

## Articles in international scientific journals with referee practice

### 2013

1. Hillig F, Annemüller S, Chmielewska M, Pilarek M, Junne S, Neubauer P. 2013. Bioprocess development in single-use systems for heterotrophic marine microalgae. *Chem. Ing. Technik* 85 (1-2), 1-10. DOI: 10.1002/cite.201200143.
2. Junne S, Solymosi T, Oosterhuis N, Neubauer P. 2013. Cultivation of Cells and Microorganisms in Wave-Mixed Disposable Bag Bioreactors at Different Scales. *Chem. Ing. Technik* 85 (1-2), 1-11. DOI: 10.1002/cite.201200149
3. Zhou X, Szeker K, Janocha B, Böhme T, Albrecht D, Mikhailopulo I, Neubauer P. 2013. Recombinant Purine Nucleoside Phosphorylases from Thermophiles: Preparation, Properties and Activity towards Purine and Pyrimidine Nucleosides. *FEBS Journal*. DOI: 10.1111/febs.12143
4. Lyubenova V, Junne S, Ignatova M, Neubauer P. 2013. Software sensor design considering oscillating conditions as present in industrial scale fed-batch cultivations. *Biotechnol Bioengin.* DOI 10.1002/bit.24870.
5. Brognaux A, Thonart P, Delvigne F, Neubauer P, Twizere JC, Francis F, Gorret N. 2013. Direct and indirect use of GFP whole cell biosensors for the assessment of bioprocess performances: design of milliliter scale-down bioreactors. *Biotechnol. Progress* 29(1), 48-59. DOI: 10.1002/btpr.1660
6. Palela M, Bahrim G, Glazyrina J, Brand E, Neubauer P. 2013. Enzyme-based glucose delivery: a possible tool for biosorbent preparation for heavy metal removal from polluted environments. *Bioprocess Biosystems Engineering*. DOI: 10.1007/s00449-013-0934-2.

### 2012

7. Pilarek M, Brand E, Hillig F, Krause M, Neubauer P. 2012. Enhanced plasmid production in miniaturized high-cell-density cultures of *Escherichia coli* supported with perfluorinated oxygen carrier. *Bioprocess Biosyst Eng.* DOI number: 10.1007/s00449-012-0861-7.
8. K Szeker, X Zhou, T Schwab, A Casanueva, D Cowan, IA Mikhailopulo, P Neubauer. 2012. Comparative investigations on thermostable pyrimidine nucleoside phosphorylases from *Geobacillus thermoglucosidarius* and *Thermus thermophilus*. *J Molec Catalysis B: Enzymatic.* 84, 27-34.
9. Brognaux A, Neubauer P, Twizere JC, Thonart P, Delvigne F. 2012. Potentiality of using microbial biosensors for the detection of substrate heterogeneities and the assessment of microbial viability in industrial bioreactors: a complete set of experiments in chemostat and scale down reactors, and elaboration of a mini scale-down platform. *Communications in agricultural and applied biological sciences.* 77(1): 3-7.
10. Glazyrina J, Krause M, Junne S, Glauche F, Storm D, Neubauer P. 2012. Glucose-limited high cell density cultivations from small to pilot plant scale using an enzyme controlled glucose delivery system. *New Biotechnol.* 29 (2), 235-242.
11. Liedert C, Peltola M, Bernhardt J, Neubauer P, Salkinoja-Salonen M. 2012. Physiology of resistant *Deinococcus geothermalis* bacterium aerobically cultivated in low manganese medium. *J. Bacteriol.* 194 (6), 1552-1561.
12. Grimm T, Grimm M, Klat R, Neubauer A, Palela M, Neubauer P. 2012. Enzyme based glucose delivery as a high content screening tool in yeast-based whole cell biocatalysis. *Appl. Microbiol. Biotechnol.* 94(4), 931-937.
13. Vuosku J, Suorsa M, Ruottinen M, Sutela S, Muilu-Makela R, Julkunen-Tiitto R, Sarjala T, Neubauer P, Häggman H. 2012. Polyamine metabolism during exponential growth transition in Scots pine embryogenic cell culture. *Tree physiology* 32 (10), 1274-1287, doi: 10.1093/treephys/tps088
14. Riedel H, Akumo DN, Thaw Saw NMM, Kütük O, Neubauer P, Smetanska I. 2012. Elicitation and Precursor Feeding Influence Phenol Acids Composition in *Vitis vinifera* Suspension Culture. *African J Biotechnol.* 11(12), 3000-3008.

15. Riedel H, Akumo DN, Saw NMMT, Smetanska I, Neubauer P. 2012. Investigation of phenolic acids in suspension cultures of *Vitis vinifera* stimulated with indanoyl-isoleucine, N-linolenoyl-L-glutamine, malonyl coenzyme A and insect saliva. *Metabolites* 2 (1), 165-177; doi:10.3390/metabo2010165.

