

# References 2001-2005

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## Food, GI-tract Functionality and Human Health Cluster



### GENERAL PROEUHEALTH References

Ahonen, R, Saarela, M. & Mattila-Sandholm, T. (eds). The food, GI-tract functionality and human health cluster. 3<sup>rd</sup> Workshop, 15-17 March, 2004, Sitges, Spain. ISBN 951-38-6290-9, 106p.

Kuokka, AM, Saarela, M. & Mattila-Sandholm, T. (eds). The food, GI-tract functionality and human health cluster. 1<sup>st</sup> Workshop, 1-3 February, 2002, Saariselkä, Finland. ISBN 951-38-5729-8, 65p.

Kuokka, AM., Saarela, M. & Mattila-Sandholm, T. (eds). The food, GI-tract functionality and human health cluster. 2<sup>nd</sup> Workshop, 1-3 February, 2002, Saariselkä, Finland. ISBN 951-38-6276-3, 66p.

Lähteenmäki, L. Consumers and functional foods. In Functional Dairy Products (eds Mattila-Sandholm, Saarela) 346-357, Woodhead Publishing.

Mattila-Sandholm, T., Blaut, M., Daly, C., De Vuyst, L., Dore, J., Gibson, G., Goossens, H., Knorr, D., Lucas, J., Lähteenmäki, L., Mercenier A., Saarela, M., Shahanan, F. & de Vos, W. M. (2002). The food, GI-tract functionality and human health cluster. Microbial Ecology in Health and Disease 14, 65-74.

Mattila-Sandholm T, Lähteenmäki L, Saarela M. European research in probiotics and prebiotics: the PROEUHEALTH cluster. In: Mattila-Sandholm T, Saarela M (Eds.). Functional dairy products. CRC Press, Woodhead Publishing Limited, England, 2003, pp. 359-377.

Mattila-Sandholm, T., Saarela, M., Lähteenmäki, L. (2002). The food, GI-tract functionality and human health cluster. In

Probiotics in Food safety and Human health (eds Goktepe, Juneja) Taylor & Francis, in press.

Mattila-Sandholm, T., Saarela, M. and de Vos, W.M. (2004). The Food, GI-Tract Functionality and Human Health Cluster: PROEUHEALTH and Beyond. In: Microbiological Ecology in Health and Disease 16, No. 2-3:66-70.

Mattila-Sandholm, T, Saarela, M, de Vos, W.M. Future development of probiotic dairy products. In: Tamime A (Ed.). Probiotic dairy products, Blackwell Publishing Ltd, Oxford, U.K, in press.

Mercenier, A., Mattila-Sandholm, T. (2001). The food , GI-tract functionality and human health European research cluster, PROEUHEALTH. Nutr Metab Cardiovasc Dis 11, 4, 1-5.

Puupponen-Pimiä, R., Aura, A.-M., Oksman-Caldentey, K.-M., Myllärinne, P., Saarela, M., Mattila-Sandholm, T., Poutanen, K. (2002). Development of functional ingredients for gut health. Trends in Food Science and Technology. 13, 3-11.

Saarela, M., Lähteenmäki, L., Crittenden, R., Salminen, S., Mattila-Sandholm, T. (2002). Gut bacteria and health foods: the European perspective. Int J Food Microbiol. 78, 99-117.

Saarela, M., Mättö, J. and Mattila-Sandholm, T. (2002). Safety aspects of *Lactobacillus* and *Bifidobacterium* species originating from human oro-gastrointestinal tract or from probiotic products. Microbial Ecology in Health and Disease. 14:233-240.

## CROWNALIFE

### Abstracts

Doré, J. The human intestinal microbiota revisited – a phylogenetic perspective. Joint Meeting of SOMED and Association for Gnotobiology NR XXVIII. 05/2004, Helsingör, Denmark.

Doré, J. EU Crownalife project – probiotics and prebiotics for the elderly. FLAIR-FLOW Seminar – improving gut feelings. 06/2002, Espoo, Finland.

Doré, J., Blaut, M., Rastall, R., Rowland, I., Cresci, A., Norin, E., Van Loo, J., Diop, L. Crownalife – functional foods for the elderly. PROEUHEALTH. 03/2003, Taormina, Italy.

Gill, C., Doré, J., Zunft, H.J.F., Cresci, A., Norin, E., Rowland, I. Country comparisons of faecal water activity from the crownalife baseline study. PROEUHEALTH. 03/2004, Sitges, Spain.

