Christian Solem - DTU Orbit (08/11/2017)
Solem, Christian
chso@food.dtu.dk
National Food Institute - Associate Professor
Research Group for Microbial Biotechnology and Biorefining

Publications:

A bacterial cell factory for efficient production of ethanol from whey
Jensen, P. R., Liu, J., Solem, C. & Dantoft, S. H. 31 Aug 2017
Publication: Research › Patent – Annual report year: 2017

High-level production of diacetyl in a metabolically engineered lactic acid bacterium
Solem, C., Jensen, P. R. & Liu, J. 13 Apr 2017
Publication: Research › Patent – Annual report year: 2017

A novel genetic tool for metabolic optimization of Corynebacterium glutamicum: efficient and repetitive chromosomal integration of synthetic promoter-driven expression libraries
Publication: Research - peer-review › Journal article – Annual report year: 2017

Finding the Needle in the Haystack-the Use of Microfluidic Droplet Technology to Identify Vitamin-Secreting Lactic Acid Bacteria
Publication: Research - peer-review › Journal article – Annual report year: 2017

Harnessing the respiration machinery for high-yield production of chemicals in metabolically engineered Lactococcus lactis
Publication: Research - peer-review › Journal article – Annual report year: 2017

Metabolic characterization and transformation of the non-dairy Lactococcus lactis strain KF147, for production of ethanol from xylose
Petersen, K. V., Liu, J., Chen, J., Martinussen, J., Jensen, P. R. & Solem, C. 2017 In : Biotechnology Journal. 12, 8, 12 p., 1700171
Publication: Research - peer-review › Journal article – Annual report year: 2017

Micro-organism for the production of stereo-specific s, s-2,3-butanediol
Solem, C., Jensen, P. R., Chen, J. & Liu, J. 23 Jun 2016
Publication: Research › Patent – Annual report year: 2016

Acetoin and 2,3 butanediol isomers synthesis in metabolically engineered Lactococcus lactis
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

A novel cell factory for efficient production of ethanol from dairy waste
Liu, J., Dantoft, S. H., Würtz, A., Jensen, P. R. & Solem, C. 2016 In : Biotechnology for Biofuels. 9, 1, 11 p., 33
Publication: Research - peer-review › Journal article – Annual report year: 2016

Combining metabolic engineering and biocompatible chemistry for efficient production of food ingredients
Liu, J., Solem, C. & Jensen, P. R. 2016
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016
Combining metabolic engineering and biocompatible chemistry for high-yield production of homo-diacetyl and homo-(S,S)-2,3-butanediol
Publication: Research - peer-review › Journal article – Annual report year: 2016

Elucidation of the regulatory role of the fructose operon reveals a novel target for enhancing the NADPH supply in Corynebacterium glutamicum
Publication: Research - peer-review › Journal article – Annual report year: 2016

Integrating biocompatible chemistry and manipulating cofactor partitioning in metabolically engineered Lactococcus lactis for fermentative production of (3S)-acetoin
Liu, J., Solem, C. & Jensen, P. R. 2016 In : Biotechnology and Bioengineering. 113, 12, p. 2744-2748
Publication: Research - peer-review › Journal article – Annual report year: 2016

Stimulation of acetoin production in metabolically engineered Lactococcus lactis by increasing ATP demand
Publication: Research - peer-review › Journal article – Annual report year: 2016

Synthesis of (3R)-acetoin and 2,3-butanediol isomers by metabolically engineered Lactococcus lactis
Kandasamy, V., Liu, J., Dantoft, S. H., Solem, C. & Jensen, P. R. 2016 In : Scientific Reports. 6, 9 p., 36769
Publication: Research - peer-review › Journal article – Annual report year: 2016

Adaptation of Lactococcus lactis to high growth temperature leads to a dramatic increase in acidification rate
Chen, J., Shen, J., Hellgren, L., Jensen, P. R. & Solem, C. 2015 In : Scientific Reports. 5, 15 p., 14199
Publication: Research - peer-review › Journal article – Annual report year: 2015