## 2011

16. Soini J, Ukkonen K, Neubauer P. 2011. Accumulation of amino acids deriving from pyruvate in *Escherichia coli* W3110 during fed-batch cultivation in a two-compartment scale-down bioreactor. *Adv Biosci Biotechnol* 2 (5): 336-339.
17. Delvigne F, Brognaux A, Gorret N, Neubauer P., Delafosse A, Collignon ML, Tøye D, Crine M, Boxus M, Thonart P. 2011. Characterization of the response of GFP microbial biosensors sensitive to substrate limitation in scale-down bioreactors. *Biochem Engin J* 55(2), 131-139.
18. Ukkonen K, Vasala A, Ojamo H, Neubauer P. 2011. High-yield production of biologically active recombinant protein in shake flask culture by combination of enzyme-based glucose delivery and increased oxygen transfer. *Microb Cell Fact* 10: 107.
19. Taskila S, Osmekhina E, Tuomola M, Ruuska J, Neubauer P. 2011. Modification of buffered peptone water for improved recovery of heat injured *Salmonella Typhimurium* in minced meat. *J Food Sci.* 76 (3), M157-M162.
20. Khatri NK, Gocke D, Polyarush SV, Trentmann O, Neubauer P., Hoffmann F. 2011. Shortening the lag-phase of protein secretion by recombinant *Pichia pastoris*. *Biotech J.* 6 (4), 452-462.
21. Sillankorva S., Kluskens LD, Ligohr EJ, Kropinski AM, Neubauer P., Azeredo J. 2011. Complete genome sequence of the lytic *Pseudomonas fluorescens* phage  $\phi$ IBB-PF7A. *Virology Journal.* 8:142.
22. Šiurkus J, Neubauer P. 2011. Reducing conditions are the key for efficient production of active ribonuclease inhibitor in *Escherichia coli*. *Microb Cell Fact.* 10:31.
23. Tegel H, Yderland L, Boström T, Eriksson C, Ukkonen K, Vasala A, Neubauer P., Ottosson J, Hober S. 2011. Production and verification of protein products using a novel high-throughput screening method. *Biotechnol. J.* 6 (8), 1018-1025.
24. Pilarek M, Glazyrina J, Neubauer P. Enhanced growth and recombinant protein production of *Escherichia coli* by a perfluorinated oxygen carrier in miniaturized fed-batch cultures. *Microb Cell Fact.* 10:50.
25. Šiurkus J, Neubauer P. 2011. Heterologous production of active Ribonuclease Inhibitor in *Escherichia coli* by redox state control and chaperonin coexpression. *Microb Cell Fact.* 10:65.
26. Glazyrina J, Materne E, Hillig F, Neubauer P., Junne S. 2011. Two-compartment method for determination of the oxygen transfer rate with electrochemical sensors based on sulfite oxidation. *Biotech J.* 6 (8), 1003-1008.
27. Junne S, Klingner A, Kabisch J, Schweder T, Neubauer P. 2011. Characterization of a two-compartment bioreactor system for bioprocess scale-down at the example of *Bacillus subtilis* fed-batch cultivations. *Biotech J.* 6 (8), 1009-1017.
28. Szeker K, Niemitalo O, Castelejin MG, Juffer AH, Neubauer P. 2011. High-temperature cultivation and 5' mRNA optimization are key factors for the efficient overexpression of thermostable *Deinococcus geothermalis* purine nucleoside phosphorylase in *Escherichia coli*. *J. Biotechnol.* 156 (4), 268-274
29. Sillankorva S, Pires D, Oliveira H, Neubauer P., Azeredo J. 2011. The influence of *P. fluorescens* cell morphology on the lytic performance and production of phage  $\phi$ IBB-PF7A (CMB-11-04-0370). *Current Microbiology* 63, 4, 347-353.

## 2010

30. S Taskila, M Tuomola, J Kronlöf, P Neubauer. 2010. Comparison of enrichment media for routine detection of beer spoiling lactic acid bacteria and development of trouble-shooting medium for *Lactobacillus backi*. *J. Inst. Brew.* 116 (2) 151-156.
31. Šiurkus J, Panula-Perälä J, Horn U, Kraft M, Rimšeliene R, Neubauer P. 2010. Novel approach of high cell density recombinant bioprocess development: Optimisation and scale-up from microlitre to pilot scales while maintaining the fed-batch cultivation mode of *E. coli* cultures. *Microb Cell Fact.* 9:35.

32. Jürgen B, Breitenstein B, Urlacher V, Büttner K, Lin H, Hecker M, Schweder T, Neubauer P. 2010. Quality control of inclusion bodies in *E. coli*. *Microb Cell Fact.* 9:41.
33. Krause M, Ukkonen K, Haataja T, Ruottinen M, Glumoff T, Neubauer A, Neubauer P., Vasala A. 2010. A novel fed-batch based cultivation method provides high cell-density and improves yield of soluble recombinant proteins in shaken cultures. *Microb Cell Fact.* 9:11.
34. Liedert C, Bernhardt J, Albrecht D, Voigt B, Hecker M, Salkinoja-Salonen M, Neubauer P. 2010. Two-dimensional proteome reference map for the radiation-resistant bacterium *Deinococcus geothermalis*. *Proteomics* 10 (3):555-563.
35. Glazyrina J, Materne EM, Dreher T, Storm D, Junne S, Adams T, Greller G, Neubauer P. 2010. High cell density cultivation and recombinant protein production with *Escherichia coli* in a rocking-motion-type bioreactor. *Microb Cell Fact.* 9:42.
36. Osmekhina E., Neubauer, A., Klinzing K., Myllyharju J., Neubauer P. 2010. Sandwich ELISA for active collagen prolyl 4-hydroxylase. *Microb Cell Fact.* 9:48.
37. Salin M, Kapetanidou EG, Vaismaa M, Lajunen M, Casteleijn MG, Neubauer P., Salmon L, Wierenga RK. 2010. Crystallographic binding studies with an engineered monomeric variant of triosephosphate isomerase. *Acta Cryst. D*66, 934-944.
38. Wilmes B, Hartung A, Lalk M, Liebeke M, Schweder T, Neubauer P. 2010. Fed-batch process for the psychrotolerant marine bacterium *Pseudoalteromonas haloplanktis*. *Microb Cell Fact* 9:72.
39. Sillankorva S., Neubauer P., Azeredo J. 2010. Phage control of dual species biofilms of *Pseudomonas fluorescens* and *Staphylococcus lentus*. *Biofouling* 26(5), 567-575.