Hanisch, C., Müller, S., Lork, A., Silvi, S., Verdenelli, M.C., Orpianesi, C., Cresci, A., Saunier, K., Doré, J., Norin, E., Blaut, M., Zunft, H.J.F. Country-specific dietary intake plays a major role on short chain fatty acid production in the gut – results of a cross-sectional study in four European countries. PROEUHEALTH. 03/2004, Sitges, Spain.

Müller, S., Hanisch, C., Saunier, K., Rigottier-Gois, L., Doré, J., Norin, E., Zunft, H.J.F., Blaut, M. Assessment of the gut microflora composition in adults and elderly people for Germany and Sweden. PROEUHEALTH. 03/2004, Sitges, Spain.

Müller, S., Hanisch, C., Saunier, S., Doré, J., Norin, L., Cresci, A., Koebnick, C., Zunft, H.J.F., Blaut, M. Diversität der Darmflora in unterschiedlichen europäischen Studienpopulationen und ihre Beeinflussung durch Synbiotika-Supplementation. DIfE publications 2004.

Raftilose®Synergy1 Protects the Health of the Elderly. Orafti publications 2005.

Rochet, V., Rigottier-Gois, L., Sutren, M., Ledaire, A., Andrieux, C., Mogenet, A., Bresson, J.-L., Picard, C., Doré, J. Evaluation of the survival of *Bifidobacterium animalis* DN-173 010 in faecal samples from healthy adults. 2nd probiotics and prebiotics and new foods, 6-9 septembre 2003 Roma, Italy.

Rochet, V., Rigottier-Gois, L., Sutren, M., Ledaire, A., Andrieux, C., Mogenet, A., Bresson, J.-L., Picard, C., Doré, J. Evaluation of the survival of *Bifidobacterium animalis* DN-173 010 in faecal samples from healthy adults. The Food, GI-tract Functionality and Human Health Cluster, PROEUHEALTH Workshop 2, 3-5 mars 2003, Taormina, Italy.

Rochet, V., Rigottier-Gois, L., Sutren, M., Ledaire, A., Andrieux, C., Saunier, K., Mogenet, A., Bresson, J.-L., Picard, C., Doré, J. Evaluation of the survival of *Bifidobacterium animalis* DN-173 010 in faecal samples from healthy adults. International Symposium on Propionibacterium and Bifidobacterium, St Malo, Mai 2004, France.

Saunier, K., Lay, C., Lepage, P., Rigottier-Gois, L., Sutren, M. and Doré, J. High stability of the human faecal microbiota overtime revealed by TTGE. 4th INRA-RRI Symposium. 06/2004, Clermont-Ferrand, France.

Saunier, K., Doré, J., Zunft, H.J.F., Blaut, M., Tuohy, K., Rastall, R., Gill, C., Rowland, I., Silvi, S., Cresci, A., Alm, L., Norin, E., Jonkers, N., Van Loo, J., Picard, C., Goniak, O. The elderly gut microbiota (Crownalife). PROEUHEALTH. 03/2004, Sitges, Spain.

Saunier, K., Mesaoud, M., Tuohy, K., Sutren, M., Cresci, A., Doré, J. Culture independent molecular analysis of the elderly fecal microflora reveals an extreme complexity. PROEUHEALTH. 03/2003, Taormina, Italy.

Saunier, K., Tuohy, K., Likotrafiti, E., Rastall, R. A., Sutren, K., Cresti, A. and Doré, J. (2003) Species diversity analysis of the elderly gut microflora through cloning of whole community rRNA. Society for General Microbiology, 153rd Meeting, 8-11 September 2003, UMIST, Manchester.

Saunier, K., Tuohy, K., Litotrafiti, E., Sutren, M., Rastall, R., Silvi, S. Cresci, A., Doré, J. Culture independent molecular analysis of the elderly fecal microflora reveals an extreme complexity. PROEUHEALTH. 03/2004, Sitges, Spain.

Saunier, K., Tuohy, K., Sutren, M., Cresci, A., Doré, J. Culture independent molecular analysis of the elderly fecal microflora reveals an extreme complexity. IUMS. 07/2002, Paris, France.

Saunier, K., Tuohy, K., Sutren, M., Cresci, A. and Doré. Culture independent molecular

analysis of the elderly faecal microflora reveals an extreme complexity. INRA-RRI. 06/2002, Aberdeen, Ecosse.

