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Education and employment

1. **Group Leader, September 2010 –**
   Structural & Computational Biology Unit, European Molecular biology laboratory, Heidelberg, Germany.
2. **Assistant Professor, September 2006 – August 2010**
   Assistant Professor (Systems biology of industrially important microorganisms), Center for Microbial Biotechnology, Technical University of Denmark (DTU), Denmark.
3. **PhD (Systems Biology), September 2003 – August 2006**
   Center for Microbial Biotechnology, DTU, Denmark. Supervisor: Prof. Jens Nielsen.
4. **Research assistant, September 2002 – August 2003**
   Center for Microbial Biotechnology, DTU, Denmark. Supervisor: Prof. Jens Nielsen.
5. **M. tech. (Chemical engineering), July 2002**
   Indian Institute of Technology- Bombay (IIT-Bombay), India. Cumulative performance Index: 9.36.

Publications (peer reviewed)

Total number of publications: 32

h-index = 18 (January 2014)

Selected publications (peer reviewed)

1. Zelezniak, A., Sheridan, S. & **Patil, K.R**[†]**.** Contribution of network connectivity in determining the relationship between gene expression and metabolite concentration changes. ***PLoS Comput Biol.*** 10(4): e1003572 (2014).
2. Klunemann, M., Schmid, M. & **Patil, K.R**[†]**.** Computational tools for modeling xenometabolism of the human gut microbiota. ***Trends Biotechnol*** 3, 157-65 (2014).
3. Otero, J.M., Cimini, D., **Patil, K.R.**, Poulsen, S.G., Olsson, L. & Nielsen, J. Industrial Systems Biology of Saccharomyces cerevisiae Enables Novel Succinic Acid Cell Factory. ***PLoS One*** 8(1): e54144 (2013).
4. Brochado, A.R., Andrejev, S., Maranas, C.D. & **Patil, K.R**[†]. Impact of Stoichiometry Representation on Simulation of Genotype-Phenotype Relationships in Metabolic Networks. ***PLoS Comput Biol.*** 8(11) (2012).
5. Brochado, A.R. & **Patil, K.R**[†]. Overexpression of O-methyltransferase leads to improved vanillin production in baker's yeast only when complemented with model-guided network engineering. ***Biotechnol Bioeng.*** Sep. doi: 10.1002/bit.24731 (2012).
6. Yamada, T., Waller, A.S., Raes, J., Zelezniak, A., Perchat, N., Perret, A., Salanoubat, M., **Patil, K.R.**, Weissenbach, J. & Bork, P. Prediction and identification of sequences coding for orphan enzymes using genomic and metagenomic neighbours. ***Mol Systems Biol,*** May 8;8:581. doi: 10.1038/msb.2012.13 (2012).
7. Hansen, B.G., Mnich, E., Nielsen, K.F., Nielsen, J.B., Nielsen, M.T., Mortensen, U.H., Larsen, T.O. & **Patil, K.R.**[†] A natural fusion of a cytochrome P450 and a hydrolase is

involved in mycophenolic acid biosynthesis. ***Appl Environ Microbiol***, **78**(14):4908-13 (2012).

8. Montagud A., Navarro E., Cordoba P.F., Urchueguia J.F. & **Patil K.R**. Reconstruction and analysis of genome-scale metabolic model of a photosynthetic bacterium. ***BMC Systems Biol***, **4**:56 (2010).
9. Brochado A.R., Matos C., Moller B.L., Hansen J., Mortensen U.H. & **Patil K.R**[†]**.** Improved vanillin production in baker's yeast through *in silico* design. ***Microbial Cell factories***, **9**:84 (2010).
10. Zelezniak A. *****, Pers T.H. *****, Soares S. *****, Patti M.E. & **Patil K.R.**[†] Metabolic network topology reveals transcriptional regulatory signatures of type 2 diabetes. ***PLoS Comput Biol***, **6**:4 (2010).
11. Asadollahi M.A., Maury J., **Patil K.R.**, Schalk M., Clark A. & Nielsen J. Enhancing sesquiterpene production in *Saccharomyces cerevisiae* through *in silico* driven metabolic engineering. ***Metabolic Eng.***, doi:10.1016/j.ymben.2009.07.001 (2009).
12. Oliveira A.P., **Patil K. R.**[†] & Nielsen J. Architecture of transcriptional regulatory circuits is knitted over the topology of bio-molecular interaction networks. ***BMC Systems Biol***, **2**:17 (2008).
13. Cakir T.*, **Patil K.R.***, Önsan Z. İ., Ülgen K. Ö., Kırdar B. & Nielsen J. Integration of Metabolome data with metabolic networks reveals reporter reactions. ***Mol Systems Biol.*** **2** (2006).
14. **Patil K. R.**, Rocha I., Forster J. & Nielsen J. Evolutionary programming as a platform for *in silico* metabolic engineering. ***BMC Bioinformatics.*** **6**, 308 (2005).
15. **Patil K. R.** & Nielsen J. Uncovering transcriptional regulation of metabolism by using metabolic network topology. ***Proc. Natl. Acad. Sci. U.S.A.*** **102**, 2685-2689 (2005).

***** These authors contributed equally to the work. [†] Patil K.R. as corresponding author.

Book chapters

1. **Patil K.R.**, Bapat P. & Nielsen J. Structure and flux analysis of metabolic networks. ***The Metabolic Pathway Engineering Handbook: Fundamentals***, CRC Press; 1st ed., August 18, 2009.
2. Brochado A.R. & **Patil K.R.** Model-guided identification of gene deletion targets for metabolic engineering in Saccharomyces cerevisiae. ***Yeast Metabolic Engineering: Methods and Protocols***, Springer, 281-291, 2014.

Articles published in 'popular science' periodicals (non peer reviewed):

1. **Patil K. R.** & Pers T. Systems biology: Looking beyond the genome. BioZoom, **nr.2**, (2007). Denmark.