#### 2009

40. Cruz Bournazou MN, Arellano-Garcia H, Schöneberger JC, Junne S, Neubauer P., Wozny G. 2009. A Novel Approach to Mechanism Recognition in *Escherichia coli* Fed-batch Fermentations. *Computer Aided Chemical Engineering* 27, Pages 651-656
41. Taskila S., Neubauer P., Tuomola M., Breitenstein A., Kronlöf J., Hillukkala T. 2009. Improved Enrichment Cultivation of Beer Spoiling Lactic Acid Bacteria by Continuous Glucose Addition to the Culture. *J. Inst. Brew.* 115(3), 177–182.
42. György Z., Jaakola L., Neubauer P., Hohtola A. 2009. Isolation and genotype-dependent, organ-specific expression analysis of a *Rhodiola rosea* cDNA encoding tyrosine decarboxylase. *J Plant Physiol* 166 (14), 1581-1596.

#### 2008

43. Alahuhta M., Salin M., Casteleijn M.G., Kemmer C., El-Sayed I., Augustyns K., Neubauer P., Wierenga R.K. 2008. Structure-based protein engineering efforts with an inactive monomeric TIM variant: the importance of a single point mutation for generating a competent active site. *Prot Eng Des Sel* 21(4), 257-266.
44. Alahuhta M., Casteleijn M.G., Neubauer P., Wierenga R.K. 2008. The A178L mutation in the C-terminal hinge of the flexible loop-6 of dimeric and monomeric TIM favours the closed active site geometry. *Acta Crystallogr D Biol Crystallogr.* 64 (Pt2), 178-188.
45. Ruottinen M., Bollok M., Kögler M., Neubauer A., Krause M., Hämäläinen E.R., Myllyharju J., Vasala A., Neubauer P. 2008. Improved production of human type II procollagen in the yeast *Pichia pastoris* in shake flasks by a wireless-controlled fed-batch system. *BMC Biotechnol.* 8:33.
46. Karppinen K., Hokkanen J., Mattila S., Neubauer P., Hohtola A. 2008. Octaketide-producing type III polyketide synthase from *Hypericum perforatum* is expressed in dark glands accumulating hypericins. *FEBS J.* 275 (17), 4329-4342.
47. Soini, J., Ukkonen K., Neubauer, P. 2008. High cell density media for *Escherichia coli* are generally designed for aerobic cultivations – consequences for large-scale bioprocesses and shake flask cultures. *Microbial Cell Factories* 7:26.
48. Nieminen T., Neubauer P., Sivelä S., Vatamo S., Silfverberg P., Salkinoja-Salonen M. 2008. Volatile compounds produced by fungi grown in strawberry jam. *LWT – Food Science and Technology* 41 (10), 2051-2056.
49. Sillankorva S., Neubauer P., Azeredo J. 2008. Isolation and characterization of a T7-like lytic phage for *Pseudomonas fluorescens*. *BMC Biotechnol* 8:80.

50. Sillankorva S., Neubauer P., Azeredo J. 2008. *Pseudomonas fluorescens* biofilms subjected to phage philBB-PF7A. *BMC Biotechnol.* 8:79.
51. Thieme D., Neubauer P., Nies D.H., Grass G. 2008. Sandwich hybridization for mRNA quantification from crude extracts of *Escherichia coli*: sensitive detection of dynamic changes in transcript levels of the copper response. *Appl. Environm. Microbiol.* 74 (24), 7463-7470.
52. Soini J., Falschlehner C., Liedert C., Bernhard J., Vuoristo J., Neubauer P. 2008. Norvaline is accumulated after a down-shift of oxygen in *Escherichia coli* W3110. *Microb Cell Fact.* 7:30.
53. Panula-Perälä J., Siurkus J., Vasala A., Wilmanowski R., Casteleijn M.G., Neubauer P. 2008. Enzyme controlled glucose auto-delivery system for high cell density cultivations in microplates and shake flasks. *Microb Cell Fact* 7:31.