Silvi, S., Verdenelli, M.C., Orpianesi, C., Morozzi, G., De Bartolomeo, A., Fabiani, R., Sebastiani, B., Hanisch, C., Müller, S., Zunft, H.J.F., Blaut, M., Norin, E., Rowland, I.R., Saunier, K., Doré, J., Cresci, A. Bile acids concentrations in faecal water samples of different European populations. PROEUHEALTH. 03/2004, Sitges, Spain.

Tuohy, K. M. (2003) The impact of diet and gut flora in gastrointestinal health. "Gut flora in clinical practice" Yakult, University of Lancaster, September 10th, 2003.

Verdenelli, M.C., Silvi, S., Orpianesi, C., Hanisch, C., Müller, S., Zunft, H.J.F., Blaut, M., Norin, E., Rowland, I.R., Saunier, K., Doré, J., Cresci, A. Short chain fatty acids in the characterization of human intestinal ecosystem of different European populations. PROEUHEALTH. 03/2004, Sitges, Spain.

Zunft, H.J.F., Hanisch, C., Mueller, C., Koebnick, C., Blaut, M. and Doré, J. 2004. Symbiotic containing *Bifidobacterium animalis* and inulin increases stool frequency in elderly healthy people Asia Pacific Journal of Clinical Nutrition (Suppl 13) S112.

#### Congresses

Doré, J., Blaut, M., Rastall, R., Rowland, I., Cresci, A., Norin, E., Van Loo, J., Cayuela, C. presented a conference "Highlights of CROWNALIFE - Functional foods, gut microflora and healthy ageing". The Food, GI-tract Functionality and Human Health Cluster – 1<sup>st</sup> Workshop 1-3 February 2002, Saariselkä, Finland.

Doré, J. Presented a conference "GI-Tract and the elderly" Probiotics, Prebiotics, New Foods meeting, Rome 2-4 September 2001.

Likotrafiti, E., Tuohy, K.M., Silvi, S., Verdenelli, M.C., Casciano, R., Orpianesi, C., Cresci, A., Gibson, C.R. and Rastall, R.A. participated at the presentation of poster "Molecular taxonomy of probiotic strains isolated from the elderly gut microflora" The Food, GI-tract Functionality and Human Health Cluster – 2<sup>nd</sup> Workshop 3-5 March 2003, Taormina, Italy.

Presentation of the Crownalife project by UR at the ARS:BBSRC workshop on Microbiological

Food Safety held at Norwich, 15-17th July, 2001 (UR Annex 4).

Presentation of the Crownalife project by UR at the Molecular Microbial Ecology Group meeting at Exeter University, 2002 (UR Annex 2).

Presentation of the Crownalife project by UR at the Reading AGNet meeting, 30th April 2002, "Nutrition and Ageing: you are what you eat" (<http://www.fp.rdg.ac.uk/AGNet/PreviousMeetings/April302002/AGNetEL/sld001.htm>).

Presentation of the Crownalife project by UR at the Society for General Microbiology, teacher awareness workshop held at The University of Reading in 2002 (UR Annex 3).

PROEUHEALTH meeting; Posters entitled "Screening of probiotic strains isolated from the elderly for antimicrobial activity against gastrointestinal pathogens" and "Molecular taxonomy of probiotic strains isolated from the elderly gut microflora" (UR Annex 5; UR Annex 6).

Saunier, K., Messaoud, M., Tuohy, K.M. Sutren, M., Cresci, A and Doré, J. participated at the presentation of poster "Culture independent molecular analysis of the elderly faecal microflora reveals an extreme complexity" The Food, GI-tract Functionality and Human Health Cluster – 2<sup>nd</sup> Workshop 3-5 March 2003, Taormina, Italy.

SGM meeting in Edinburgh 2003; Poster entitled "Properties of potential probiotic strains isolated from the elderly: acid tolerance, bile tolerance and oligo-saccharide fermentation profile" (UR Annex 7).

Silvi, S., Verdenelli, M.C., Casciano, R., Orpianesi, C. and Cresci, A. participated at the presentation of poster "*Bifidobacterium* and *Lactobacillus* strains from faecal samples of elderly subjects for a possible probiotic use in functional foods". The Food, GI-tract Functionality and Human Health Cluster – 1<sup>st</sup> Workshop 1-3 February 2002, Saariselkä, Finland.

Silvi, S., Verdenelli, M.C., Orpianesi, C., Cresci, A. and Rowland, I. participated at the presentation of poster: "EU project Crownalife: Functional Foods, Gut Microflora and Healthy Ageing". Food & Nutrition for Better Health 13-15 June 2001, Santa Maria Imbaro – Lanciano, Italy.

