

## Publication list

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On March 15<sup>th</sup> 2017 (Google scholar):

<b>Published peer reviewed scientific articles:</b>	<b>55</b>
○ <i>Research articles:</i>	42
○ <i>Review articles:</i>	13
<b>Editorial:</b>	<b>1</b>
<b>H-index:</b>	<b>25</b>
<b>Total number of citations:</b>	<b>2148</b>

### Peer-reviewed original research articles

- Huang M., Bao J., Hallström B., **Petranovic D.**, Nielsen J. (2017) Efficient protein production by yeast requires global tuning of metabolism. *Nature Comm.* #NCOMMS-17-01945C
- Chen X., Bisschops M.M.M, Agarwal N.R., Ji B., Shanmugavel K.P., **Petranovic D.** (2017) Interplay of energetics and ER stress exacerbates Alzheimer's amyloid- $\beta$  (A $\beta$ ) toxicity in yeast. *Front. Mol. Neurosci.*, 27 July 2017 | <https://doi.org/10.3389/fnmol.2017.00232>
- Shumnangavel K.P., **Petranovic D.**, Wittung-Stafshede P. (2017) Probing functional roles of Wilson disease protein (ATP7B) copper-binding domains in yeast. *Metallomics*, 2017 Jul 19;9(7):981-988. doi: 10.1039/c7mt00101k.
- Bao J, Huang M, **Petranovic D**, Nielsen J (2017) Moderate expression of *SEC16* increases protein secretion by *Saccharomyces cerevisiae*. *Appl Environ Microbiol.* pii: AEM.03400-16. doi: 10.1128/AEM.03400-16.
- Derouiche A, **Petranovic D**, Macek B, Mijakovic I (2017) *Bacillus subtilis* single-stranded DNA-binding protein SsbA is phosphorylated at threonine 38 by the serine/threonine kinase YabT. *Period Biol* 118: 99-104.
- Martínez JL, Meza E, **Petranovic D** and Nielsen J. (2016). The impact of respiration and oxidative stress response on recombinant  $\alpha$ -amylase production by *Saccharomyces cerevisiae*. *Met. Eng. Comm.*3: 205–210.
- Johansson M., Chen X, Milanova S, Santos C and **Petranovic D** (2016) PUFA-induced cell death is mediated by YCA1p-dependent and -independent pathways, and is reduced by vitamin C in yeast. *FEMS Yeast Res.*, 2016 Mar; 16(2):fow007.
- Huang M, Bai Y, Sjostrom SL, Hallström BM, Liu Z, **Petranovic D**, Uhlén M, Joensson HN, Andersson Svahn H and Nielsen J. (2015) Microfluidic screening and whole-genome sequencing identifies mutations associated with improved protein secretion. *Proc Natl Acad Sci U S A.* 2015 Aug 10.
- Liu L, Zhang Y, Liu Z, **Petranovic D** and Nielsen J (2015) Improving heterologous protein secretion in aerobic conditions by activating hypoxia induced genes in *Saccharomyces cerevisiae*. *FEMS Yeast Res.* 2015 Jul 27.
- Chen X and **Petranovic D** (2015) Cytotoxicity and Mitochondrial Dysfunction in yeast expressing amyloid-beta peptide. *FEMS Yeast Res.* 2015 Sep; 15(6).
- Wanichthanarak K, Wongtosrad N, **Petranovic D.** (2015). Genome-wide expression analyses of the stationary phase model of ageing in yeast, *Mech Ageing Dev.* 2015 Jul; 149:65.