#### 2007

54. Neubauer A., Soini J., Bollok M., Zenker M., Sandquist J., Myllyharju J., Neubauer P. 2007. Fermentation process for tetrameric human collagen prolyl 4-hydroxylase in *Escherichia coli*: Improvement by gene optimisation of the  $\beta$ -subunit and repeated addition of the inducer anhydrotetracycline. *J. Biotechnol.* 128 (2), 308-321.
55. Huhtamella S., Leinonen M., Nieminen T., Myllykoski L., Fahnert B., Breitenstein A., Neubauer P. 2007. RNA based sandwich hybridisation method for detection of lactic acid bacteria in brewery samples. *J. Microbiol. Methods.* 68 (3), 543-553.
56. Pakarinen J., Nieminen T., Tirkkonen T., Tsitko I., Ali-Vehmas T., Neubauer P., Salkinoja-Salonen M.S. 2007. Proliferation of Mycobacteria in Piggery Environment revealed by Mycobacterium-specific Real-time Quantitative PCR and 16S rRNA Sandwich Hybridization. *Vet. Microbiol.* 120 (1-2), 105-112.
57. Łoś M., Golec P., Łoś J.M., Węglewska-Jurkiewicz A., Czyż A., Węgrzyn A., Węgrzyn G., Neubauer P. 2007. Effective inhibition of lytic development of bacteriophages lambda, P1 and T4 by starvation of their host, *Escherichia coli*. *BMC Biotechnology* 7:13.
58. Resina D., Bollok M., Kahtri N.K., Valero F., Neubauer P., Ferrer P. 2007. Transcriptional response of *Pichia pastoris* in fed-batch cultivations to *Rhizopus oryzae* lipase production reveals UPR induction. *Microb. Cell Fact.* 6:21.

#### 2006

59. Kemmer C., Neubauer P. 2006. Antisense RNA based down-regulation of RNase E in *E. coli*. *Microb. Cell Fact.* 5:38.
60. Neubauer P., Mathiszik B., Łoś M. 2006. Simulation tool for estimation of optimal bacterial growth rate to reduce effects caused by bacteriophages. In: Węgrzyn, G. (ed.) *Modern Bacteriophage Biology and Biotechnology*. Research Signpost 37/661(2), Fort P.O., Trivandrum-695 023, Kerala, India. 153-164.
61. Nieminen T., Pakarinen J., Salkinoja-Salonen M., Ali-Vehmas T., Breitenstein A., Neubauer P. 2006. Direct quantification of mycobacterial ribosomal RNA and DNA in humic and non humic soils. *J. Microbiol. Methods.* 67 (1), 44-55.
62. Vasala A., Panula J., Bollok M., Iilman L., Hälsig C., Neubauer P. 2006. A new wireless system for decentralised measurement of physiological parameters from shake flasks. *Microbial Cell Factories* 5:8.
63. Saarimaa C., Peltola M., Raulio M., Neu T., Salkinoja-Salonen M.S., Neubauer P. 2006. Characterisation of adhesion threads of *Deinococcus geothermalis*. *J. Bacteriol.* 188 (19), 7016-7021.
64. M. G. Casteleijn, M. Alahuhta, K. Gröbel, K. Augustyns, A.-M. Lambeir, P. Neubauer, R. K. Wierenga. 2006. The functional role of the conserved active site proline of triosephosphate isomerase. *Biochemistry* 45 (51) 15483 - 15494.
65. Karppinen K., György Z., Rautiainen M., Tolonen A., Jalonen J., Neubauer P., Hohtola A., Häggman H. 2006. *In vitro* propagation of *Hypericum perforatum* L. and accumulation of hypericins, pseudohypericins and phloroglucinols. *Propagation of Ornamental Plants* 6, 170-179.

2005

66. Neubauer A., Neubauer P., Myllyharju J. 2005. High-level production of human collagen prolyl 4-hydroxylase tetramer in *Escherichia coli*. *Matrix Biology* 24 (1), 59-68.
67. Lethanh H., Neubauer P., Hofmann F. 2005. The small heat-shock proteins IbpA and IbpB reduce the stress load of recombinant *Escherichia coli* and delay degradation of inclusion bodies. *Microbial Cell Factories* 4:6.
68. Leskelä T., Tilsala-Timisjärvi A., Kusnetsov J., Neubauer P., Breitenstein A. 2005. Rapid and sensitive genus specific detection of *Legionella* by a 16S rRNA based sandwich hybridization assay. *J. Microbiol. Methods* 62(2), 167-179.
69. Vasala A., Panula J. Neubauer P. 2005. Efficient lactic acid production from high salt containing dairy by-products by *Lactobacillus salivarius* ssp. *salicinius* with pre-treatment by proteolytic microorganisms. *J. Biotechnol.* 117 (4), 421-431.
70. Niemitalo O., Neubauer A., Liebal U., Myllyharju J., Juffer A.H., Neubauer P. 2005. Modelling of Translation of Human Protein Disulfide Isomerase in *Escherichia coli*. *J. Biotechnol.* 120 (1) 11-24.
71. Soini J., Falschlehner C., Mayer C., Böhm D., Panula J., Vasala A., Weinel S., Neubauer P. 2005. Transient increase of ATP as a response to temperature up-shift in *Escherichia coli*. *Microbial Cell Factories*, 4:9.
72. Fernandes A.P., Fladvad M., Berndt C., Lillig C.H., Sunnerhagen M., Neubauer P., Holmgren A., Vlamis-Gardikas A. 2005. A putative monothiol glutaredoxin from *Escherichia coli* can serve as a substrate to thioredoxin reductase. *J. Biol. Chem.* 280 (26), 24544-24552.
73. György Z., Tolonen A., Neubauer P., Hohtola A. 2005. Enhanced biotransformation capacity of *Rhodiola rosea* callus cultures for glycosid production. *Plant Cell, Tissue and Organ Culture* 83, 129-135