Silvi, S., Verdenelli, M.C., Orpianesi, C., Cresci, A. and Rowland, I. participated at the presentation of poster "Cibi funzionali, microflora intestinale e invecchiare in salute: il progetto europeo Crownalife". 3° Convegno FISV 21-25 September 2001, Riva del Garda (TN), Italy.

Silvi, S., Verdenelli, M.C., Orpianesi, C., Cresci, A. and Rowland, I. participated at the presentation of poster (lectured) "EU project Crownalife: Functional Foods, Gut Micro-flora and Healthy Ageing". 6<sup>th</sup> Karlsruhe Nutrition Symposium 21-23 October 2001, Karlsruhe, Germany.

Silvi, S., Verdenelli, M.C., Orpianesi, C., Cresci, A. and Rowland; I. participated at the presentation of poster (lectured) "EU project Crownalife: Functional Foods, Gut Micro-flora and Healthy Ageing". 3° Conferenza internazionale di antropologia e storia della salute e delle malattie: Vivere e "curare" la vecchiaia nel mondo 13-16 marzo 2002, Genova, Italy.

Silvi, S., Verdenelli, M.C., Orpianesi, C. Cresci, A. Eu project Crowalife: functional foods, gut microflora and healthy ageing. Isolation and identification of *Lactobacillus* and *Bifidobacterium* strains from faecal samples of elderly subjects for a possible probiotic use in functional foods". Journal of Food Engineering, 56:195-200 (2003).

The Crownalife project was presented by Dr. R.A. Rastall on BBC Radio 4 in a program specifically discussing the impact of the gut microbiota on health.

## Publications

Gill, C. & Rowland, I. (2003) 'Cancer' In Functional Dairy Products. Book Chapter. (In press).

Gill, C. and Rowland, I. (2002) Diet and Cancer. British Journal of Nutrition, 88, Suppl, s73-s87.

Saunier, K. and Doré, J. (2002) Gastrointestinal tract and the elderly : functional foods, gut microflora and healthy ageing. Digestive and Liver Diseases, 3 Suppl 2, S19-S24.

Saunier K, Rougé C., Lay C., Rigottier-Gois L. 2005. Enumeration of bacteria from the *Clostridium leptum* subgroup in human faecal microbiota using Clep1156 16S rRNA probe in combination with helper and competitor

oligonucleotides. Systematics and Applied Microbiology. *In press (available online)*.

Silvi, S., Verdenelli, M.C. , Orpianesi, C., Cresci, A. (2003) EU project Crownalife: Functional Foods, Gut Microflora and Healthy Ageing. Isolation and identification of *Lactobacillus* and *Bifidobacterium* strains from faecal samples of elderly subjects for a possible probiotic use in functional foods. Journal of Food Engineering, 56/2-3, 195-200.

Silvi, S., Verdenelli, M.C., Orpianesi, C., Cresci, A. and Rowland I. (2002) "Functional Foods, Gut Microflora and Healthy Ageing EU project Crownalife". In: "Curare la vecchiaia". Ed. Guerci A. and Consigliere S., Erga Edizioni, Genova, pp. 125-131.

Van der Meulen Roel - Engineer thesis 'Kinetische analyse van de groei van een probiotische stam van *Bifidobacterium animalis* of inulin-type fructanen / Kinetic analysis of the growth of a probiotic strain of *Bifidobacterium animalis* on inulin type fructans'.

Van der Meulen, R., Avonts, L., Jonkers, N. and De Vuyst, L. (2004). Short-chain-oligofructose is preferentially metabolised by *Bifidobacterium animalis* DN-173010. Applied and Environmental Microbiology 70: 1923-1930.

## DEPROHEALTH

Acedo-Félix, E. y Pérez-Martínez, G. (2003) Significant differences between *Lactobacillus casei* subsp. *casei* ATCC 393T and a commonly used plasmid-cured derivative revealed by a polyphasic study. Int. J. System. Evol. Microbiol. 53:67-75.

Ciabattini, A., Parigi, R., Oggioni, M.R., Pozzi, G. 2004. Oral priming of mice by recombinant spores of *Bacillus subtilis*, Vaccine. 22: 4139-4144.