12. Caspeta L, Chen Y, Ghiaci P, Feizi A, Buskov S, Hallström BM, **Petranovic D**, Nielsen J. (2014) Altered sterol composition renders yeast thermotolerant. *Science*. 2014 Oct 3;346(6205):75-8
13. Martínez JL, Liu L, **Petranovic D**, Nielsen J. (2014) Engineering the oxygen sensing regulation results in an enhanced recombinant human hemoglobin production by *Saccharomyces cerevisiae*. *Biotechnol Bioeng*. 2014 Jul 31.
14. Hou J, Tang H, Liu Z, Osterlund T, Nielsen J, **Petranovic D**. (2014) Management of the endoplasmic reticulum stress by activation of the heat shock response in yeast. *FEMS Yeast Res*. 2014 May;14(3):481-94
15. Liu L, Martínez JL, Liu Z, **Petranovic D**, Nielsen J. (2014) Balanced globin protein expression and heme biosynthesis improve production of human hemoglobin in *Saccharomyces cerevisiae*. *Metab Eng*. 2014 Jan;21:9-16.
16. Wanichthanarak K, Nookaew I, **Petranovic D**. (2014) yStreX: yeast stress expression database. *Database (Oxford)*. 2014 Jul 14; 2014
17. Liu Z, Liu L, Österlund T, Hou J, Huang M, Fagerberg L, **Petranovic D**, Uhlén M, Nielsen J (2014). Improved production of a heterologous amylase in *Saccharomyces cerevisiae* by inverse metabolic engineering. *Appl Environ Microbiol*. 2014 Sep;80(17):5542-50
18. Tyo KE, Liu Z, Magnusson Y, **Petranovic D**, Nielsen J. (2014). Impact of protein uptake and degradation on recombinant protein secretion in yeast. *Appl Microbiol Biotechnol*. 2014 Aug; 98(16):7149-59.
19. Wanichthanarak K, Cvijovic M, Molt A, **Petranovic D**. (2013) yApoptosis: yeast apoptosis database. *Database (Oxford)*. 2013 Sep 29; 2013.
20. Feizi A, Österlund T, Bordel S, **Petranovic D**, Nielsen J. (2013) Genome-Scale Modeling of the Protein Secretory Machinery in Yeast. *PLoS One*. 2013 May 7; 8(5):e63284.
21. Liu Z, Osterlund T, Hou J, **Petranovic D**, Nielsen J (2013) Anaerobic  $\alpha$ -amylase production and secretion with fumarate as the final electron acceptor in yeast. *Appl Environ Microbiol*. 2013 Feb 22
22. Liu Z, Hou J, Martínez JL, **Petranovic D**, Nielsen J. (2013) Correlation of cell growth and heterologous protein production by *Saccharomyces cerevisiae*. *Appl Microbiol Biotechnol*. 2013 Feb 8
23. Kazemzadeh L., Cvijovic M., **Petranovic D**. (2012) Boolean model of Yeast Apoptosis as a tool to study yeast and human apoptotic regulations. *Front Physiol*. 2012 Dec 10; 3:446.
24. Karlsson F., Fåk F., Nookaew I., Tremaroli V., Fagerberg B., **Petranovic D**., Bäckhed F., and Nielsen J. (2012) Symptomatic atherosclerosis is associated with an altered gut metagenome. *Nat Commun*. 2012 Dec 4; 3 :1245.
25. Hou J, Osterlund T., Zihe L., **Petranovic D**., Nielsen J. (2012) Heat Shock Response Improves Heterologous Protein Secretion in *Saccharomyces cerevisiae*. *Appl Microbiol Biotechnol*. 2012 Dec 4.
26. Tyo KEJ, Liu Z, **Petranovic D**, Nielsen J (2012) Imbalance of heterologous protein folding and disulfide bond formation rates yields runaway oxidative stress. *BMC Biol*. **10**:16
27. Hou J, Tyo KEJ, Liu Z, **Petranovic D**, Nielsen J. Engineering of Vesicle Trafficking Improves Heterologous Protein Secretion in *Saccharomyces cerevisiae*. *Metab Eng*. (2):120-7.
28. Liu Z, Tyo KEJ, Martinez JL, **Petranovic D**, Nielsen J (2012) Differential expression systems for production of recombinant proteins in *Saccharomyces cerevisiae*. *Biotechnol. Bioeng*. **109**:1259-1268
29. Solem C, **Petranovic D**, Koebmann B, Mijakovic I, Jensen PR (2010) Phosphoglycerate Mutase Is a Highly Efficient Enzyme without Flux Control in *Lactococcus lactis*. *J Mol Microbiol Biotechnol*. **18**:174–180.
30. Ruenwai R, Neiss A, Laoteng K, Vongsangnak W, Badoei Dalfard A, Cheevadhanarak S. **Petranovic D**, Nielsen J. (2010) PUFAs in yeast cause a global stress response due to reduced proteasomal activity and increased oxidative stress. *Biotechnol. J*. 2011 Mar; 6(3):343-56.
31. Canelas A. B, Harrison N, Fazio A, Zhang J, Pitkänen J-P, van den Brink J, Bakker B.M., Bogner L, Bouwman J, Castrillo J.I, Cankorur A, Chumnanpuen P, Daran-Lapujade P, Dikicioglu D, van Eunen K,