2004

74. Fahnert B., Veijola J., Roël G., Kärkkäinen M.K., Railo A., Destrée O., Vainio S., Neubauer P. 2004. Murine Wnt-1 with an internal c-myc-tag recombinantly produced in *Escherichia coli* can induce intracellular signaling of the canonical Wnt pathway in eukaryotic cells. *J. Biol. Chem.* 279 (46), 47520-47527.
75. Lin H.Y., Hoffmann F., Rozkov A., Enfors S.O., Rinas U., Neubauer P. 2004. Change of extracellular cAMP concentration is a sensitive reporter for bacterial fitness in high-cell-density cultures of *Escherichia coli*. *Biotechnol. Bioeng.* 87, 602-613.
76. György Z., Tolonen A., Neubauer P., Hohtola A. 2004. Enhancement of the production of cinnamyl glycosides in CCA cultures of *Rhodiola rosea* through biotransformation of cinnamyl alcohol. *Plant Science* 166 (1), 229-236.
77. Gabig-Ciminska M., Holmgren A., Andresen H., Bundvig Barken K., Wümpelmann M., Albers J., Hintsche R., Breitenstein A., Neubauer P., Los M., Czyz A., Węgrzyn G., Silversparre G., Jürgen B., Schweder T., Enfors S.O. 2004. Electric chips for rapid detection and quantification of nucleic acids. *Biosensors and Bioelectronics* 19 (6), 537-546.
78. Łoś M., Czyż A., Sell E., Węgrzyn A., Neubauer P., Węgrzyn G. 2004. Bacteriophage contamination: is there a simple method to reduce its deleterious effects in laboratory cultures and biotechnological factories? *J. Appl. Genetics.* 45 (1), 61-70.
79. Tolonen A., György-Benyone Z., Jalonen J., Neubauer P., Hohtola A. 2004. LC/MS/MS identification of glycosides produced by biotransformation of cinnamyl alcohol in *Rhodiola rosea* compact callus aggregates. *Biomed. Chromatography.* 18 (8), 550-558.

2003

80. Sandén A.M., Prytz I., Tubulekas I., Förberg C., LeThanh H., Hektor A., Neubauer P., Pragai Z., Harwood C., Ward A., Picon A., Teixeira de Mattos J., Postma P., Farewell A., Nyström T., Reeh S., Pedersen S., Larsson G. 2003. Limiting factors in *Escherichia coli* fed-batch production of recombinant proteins. *Biotechnol. Bioeng.* 81 (2), 158-166.
81. Neubauer P., Lin H.Y., Mathiszik B. 2003. Metabolic load of recombinant protein production: Inhibition of cellular capacities for glucose uptake and respiration after induction of heterologous genes in *Escherichia coli*. *Biotechnol. Bioeng.* 83 (1), 53-64.

82. Viitanen M.I., Vasala A., Neubauer P., Alatosavaa T. 2003. Cheese whey-induced high-cell density production of recombinant proteins in *Escherichia coli*. *Microbial Cell Factories* 2(2), 1-15.
83. Rautio J., Barken K.B., Lahdenperä J., Breitenstein A., Molin S., Neubauer P. 2003. Sandwich hybridisation assay for quantitative detection of yeast RNAs in crude cell lysates. *Microbial Cell Factories*. 2(4), 1-9.
84. Los M., Węgrzyn G., Neubauer P. 2003. A role for bacteriophage T4 *rl* gene function in the control of phage development during pseudolysogeny and in slowly growing host cells. *Res. Microbiol.* 154(8), 547-552.

#### 2002

85. Schweder T., Lin H.Y., Jürgen B., Breitenstein A., Riemschneider S., Khalameyzer V., Gupta A., Buettner K., Neubauer P. 2002. Role of the general stress response during strong overexpression of a heterologous gene in *Escherichia coli*. *Appl. Microbiol. Biotechnol.* 58 (3), 330-337.
86. Potamitou A., Neubauer P., Holmgren A., Vlamis-Gardikas A. 2002. Expression of *Escherichia coli* glutaredoxin 2 is mainly regulated by ppGpp and sigma factor S. *J. Biol. Chem.* 277(20), 17775-17780.

#### 2001

87. Lin H.Y., Mathiszik B., Xu B., Enfors S.O., Neubauer P. 2001. Determination of the maximum specific uptake capacities for glucose and oxygen in glucose limited fed-batch cultivations of *Escherichia coli*. *Biotechnol. Bioeng.* 73 (5), 347-357.
88. Enfors S.O., Jahic M., Rozkov A., Xu B., Hecker M., Jürgen B., Krüger E., Schweder T., Hamer G., O'Beirne D., Noisommit-Rizzi N., Reuss M., Boone L., Hewitt C., McFarlane C., Nienow A., Kovacs T., Trägårdh C., Fuchs L., Revstedt J., Friberg P.C., Hjertager B., Blomsten G., Skogman H., Hjort S., Hoeks F., Lin H.Y., Neubauer P., van der Lans R., Luyben K., Vrabel P., Manelius A. 2001. Physiological responses to mixing in large scale bioreactors. *J. Biotechnol.* 85 (2), 185-185.
89. Lin H.Y., Hanschke R., Nicklisch S., Nietsche T., Jarchow R., Schwahn C., Riemschneider S., Meyer S., Gupta A., Hecker M., Neubauer P. 2001. Cellular responses to strong overexpression of recombinant genes in *Escherichia coli* DNA relaxation and cell death after induction of alpha-glucosidase. In: O.-W. Merten, D. Mattanovich, C. Lang, G. Larsson, P. Neubauer, D. Porro, P. W. Postma, J. Teixeira de Mattos and J. Cole (Eds). *Recombinant Protein Production with prokaryotic and eukaryotic cells. A comparative view on host physiology*. Kluwer Academic Publisher, Dordrecht, The Netherlands, pp. 55-74.