Foligné B., Nutten S., Steidler L., Dennin V., Goudercourt D., Mercenier A. and Pot B. Potentialities of the murine TNBS-induced colitis model to evaluate the anti-inflammatory properties of Lactic Acid Bacteria. *Submitted to IBD*.

Gil, M.T., Perez-Arellano, I., Buesa, J. y Perez-Martínez, G. (2001). Expression and secretion of rotavirus VP8\* in *Lactococcus lactis*. FEMS Microbiol. Lett. 203/2: 269-274.

Giomarelli B., Maggi T., Younson J., Kelly C. and Pozzi G. Expression of a functional single-chain Fv antibody on the surface of *Streptococcus gordonii*. 2004. Mol. Biotechnol. 28: 105-112

Grangette, C., H. Müller-Alouf, P. Hols, D. Goudercourt, J. Delcour and A. Mercenier. 2004. Enhanced mucosal delivery of antigen using cell-wall mutants of lactic acid bacteria. Accepted in Infect. Immun.

Marcotte, H., Ferrari, S., Cesena, C., Pozzi, G., Hammarström, L., Morelli, L. and Oggioni, M.R. 2004. The aggregation promoting factor of *Lactobacillus crispatus* M247 and its genetic locus. J. Appl. Microbiol. 97:749-756.

Mercenier, A. (2002). Probiotic strains with designed health properties. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, pp. 23-24.

Mercenier, A. (2003). DEPROHEALTH: Second generation probiotics. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 2<sup>nd</sup> Workshop, Taormina, Italy, March 3-5. VTT Symposium 226, p. 19.

Monedero, V., Perez-Arellano, I., Viana, R., Zuniga, M., Buesa, J., Montava Vilaplana, R., Rodriguez-Diaz, J., Lee Ho, P., Sarno de Oliveira, L. y Perez-Martinez, G. Diseño de probióticos como vectores de vacunas orales y otras moléculas terapéuticas. 2004. En "Microorganismos y Salud: Bacterias Lácticas y Bifidobacterias Preobióticas"(J.M. Rodriguez, ed.) Universidad Autónoma de Madrid, Serie: Línea 300. (In Spanish; *In press*).

Monedero V., Rodríguez-Díaz, J., Viana, R., Buesa, J. and Pérez-Martínez, G. 2004. Selection and their expression in *Lactobacillus casei* of single-chain antibodies against the VP8\* subunit of rotavirus VP4 outer capsid protein. Appl. Environ. Microbiol. 70 : 6936-39.

Oggioni, M., Ciabattini, A., Cuppone A.M., Pozzi, G. 2003. Bacillus spores for vaccine delivery. Vaccine, Jun 1;21 Suppl 2:96-101.

Oliveira, M.L.S., V. Monedero, E. N. Miyaji, L. C. C. Leite, P. Lee Ho and G. Perez-Martinez. 2003. Expression of *Streptococcus pneumoniae* antigens, PsaA (Pneumococcal Surface Antigen A) and PspA (Pneumococcal

Surface Protein A) by *Lactobacillus casei*. FEMS Microbiol Letters 227:25-31.

Palumbo, E., C. Favier, M. Deghorain, P.-S. Cocconcelli, C. Grangette, A. Mercenier, E. Vaughan, and P. Hols. 2004. Knockout of the alanine racemase gene in *Lactobacillus plantarum* results in septation defects and cell wall perforation. FEMS Microbiol Letters 233:131-138.

Pavan P., Desreumaux P. and Mercenier A. 2003. Use of mouse models to evaluate the persistence, safety and immune modulation capacities of lactic acid bacteria. Clin. Diagn. Laborat. Immunol. 10:696-701.

Perez-Arellano, I. and G. Perez-Martinez. 2003. Optimisation of the green fluorescent protein (GFP) expression through a lactose-inducible expression system in *Lactobacillus casei*. FEMS Microbiol. Letters 222:123-127.

Rodríguez-Díaz, J., Monedero, V., Pérez-Martínez, G. and Buesa, J. Single chain variable fragments (scFV) antibodies against rotavirus NSP4 enterotoxin generated by phage display. 2004. Virol. Methods. 121: 231-238.

Steidler, L, Neirynck, S, Huyghebaert, N, Snoeck, V, Vermeire, A, Goddeeris, B, Cox, E, Remon, JP, Remaut, E. 2003. Biological containment of genetically modified *Lactococcus lactis* for intestinal delivery of human interleukin 10. Nature Biotechnol. 21, 785-789.