- Ewald J. C, Heijnen J. J, Kirdar B, Mattila I, Mensonides F. I. C, Niebel A, Penttilä M, Pronk J. T., Reuss M, Salusjärvi L, Sauer U, Sherman D, Siemann-Herzberg M, Westerhoff H, de Winde J, **Petranovic D**, Oliver S. G, Workman C. T, Zamboni N, Nielsen J (2010) Integrated multi-laboratory systems biology reveals 1 differences in protein metabolism between two reference 2 yeast strains. *Nat. Comm.* 2010; 1:145.
32. **Petranovic D**, Grangeasse C, Macek B, Abdillatef M, Gueguen-Chaignon V, Nessler S, Deutscher J, Mijakovic I. (2009) Activation of *Bacillus subtilis* Ugd by the BY-Kinase PtkA Proceeds via Phosphorylation of Its Residue Tyrosine 70. *J Mol Microbiol Biotechnol.* 17(2):83-9.
  33. Herrgård MJ, Swainston N, Dobson P, Dunn WB, Arga KY, Arvas M, Blüthgen N, Borger S, Costenoble R, Heinemann M, Hucka M, Le Novère N, Li P, Liebermeister W, Mo ML, Oliveira AP, **Petranovic D**, Pettifer S, Simeonidis E, Smallbone K, Spasić I, Weichart D, Brent R, Broomhead DS, Westerhoff HV, Kirdar B, Penttilä M, Klipp E, Palsson BØ, Sauer U, Oliver SG, Mendes P, Nielsen J, Kell DB. (2008) A consensus yeast metabolic network reconstruction obtained from a community approach to systems biology. *Nat Biotechnol.* 10:1155-60.
  34. Soufi B, Gnad F, Jensen PR, **Petranovic D**, Mann M, Mijakovic I, Macek B. (2008) The Ser/Thr/Tyr phosphoproteome of *Lactococcus lactis* IL1403 reveals multiply phosphorylated proteins. *Proteomics.* 17:3486-93.
  35. Koebmann B, Blank LM, Solem C, **Petranovic D**, Nielsen LK, Jensen PR. (2008) Increased biomass yield of *Lactococcus lactis* during energetically limited growth and respiratory conditions *Biotechnol Appl Biochem.* 50(Pt 1):25-33.
  36. **Petranovic D**, Michelsen O, Zahradka K, Silva C, Petranovic M, Jensen PR, Mijakovic I. (2007) *Bacillus subtilis* strain deficient for the protein-tyrosine kinase PtkA exhibits impaired DNA replication. *Mol Microbiol.* 6: 1797-805.
  37. Mijakovic I, **Petranovic D**, Macek B, Cepo T, Mann M, Davies J, Jensen PR, Vujaklija D. (2006) Bacterial single-stranded DNA-binding proteins are phosphorylated on tyrosine. *Nucleic Acids Res.* 5: 1588-96.
  38. Mijakovic I, Musumeci L, Tautz L, **Petranovic D**, Edwards RA, Jensen PR, Mustelin T, Deutscher J, Bottini N. (2005) In vitro characterization of the *Bacillus subtilis* protein tyrosine phosphatase YwqE. *J. Bacteriol.* 10:3384-90.
  39. Mijakovic I, **Petranovic D**, Deutscher J. (2004) How tyrosine phosphorylation affects the UDP-glucose dehydrogenase activity of *Bacillus subtilis* YwqF. *J Mol Microbiol Biotechnol.* 1: 19-25.
  40. **Petranovic D**, Guédon E, Sperandio B, Delorme C, Ehrlich D, Renault P. (2004) Intracellular effectors regulating the activity of the *Lactococcus lactis* CodY pleiotropic transcription regulator. *Mol Microbiol.* 2: 613-21.
  41. **Petranovic D**, Mijakovic I. (2004) Photometric assay for measuring the intracellular concentration of branched-chain amino acids in bacteria. *J Microbiol Methods.* 01:133-6.
  42. Petranović M, Zahradka K, Zahradka D, **Petranović D**, Nagy B, Salaj-Smic E, Petranović D. (2001) Genetic evidence that the elevated levels of *Escherichia coli* helicase II antagonize recombinational DNA repair. *Biochimie.* 83:1041-7.