#### 2000

90. Lin H.Y., Neubauer P. 2000. Influence of controlled glucose oscillations on a recombinant fed-batch process of *Escherichia coli*. *J. Biotechnol.* 79, 27-37.
91. Jürgen B., Lin H.Y., Riemschneider S., Scharf C., Neubauer P., Schmid R., Hecker M., Schweder T. 2000. Monitoring of genes that respond to overproduction of an insoluble recombinant protein in *Escherichia coli* glucose-limited fed-batch fermentations. *Biotechnol Bioeng.* 70(2), 217-224.
92. Winter J., Neubauer P., Glockshuber R., Rudolph R. 2000. Increased production of proinsulin in the periplasmic space of *Escherichia coli* by fusion to DsbA. *J. Biotechnol.*, 84(2), 175-185.

#### 1990 – 1999

93. Teich A., Meyer S., Lin H.Y., Andersson L., Enfors S.O., Neubauer P. 1999. Growth rate related concentration changes of the starvation response regulators  $\sigma^S$  and ppGpp in glucose limited fed-batch and continuous cultures of *Escherichia coli*. *Biotechnol. Progress* 15 (1), 123-129.
94. Slominska M., Neubauer P., Węgrzyn G. 1999. Regulation of bacteriophage  $\lambda$  development by guanosine 5'-diphosphate-3'-diphosphate. *Virology*, 262, 431-441.
95. Meyer S., Noisommit-Rizzi N., Neubauer P. 1999. Optimised analysis of intracellular adenosine and guanosine phosphates in *Escherichia coli*. *Anal. Biochem.* 271, 43-52.

96. Teich A., Lin H.Y., Andersson L., Meyer S., Neubauer P. 1998. Amplification of ColE1 related plasmids in recombinant cultures of *Escherichia coli* after IPTG induction. J. Biotechnol. 64, 197-210.
97. Fischer D., Teich A., Neubauer P., Hengge-Aronis R. 1998. The general sigma factor  $\sigma^S$  of *Escherichia coli* is induced during the diauxic shift from glucose to lactose. J. Bacteriol. 180 (23), 6203-6206.
98. Büttner K., Pich A., Neubauer P., Schmid R., Bahl H., Hecker M. 1997. Copurification of ribosomal protein S2 and DNA-dependent RNA polymerase from heat-shocked cells of *Bacillus subtilis*. J. Basic Microbiol. 37 (1), 3-9.
99. Andersson L., Yang S., Neubauer P., Enfors S.O. 1996. Impact of plasmid presence and induction on cellular responses of *Escherichia coli*. J. Biotechnol. 46, 255-263.
100. Neubauer P., Wróbel B., Węgrzyn G. 1996. DNA degradation at elevated temperatures after plasmid amplification in amino acid-starved *Escherichia coli* cells. Biotechnol. Lett. 18 (3), 321-326.
101. Neubauer P., Häggström L., Enfors S.O. 1995. Influence of substrate oscillations on acetate formation and growth yield in *E. coli* glucose limited fed-batch fermentations. Biotechnol. Bioeng. 47, 139-146.
102. Neubauer P., Åhman M., Törnkvist M., Larsson G., Enfors S.O. 1995. Response of guanosine tetraphosphate to glucose fluctuations in fed-batch cultivations of *Escherichia coli*. J. Biotechnol. 43, 195-204.
103. Neubauer P., Hofmann K. 1994. Efficient use of lactose for the lac promoter controlled overexpression of the main antigenic protein of the Foot and Mouth Disease Virus in *E. coli* under fed-batch fermentation conditions. FEMS Microbiol. Rev. 14, 39-44.
104. Neubauer P., Hofmann K., Holst O., Mattiasson B. 1992. Maximizing the expression of recombinant genes in *Escherichia coli* by manipulation of induction time using lactose as inducer. Appl. Microbiol. Biotechnol. 36 (6), 739-744.
105. Schweder T., Schmidt I., Herrmann H., Neubauer P., Hecker M., Hofmann K. 1992. An expression vector system providing plasmid stability and conditional suicide of plasmid-containing cells. Appl. Microbiol. Biotechnol., 38, 91-93.
106. Węgrzyn G., Neubauer P., Krüger S., Hecker M., Taylor K. 1991. Stringent control of replication of plasmids derived from coliphage  $\lambda$ . Mol. Gen. Genet. 225, 94-98.
107. Neubauer P., Wolff C., Hecker M., Hofmann K., Meyer L., Kruschke P., Heinrich H.W. 1991. Induction of the *tac*-promoter by lactose under fermentation conditions. Acta Biotechnol. 11 (1), 23-29.
108. Hofmann K., Neubauer P., Riethdorf S., Hecker M. 1990. Amplification of pBR322 plasmid DNA in *E. coli relA* strains during batch and fed-batch fermentation. J. Basic Microbiol. 30 (1), 37-41.
109. Neubauer P., Hofmann K., Riethdorf S., Hecker M. 1990. Verfahren zur Produktion von ColE1-verwandten Plasmiden. Acta Biotechnol. 10 (3), 303-305.