Vandenbroucke K., Hans W., Van Huysse J., Neirynck S., Demetter P., Remaut E., Rottiers P. and Steidler L. Active delivery of trefoil factors by genetically modified *Lactococcus lactis* prevents and heals acute colitis in mice. 2004. Gastroenterology 127, 502-513.

#### Book chapters/Reviews:

Mercenier A., Hols P., Roussel Y., Perez-Martinez G., Buesa J., Wilks M., Pozzi G., Remaut E., Morelli L., Grangette C., Monedero V., Palumbo E., Foligne B., Steidler L. and Nutten S. 2004. Screening and construction of probiotic strains with enhanced protective properties against intestinal disorders. MEDH: *Microbial Ecology in Health and Disease* 16:86-95.

Wells, J.M. and Mercenier, A. 2003. Lactic acid bacteria as mucosal delivery system. In: Genetics of lactic acid bacteria (Vol 3), Wood B.J.B. and Warner P.J., eds., Kluwer

Academic/Plenum Publishers, New York, pp 261- 290.

## EU & MICROFUNCTION

Derrien, M., Adawi, D., Ahrné, S., Jeppsson, B., Molin, G., Osman, N., Stsepetova, J., Vaughan, E.E., de Vos, W.M. and Ouwehand, A.C. (2004) The intestinal mucosa as a habitat of the intestinal microbiota and a target for probiotic function and safety. *Microbial Ecology in Health and Disease* 16: *in press*.

Derrien, M., Štšepetova, J., Plugge, C.M., de Vos, V.M. and Vaughan, E.E. Monitoring of intestinal mucin-degrading bacteria: Isolation of strain Muc. 1st FEMS Congress of European Microbiologists, June 29 – July 3, 2003 Slovenia, Ljubljana.

Derrien, M., Vaughan, E.E., Plugge, C.M. and de Vos, V.M. Isolation of a novel intestinal mucin-degrading bacteria. The Food, GI-tract Functionality and Human Health cluster PROEUHEALTH 2 nd Workshop, 2 - 5 March 2003, Taormina, Sicily.

Derrien, M., Vaughan, E.E., Plugge, C.M. and de Vos, V.M. *Akkermansia muciniphila* gen. nov., sp. nov., a human intestinal mucin-degrading bacterium. *International Journal of Systematic and Evolutionary Microbiology* (*In press*).

Gibson, G. (2002). Overview of EU and MICROFUNCTION project. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, pp. 30-31.

Gibson, G. (2003). Update on EU and MICROFUNCTION project (Interactions between gut microbiota and the host). The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 2<sup>nd</sup> Workshop, Taormina, Italy, March 3-5. VTT Symposium 226, pp. 26-27.

Gueimonde, M., Ouwehand, A.C. and Salminen, S. (2004) Safety of Probiotics. Scandinavian Journal of Nutrition 48:42-48..

Mäkeläinen, H., Tahvonen, R., Salminen, S. and Ouwehand, A.C. (2003) *In vivo* safety assessment of two *Bifidobacterium longum* strains. *Microbiology and Immunology* 47: 911-914.

Osman, N., Adawi, D., Ahrne, S., Jeppsson, B. & Molin, G. (2004). Modulation of the effect of dextran sulfate sodium-induced acute colitis by the administration of different probiotic strains of *Lactobacillus* and *Bifidobacterium*. *Digestive Diseases and Sciences* 42:320-327.

Osman, N., Adawi, D., Ahrne, S. Jeppsson, B. and Molin, G. (2005). Probiotic strains of *Lactobacillus* and *Bifidobacterium* affect differently the translocation and intestinal load of Enterobacteriaceae after D-galactosamine-induced liver injury in rats. *Microbial Ecology in Health and Disease* (*in press*).

Ouwehand, A. Safety assessment of clinical, faecal and dairy *Lactobacillus* isolates: adhesion to extra cellular matrix proteins and human intestinal mucus. International Dairy Federation; Pre-summit symposium innovative research in dairy science and technology (Brugge, B, 2003).

Ouwehand, A.C., Saxelin, M. and Salminen, S. (2004) Assessment of suggested virulence factors and related properties of clinical, faecal and dairy *Bifidobacterium* isolates. *Bioscience and Microflora* 23:37-42.

Ouwehand, A.C., Saxelin, M. and Salminen, S. (2004) Phenotypic differences between commercial *Lactobacillus rhamnosus* GG and *L. rhamnosus* strains recovered from blood. *Clinical Infectious Diseases* 39:1858-1860.