A New Type of YumC-Like Ferredoxin (Flavodoxin) Reductase Is Involved in Ribonucleotide Reduction
Publication: Research - peer-review › Journal article – Annual report year: 2015

High-level ethanol production by metabolically engineered Lactococcus lactis using economically renewable feedstocks
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Increased expression of pyruvate carboxylase and biotin protein ligase increases lysine production in a biotin prototrophic Corynebacterium glutamicum strain
Publication: Research - peer-review › Journal article – Annual report year: 2014

Acetate Kinase Isozymes Confer Robustness in Acetate Metabolism
Publication: Research - peer-review › Journal article – Annual report year: 2014

Development of droplets-based microfluidic systems for single-cell high-throughput screening
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Elucidating Flux Regulation of the Fermentation Modes of Lactococcus lactis: A Multilevel Study
Estimating biological elementary flux modes that decompose a flux distribution by the minimal branching property
Publication: Research - peer-review › Journal article – Annual report year: 2014

Microbial production of lysine from sustainable feedstock
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Synthetic promoter libraries for Corynebacterium glutamicum
Publication: Research - peer-review › Journal article – Annual report year: 2014

Transforming Lactococcus lactis into a microbial cell factory
Publication: Research › Ph.D. thesis – Annual report year: 2014

Characterization of Lactococcus lactis mutants with improved performance at high temperatures and potential dairy applications
Publication: Research › Ph.D. thesis – Annual report year: 2014

Engineering strategies aimed at control of acidification rate of lactic acid bacteria
Publication: Research - peer-review › Journal article – Annual report year: 2012

Investigation of glycerol assimilation and cofactor metabolism in Lactococcus lactis
Publication: Research › Ph.D. thesis – Annual report year: 2013

Optimization of lysine metabolism in Corynebacterium glutamicum
Publication: Research › Ph.D. thesis – Annual report year: 2014

Oxidative Stress at High Temperatures in Lactococcus lactis Due to an Insufficient Supply of Riboflavin.
Publication: Research - peer-review › Journal article – Annual report year: 2013

Repetitive, Marker-Free, Site-Specific Integration as a Novel Tool for Multiple Chromosomal Integration of DNA
Petersen, K. V., Martinussen, J., Jensen, P. R. & Solem, C. 2013 In : Applied and Environmental Microbiology. 79, 12, p. 3563-3569
Publication: Research - peer-review › Journal article – Annual report year: 2013

Rewiring Lactococcus lactis for Ethanol Production
Solem, C., Dehli, T. I. & Jensen, P. R. 2013 In : Applied and Environmental Microbiology. 79, 8, p. 2512-2518
Publication: Research - peer-review › Journal article – Annual report year: 2013

Tunable promoters in synthetic and systems biology.
Dehli, T., Solem, C. & Jensen, P. R. 2012 In : Sub-cellular biochemistry. 64, p. 181-201
Publication: Research - peer-review › Journal article – Annual report year: 2012
Towards a quantitative prediction of the fluxome from the proteome
Rossell, S., Solem, C., Jensen, P. R. & Heijnen, J. J. 2011 In : Metabolic Engineering. 13, 3, p. 253-262
Publication: Research - peer-review › Journal article – Annual report year: 2011

Metabolic and Transcriptional Response to Cofactor Perturbations in Escherichia coli
Publication: Research - peer-review › Journal article – Annual report year: 2010

Phosphoglycerate Mutase Is a Highly Efficient Enzyme without Flux Control in Lactococcus lactis
Solem, C., Petranovic, D., Købmann, B., Mijakovic, I. & Jensen, P. R. 2010 In : Journal of Molecular Microbiology and Biotechnology. 18, 3, p. 174-180
Publication: Research - peer-review › Journal article – Annual report year: 2010