## Monographs

1. Oosterhuis NMG, Neubauer P., Junne S. 2013. Single-use bioreactors for microbial cultivation. Pharmaceutical Bioprocessing. In press.
2. Neubauer P., Cruz MN, Glauche F, Junne S, Knepper A, Raven M. 2013. Consistent development of recombinant bioprocesses from microliter cultures to the industrial scale. Engin Life Sci. DOI:10.1002/elsc.201200021.
3. Junne S, Klingner A, Itzeck D, Brand E, Neubauer P. 2012. Consistency of scale-up from bioprocess development to production. In "Biopharmaceutical Production Technology" Vol. 2. G Subramanian (ed.). Wiley VCH Weinheim. Pp. 513-543.
4. Brand E, Ralla K, Neubauer P. 2012. Strategies for Plasmid DNA Production in *Escherichia coli*. In "Biopharmaceutical Production Technology" Vol. 1. G Subramanian (ed.). Wiley VCH Weinheim. Pp. 3-41.
5. Neubauer P. 2011. Towards faster bioprocess development. Biotechnol J. 6 (8), 902-903.

6. Pilarek M, Neubauer P., Marx U. 2011. Biological cardio-micro-pumps for microbioreactors and analytical micro-systems. *Sensors and Actuators B: Chemical* 156, 517-526.
7. Schmid A., Neubauer P. 2010. Analytical biotechnology: from single molecule and single cell analyses to population dynamics of metabolites and cells. *Curr Opin in Biotechnol* 21:1-3.
8. Neubauer P., Junne S. 2010. Scale-down simulators for metabolic analysis of large-scale bioprocesses. *Curr Opin Biotechnol* 21:114–121.
9. Neubauer P., Fahnert B., Lilie H., Villaverde A. 2006. Protein inclusion bodies in recombinant bacteria. In: *Microbiology monographs: Inclusions in Prokaryotes*, vol. 1: Prokaryotic Inclusions Resulting From Imbalanced Growth. Chapter 9. Shively, J.M. (ed.), Springer Verlag. 237-292.
10. Käsäkoski M., Kurkinen M., von Weymarn N., Niemelä P., Neubauer P., Juuso E., Eerikäinen T., Turunen S., Aho S., Suhonen P. 2006. Process analytical technology (PAT) - needs and applications in the bioprocess industry. VTT Working Papers 60, 1459-7683 (URL: <http://www.vtt.fi/publications/index.jsp>). VTT Technical Research Centre of Finland. Espoo, 2006. 99 pages.
11. Rosilainen T., Breitenstein A., Tilsala A., Kusnetsov J., Salkinoja-Salonen M., Neubauer P. 2005. Pathogenic *Legionella* in water systems: novel detection methods and tools for combating. In: Jalkanen, A., Nygren P. (eds.) *Sustainable use of renewable natural resources - from principles to practices*. University of Helsinki, Department of Forest Ecology Publications 34. e-publication <http://www.helsinki.fi/mmtkd/mmeko/sunare>
12. Hohtola A., Jalonen J., Tolonen A., Jaakola L., Kämäräinen T., Pakonen M., Karppinen K., Laine K., Neubauer P., Myllykoski L., György Z., Rautio A., Pelkonen O. 2005. Natural product formation by plants; enhancement, analysis, processing and testing. In: Jalkanen A., Nygren P. (eds.) *Sustainable use of renewable natural resources - from principles to practices*. University of Helsinki, Department of Forest Ecology Publications 34. e-publication <http://www.helsinki.fi/mmtkd/mmeko/sunare>
13. Schweder T., Neubauer P. 2005. Bioprocess Analysis. *Encyclopedia of Analytical Science* volume 2e. Academic Press. Elsevier. 337-343.
14. Fahnert B., Lilie H., Neubauer P. 2004. Inclusion bodies: Formation and utilisation. In: Enfors S.O. (ed.) *Physiological stress responses in bioprocesses*. *Advances in Biochemical Engineering/Biotechnology* 89, 93-142.
15. Neubauer P., Winter J. 2001. Expression and fermentation strategies for recombinant protein production in *Escherichia coli*. In: O.-W. Merten, D. Mattanovich, C. Lang, G. Larsson, P. Neubauer, D. Porro, P. W. Postma, J. Teixeira de Mattos and J. Cole (Eds). *Recombinant Protein Production with prokaryotic and eukaryotic cells. A comparative view on host physiology*. Kluwer Academic Publisher, Dordrecht, The Netherlands. pp. 196-260.