Ouwehand, A.C., Vankerckhoven, V., Goossens, H., Huys, G. Swings, J. Vancanneyt, M. and Lähteenmäki, A. (*in press*) The safety of probiotics in foods in Europe and its' legislation *In:* Goktepe, I. and Juneja (eds.) *Probiotics in Food Safety and Human Health*. Marcel Dekker, Inc., New York.

Ouwehand, A.C., Saxelin, M. and Salminen, S. Assessment of potential risk factors and related properties of clinical, fecal and dairy *Bifidobacterium* isolates. *Current Microbiology*. (*In press*).

Pereira, D.I.A. and Gibson, G.R. (2002). Cholesterol assimilation by lactic acid bacteria and bifidobacteria isolated from the human gut. Poster presentation at The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 21<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, p. 57.

Scantlebury-Manning, T., Vernazza, C., Rastall, R. and Gibson, G. (2003). Functional assessment of interactions between the human gut microbiota and the host: WP1 and 2 (prebiotics and synbiotics). The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 2<sup>nd</sup> Workshop, Taormina, Italy, March 3-5. VTT Symposium 226, p. 65.

Songisepp, E., Kals, J., Kullisaar, T., Mändar, R., Hütt, P., Truuusalu, K., Zilmer, M., Mikelsaar, M. (2005) Evaluation of antioxidative effect of probiotic *L. fermentum* ME-3 in healthy volunteers – drafted for publication.

Truuusalu, K., Naaber, P., Kullisaar, T., Tamm, H., Mikelsaar, R.-H., Zilmer, K., Rehema, A., Zilmer, M., Mikelsaar, M. Influence of probiotic antibacterial and antioxidative lactobacilli on generalised *Salmonella typhimurium* infection in mice (microbiological, morphological and biochemical aspects). MEHD (submitted).

## MICROBE DIAGNOSTICS

Ben Amor, K., Vaughan, E.E. and de Vos, W.M. Molecular Tools for the Identification and Quality Control of Probiotics. Proceeding of the International Dairy Federation World Dairy Summit & Centenary. Bruges, Belgium. September 2003.

Blaut, M. (2002). Development and application of high throughput molecular methods for studying the human gut microbiota in relation to diet and health. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, pp. 17-18.

Blaut, M. (2003). MICROBE DIAGNOSTICS: Who's who in the intestinal microbiota. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 2<sup>nd</sup> Workshop, Taormina, Italy, March 3-5. VTT Symposium 226, pp. 17-18.

Blaut, M., Schoefer, L., Braune,A. (2003). Transformation of flavonoids by intestinal microorganisms. Int J Vitam Res 73:79-87.  
Finegold SM, Molitoris D, Song Y., Collins MD, Lawson PA. (2004). *Anaerofustis stercorihominis* gen. nov., sp. nov., from human feces. Anaerobe 10:41-45.

Finegold, S.M., Vaisanen, M-L., Molitoris, D.R., Song, Y., Liu, C., Collins, M.D. and Lawson, P.A. (2003). *Cetobacterium somerae* sp. nov., from human faeces and emended description of the genus *Cetobacterium*. Systematic and Applied Microbiology 26, 177-181.

Fitzsimons, N.M., Akkermans, A.D.L., de Vos, W.M., Vaughan, E.E. (2003). Bacterial gene expression detected in human faeces by reverse transcription-PCR. Journal of Microbiological Methods 55, 133-140.

Hold, G.L., Schwierz, A., Aminov, R.I., Blaut, M., Flint, H.J. (2003). Oligonucleotide probes that detect quantitatively significant groups of butyrate-producing bacteria in human feces. Appl Environ Microbiol 69:4320-4324.

Holmstrøm, K., Collins, M.D., Møller, T., Falsen, E., Lawson, P. A. (2004). *Subdoligranulum variabile* gen. nov., sp. nov. from human feces. Anaerobe 10:197-203.

Holmstrøm, K., Lawson, P.A., Collins, M.D., Møller, T. A strategy to isolate novel bacterial species in human faecal samples. 2nd PROEUHEALTH Workshop, Taormina, Italy, March 2003.

Holmstrøm, K., Møller, T., Jørgensen, F. Developing a method for assessment of specific microbial activity in individual *Bifidobacterium* sp. using a mRNA-targeting approach. 2nd PROEUHEALTH Workshop, Taormina, Italien, March 2003.