Co-factor engineering in lactobacilli: Effects of uncoupled ATPase activity on metabolic fluxes in Lactobacillus (L.) plantarum and L. sakei
Rud, I., Solem, C., Jensen, P. R., Axelsson, L. & Naterstad, K. 2008 In : Metabolic Engineering. 10, 5, p. 207-215
Publication: Research - peer-review › Journal article – Annual report year: 2008

Control analysis of the role of triosephosphate isomerase in glucose metabolism in Lactococcus lactis
Solem, C., Købmann, B. J. & Jensen, P. R. 2008 In : I E T Systems Biology. 2, 2, p. 64-72
Publication: Research - peer-review › Journal article – Annual report year: 2008

Increased biomass yield of Lactococcus lactis during energetically limited growth and respiratory conditions
Publication: Research - peer-review › Journal article – Annual report year: 2008

Plasmid pCS1966, a new selection/counterselection tool for strain construction in Lactic Acid Bacteria based on the oroP gene encoding an orotate transporter from Lactococcus lactis
Solem, C., Defoor, E. M. C., Jensen, P. R. & Martinussen, J. 2008 In : Applied and Environmental Microbiology. 74, 15, p. 4772-4775
Publication: Research - peer-review › Journal article – Annual report year: 2008

The extent of co-metabolism of glucose and galactose by L. lactis changes with the expression of the lacSZ operon from Streptococcus thermophilus
Solem, C., Kebmann, B. J. & Jensen, P. R. 2008 In : Biotechnology and Applied Biochemistry. 50, 1, p. 35-40
Publication: Research - peer-review › Journal article – Annual report year: 2008

The las enzymes control pyruvate metabolism in Lactococcus lactis during growth on maltose
Publication: Research - peer-review › Journal article – Annual report year: 2007

Control analysis of the importance of phosphoglycerate enolase for metabolic fluxes in Lactococcus lactis subsp. lactis IL1403.
Publication: Research - peer-review › Journal article – Annual report year: 2006

Lactococcus lactis - traditional and GMO strains
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2006

Control analysis as a tool to understand the formation of the las operon in Lactococcus lactis
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2005
Control analysis as a tool to understand the formation of the las operon in Lactococcus lactis
Publication: Research - peer-review › Journal article – Annual report year: 2005

Triosephosphate isomerase has no control on the glycolytic flux and metabolic shift in Lactococcus lactis IL1403
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2005

Hvad kontrollorer syrningseffektiviteten af den primære starter?
Købmann, B. J., Solem, C. & Jensen, P. R. 2004 In : Mælkeritidende. 3, p. 55-64
Publication: Research › Journal article – Annual report year: 2004

Kontrolanalyse af glykosen i mikrobielle systemer
Købmann, B. J., Solem, C. & Jensen, P. R. 2004 In : Dansk Kemi. 85, p. 22-26
Publication: Research › Journal article – Annual report year: 2004

Experimental control analysis of glycolysis in Lactococcus lactis
Publication: Communication › Report – Annual report year: 2003

Glyceraldehyde-3-phosphate dehydrogenase has no control over glycolytic flux in Lactococcus lactis MG1363
Solem, C., Købmann, B. J. & Jensen, P. R. 2003 In : Journal of Bacteriology. 185, 5, p. 1564-1571
Publication: Research - peer-review › Journal article – Annual report year: 2003

Experimental determination of control of glycolysis in Lactococcus lactis
Publication: Research - peer-review › Journal article – Annual report year: 2002

Expression of genes encoding F-1-ATPase results in uncoupling of glycolysis from biomass production in Lactococcus lactis
Publication: Research - peer-review › Journal article – Annual report year: 2002

Modulation of gene expression made easy
Publication: Research - peer-review › Journal article – Annual report year: 2002

The extent to which ATP demand controls the glycolytic flux depends strongly on the organism and conditions for growth.
Publication: Research - peer-review › Journal article – Annual report year: 2002