## Patents

1. Siurkus J, Neubauer P. 2011. Protein production. UK Appl. No. 1101794.4. 2.2.2011, Applicant: Fermentas UAB
2. Pilarek M, Neubauer P. 2010. Method for increasing the expression of a recombinant protein and plasmid yield in an eukaryotic or prokaryotic high cell density culture. EP10168159. Filing date 01.07.2010.
3. Neubauer P., Neubauer A, Vasala A. 2009. Enzyme-based fed-batch in liquid cultures. EP 09154440.3.
4. Neubauer P., Golson, R., Vasala, A. 2008. Method for the supply of growth components to cell cultures, Appl. EP 08 157 594.6, PCT/EP2009/056861, Filing date 04.06.2008.
5. Vasala A., Neubauer P., Panula J. 2007. Method for controlling the growth of cell culture. PCT application PCT/FI2007/050648, Filing date 29.11.2007, Priority date: 30.11.2006.
6. Vasala A., Neubauer P., Panula J., Casteleijn M., Lajunen M. 2006. Method for controlling the growth of cell culture. Finnish Patent application FI20065762. Filing date: 30.11.2006.
7. Fahnert B., Veijola J., Neubauer P., Destrée O., Vainio S. 2005. Process for producing active Wnt proteins in prokaryotes. PCT application/FI2005/000290.



8. Fahnert B., Veijola J., Neubauer P. 2004. Process for producing active Wnt proteins in prokaryotes. Finnish Patent application FI 20040842.
9. Breitenstein A., Neubauer P., Rosilainen T. 2004. Method for the detection of the Legionella-type bacteria. PCT int. appl. PCT/DE 2004/001821, WO 2005/017 194 A2
10. Breitenstein A., Rosilainen T., Neubauer P. 2003. Detektion von Bakterien [Detection of bacteria]. German patent application DE 103 38 123.6-41.
11. Gupta A., Breese K., Bange G., Neubauer P. 2001. Enzymatic method for the enantioselective reduction of keto compounds. Patent no. WO02086126, EP1383899, DE10119274, US2004265978, Priority 15.4.02., (AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR US). Neubauer P., Lin H.-Y. 1999. Verfahren zur Steigerung der Ausbeute von rekombinanten Proteinen in mikrobiellen Fermentationsprozessen. [Process to increase the yield of recombinant proteins in microbial fermentation processes.] Appl. No. HK20030104274 20030616, Patent Numbers. DE19991043919 19990914; WO2000EP08984 20000913
13. Neubauer P., Bode R., Petzoldt H., Wricke B., Lange K.P., Schauer F. 1988. Process for the microbial elimination of higher molecular impurities in water. Patent DD 278 917 A3, WP C 02 F/311 722 2.
14. Eichhorn D., Hofmann K., Neubauer P., Petzoldt H., Wricke B., Schauer F., Bode R. 1987. Process for the elimination in ground water of higher molecular impurities in drinking water. Patent DD 268 019 A1, WP E03 B/311 721 4.

## Articles in non-peer-reviewed international journals

1. Neubauer P, Siurkus J, Junne S, Glazyrina J. 2012. Intelligente Wachstumsmedien mit kontrollierter Substratfreisetzung. Biospektrum 18 (2), 162-164.
2. D Eibl, R Eibl, P Köhler, A Koch, I Pahl, M Tanner, J Kubischik, K Behrend, D Eisenkrätzer, T Peuker, J Kauling, W Meusel, P Kampeis, D Müller, L Böttcher, D Frense, G Jobst, I Moser, H Müller, T Nacke, K Preuß, D Tillich, H Weichert, K Muffler, P Neubauer, R Pörtner, R Ulber. 2011. STATUSPAPIER DES TEMPORÄREN ARBEITSKREISES Single-Use-Technologie in der biopharmazeutischen Produktion.  
[http://biotech.dechema.de/biotech\\_media/Downloads/StatPap\\_SingleUse\\_2011.pdf](http://biotech.dechema.de/biotech_media/Downloads/StatPap_SingleUse_2011.pdf)
3. Neubauer P. 2010. Biochemical engineering taking the challenge: advanced methods for development of industrial scale bioprocesses. Biofuels (ISSN 1759-7269). 1 (3), 381-383.
4. Neubauer A, Golson R, Ukkonen K, Krause M, Tegel H, Ottosson J, Larsen MW, Hult K, Neubauer P., Vasala A. 2009. Controlling Nutrient Release in Cell Cultivation. Genetic Engin & Biotechnol News 29 (11), 50-51.
5. Neubauer P., Golson R, Neubauer A, Panula-Perälä J, Vasala A. 2009. Controlled growth in shaken culture - Applying bioprocessing basics at the small scale. BioForum Europe 5, 30-31.
6. Neubauer P., Mursula A. 2005. Biotechnology - 12th European Congress (ECB12), Copenhagen, Denmark. IDdb Meeting Report 2005, August 21-24. (no. 621271) Thomson & Scientific.
7. Vasala A, Panula J., Pöykkö E., Hälsig C., Neumann R., Illmann L., Neubauer P. 2004. Langaton tiedonsiirto tuo tehoa bioprosessien seurantaan ja ohjaukseen. [Wireless data transfer for effective monitoring and control of bioprocesses] Kemia-Kemi, 04/2004, 24-25.
8. Illmann L, Neubauer P., Vasala A. 2003. Sensorfunk – Neue Möglichkeiten der Messdatenübertragung. Sensor report 4/2003
9. Jürgen B, Lin HY, Neubauer P., Blomsten G, Hecker M, Schweder T. 1999. Monitoring of genes that respond to overproduction of recombinant proteins. Biotech Int. 11 (3), 12.