#### Peer-reviewed review articles

43. Chen X and **Petranovic D** (2016) Role of frameshift ubiquitin B protein in Alzheimer's disease. *Wiley Interdiscip Rev Syst Biol Med.* 2016 Jul;8(4):300-13. doi: 10.1002/wsbm.1340
44. Martínez JL, **Petranovic D**. and Nielsen J. (2015). Heme metabolism in stress regulation and protein production: from Cinderella to a key player, *Bioengineered*, 2016 Apr 2;7(2):112-5. doi: 10.1080/21655979.2015.1126016.
45. Mirisola MG, Braun RJ, **Petranovic D**. (2013). Approaches to study yeast cell aging and death. *FEMS Yeast Res.* 2013 Oct 24

46. Hou J, Tyo KEJ, Liu Z, **Petranovic D**, Nielsen J (2012) Metabolic engineering of recombinant protein production by *Saccharomyces cerevisiae*. *FEMS Yeast Res.* 5:491-510.
47. Martinez JL, Liu L, **Petranovic D**, Nielsen J (2012) Pharmaceutical protein production by yeast: towards production of human blood proteins by microbial fermentation. *Curr Opin Biotechnol.* 6:965-71
48. Munoz AJ, Wanichathanarak K, Meza E, **Petranovic D** (2012) Systems biology of yeast cell death. *FEMS Yeast Res.* **12**:249-265
49. Karlsson FH, Nookaew I, **Petranovic D**, Nielsen J (2011) Prospects for systems biology and modeling of the gut microbiome. *Trends Biotechnol.* 2011 Jun;29(6):251-8
50. **Petranovic D**, Tyo K, Vemuri GN, Nielsen J (2010) Prospects of yeast systems biology for human health: integrating lipid, protein and energy metabolism. *FEMS Yeast Res.* Dec;10(8):1046-59
51. **Petranovic D** & Vemuri GN (2009) Impact of yeast systems biology on industrial biotechnology. *J Biotechnol.* 144(3):204-11.
52. **Petranovic D**, Nielsen J. (2008). Can yeast systems biology contribute to the understanding of human disease? *Trends Biotechnol.* **11**:584-90.
53. Soufi B, Jers C, Hansen ME, **Petranovic D**, Mijakovic I. (2008) Insights from site-specific phosphoproteomics in bacteria. *Biochim Biophys Acta.* **1**: 186-92.
54. Mijakovic I, **Petranovic D**, Bottini N, Deutscher J, Ruhdal Jensen P. (2005) Protein-tyrosine phosphorylation in *Bacillus subtilis*. *J Mol Microbiol Biotechnol.* **9** (3-4):189-97.
55. Mijakovic I, **Petranovic D**, Jensen PR. (2005) Tunable promoters in systems biology. *Curr Opin Biotechnol.* **3**: 329-35.

**Editorial**

56. **Petranovic D** & Ganley A. (2014) Yeast cell aging and death. *FEMS Yeast Res.* 2014 Jan 2.