Totalt regulerbare promotorer i skræddersyede starterkulturer
Johansen, A. H., Andersen, H. W., Solem, C. & Jensen, P. R. 2002 In : Mælkeritidende. 11, p. 274-277
Publication: Communication › Journal article – Annual report year: 2002

Twofold reduction of phosphofructokinase activity in Lactococcus lactis results in strong decreases in growth rate and in glycolytic flux
Publication: Research - peer-review › Journal article – Annual report year: 2001
Projects:

Improving the thermotolerance of the mesophilic starter
Dorau, R., Solem, C. & Jensen, P. R.
01/06/2017 → 31/05/2020
Project: PhD

NOPROBLEM - Novel tasty dairy products obtained through intelligent resource management
Solem, C. & Bang-Berthelsen, I.
01/01/2017 → 30/06/2020
Project

Optimization of flavour formation in hard cheeses
Solem, C.
01/01/2017 → 21/12/2019
Project

Biofuels of the future - Development of a Lactic Acid Bacteria platform for sustainable production of higher alcohols
Mar, M. J., Jensen, P. R., Kandasamy, V. & Solem, C.
01/11/2015 → 31/09/2018
Project: PhD

Lactic Acid Bacteria as cell factories
Liu, J., Solem, C., Jensen, P. R., Hansen, E. B., Kleerebezem, M. & Zeng, A.
01/06/2014 → 30/09/2017
Project: PhD

Lysine production in Gram-positive bacteria
Grishkova, M., Jensen, P. R. & Solem, C.
01/06/2014 → 17/02/2015
Project: PhD

Protein production in Gram-positive bacteria under adverse conditions
Vestergaard, M., Jensen, P. R., Solem, C., Bang, D. D., Jönsson, H. N. & Mijakovic, I.
01/04/2014 → 30/09/2017
Project: PhD

Metabolic optimization of Corynebacterium glutamicum for enhanced lysine production
Wang, Z., Solem, C., Jensen, P. R., Hobley, T. J., Kalinowski, J. & Mijakovic, I.
15/12/2012 → 21/04/2016
Project: PhD

Production of organic acids in Gram-positive bacteria
Shen, J., Solem, C. & Jensen, P. R.
01/12/2012 → 03/05/2018
Project: PhD

Elucidating and comparing flux regulation across bacterial species
Chan, S. H. J., Jensen, P. R., Solem, C., Hobley, T. J., Molenaar, D. & Snoep, J. L.
15/11/2011 → 27/05/2015
Project: PhD
Characterization of a high-temperature adaptive Lactococcus lactis mutant and its application in milk fermentation
Chen, J., Jensen, P. R., Solem, C., Kilstrup, M., Poolman, B. & Sørensen, K.
01/11/2011 → 28/03/2014
Project: PhD

Transforming Lactococcus lactis into a microbial cell factory
Petersen, K. V., Solem, C., Jensen, P. R., Martinussen, J., Mijakovic, I., Jørgensen, S. T. & Kok, J.
01/01/2011 → 30/09/2014
Project: PhD

Biofuels production in yeast
Phadnavis, A. G., Jensen, P. R., Solem, C., Blank, L. M. & Pedersen, P. A.
01/12/2010 → 29/05/2017
Project: PhD

Comparative Systems Biology
Dehli, T. I., Jensen, P. R., Solem, C., Mijakovic, I., Axelsson, L. & Westermann, P.
01/01/2010 → 18/12/2013
Project: PhD

Udvikling af mikroorganismer til biobrændselsproduktion
Hansen, A. C. H., Jensen, P. R., Solem, C., Workman, M., Kilstrup, M., Købmann, B. & Mijakovic, I.
01/12/2008 → 01/03/2013
Project: PhD

Energimetabolismen i mælkesyrebakterier
Solem, C. & Jensen, P. R.
01/08/2000 → 30/11/2001
Project: PhD