Kleessen, B., Hartmann, L., Blaut, M. (2003). Fructans in the diet cause alterations of intestinal mucosal architecture, released mucins and mucosa-associated bifidobacteria in gnotobiotic rats. Br J Nutr 89:597-606.

Konstantinov, S., Fitzsimons, N., Vaughan, E.E. and Akkermans, A.D.L. (2002). From composition to functionality of the intestinal microbial communities. In Probiotics and prebiotics: where are we going? (ed. G.W. Tannock), p. 59-84. Horizon Sci. Publ. London.

Lawson, P.A., Song, Y., Liu, C., Molitoris, D.R., Vaisanen, M.-L., Collins, M.D., Finegold, S.M. (2004) *Anaerotruncus colihominis* gen. nov., sp. nov., from human faeces. Int J Syst Evol Microbiol 54:413-417.

Lay C., Rigottier-Gois L., Holmstrøm, K., Rajilic, M., Vaughan M., de Vos, W.M., Collins, M.D., Thiel, R., Namsolleck, P., Blaut,

M., Doré, J. (2005). Colonic microbiota signatures across five European countries. *Appl Environ Microbiol*, in press.

Lay C., Sutren M, Rochet V, Saunier K, Doré J, Rigottier-Gois L. (2005). Design and validation of 16S rRNA probes to enumerate members of the Clostridium leptum subgroup in human faecal microbiota. *Environ Microbiol*, in press.

Mangin I., Bonnet R., Seksik P., Rigottier-Gois L., Sutren M., Bouhnik Y., Neut C., Collins MD., Colombel J.-F., Marteau P., Doré J. (2004). Molecular inventory of faecal microflora in patients with Crohn's disease. *FEMS Microbiol Ecol*, 50:25-36.

Namsolleck P, Thiel R, Lawson P, Holmstrøm K, Rajilic M, Vaughan EE, Rigottier-Gois L, Collins MD, de Vos WM, Blaut M (2004). Molecular methods for the analysis of gut microbiota. *Microbial Ecol Health Dis* 16:71-85.

Rajilic, M. and Heilig, H.G.H.J., Roest, K., Smidt, H., Rigottier-Gois, L., Vaughan, E.E., de Vos, W.M., Development of PCR-Based High Throughput Identification DNA Arrays, 1st FEMS Congress of European Microbiologists, Ljubljana, Slovenia, June 29-July 3, 2003, Poster presentation (P4-144), Abstract book page 235.

Rajilic, M. and Heilig, H.G.H.J., Roest, K., Smidt, H., Rigottier-Gois, L., Vaughan, E.E., de Vos, W.M., Development of a High Throughput Diversity DNA Array for the Human Intestinal Microbiota, 2nd PROEUHEALTH Workshop, Taormina, Italy, March 3-5, 2003, Poster presentation.

Rautio, M., Eerola, E., Väistö-Tunkelrott, M-L., Molitoris, D., Lawson, P. A., Collins, M. D. and Jousimies-Somer, H. 2003. Reclassification of *Bacteroides putridinis* (Weinberg *et al.* 1937) in a new genus *Alistipes*, as *Alistipes putridinis* comb. nov., and description of *Alistipes finegoldii* sp. nov., from human sources. *Syst Appl Microbiol*, 26, 182-199.

Rigottier-Gois L., Le Bourhis A.G., Gramet G., Rochet V. and Doré J. (2003). Fluorescent *in situ* hybridisation combined with flow cytometry and hybridisation of total RNA to analyse the composition of microbial communities in human feces using 16S rRNA probes. *FEMS Microbiol Ecology*. 43: 237-245.

Rigottier-Gois L., Rochet V., Garrec N., Suau A. and Doré J. (2003). Enumeration of *Bacteroides* species in human feces by fluorescent *in situ* hybridisation combined with flow cytometry using 16S rRNA probes. *Syst Appl Microbiol* 26: 110-118.

Rochet V., Rigottier-Gois L, Rabot S., Dore J. (2004) Validation of fluorescent *in situ* hybridization combined with flow cytometry for assessing interindividual variation in the composition of human fecal microflora during long-term storage of samples. *J Microbiol Methods* 59:263-270.

Satokari RM, Vaughan EE, Smidt H, Saarela M, Matto J, de Vos WM (2003) Molecular approaches for the detection and identification of bifidobacteria and lactobacilli in the human gastrointestinal tract. *Syst Appl Microbiol* 26:572-584.

Schoefer, L., Mohan, R., Schwierz, A., Braune, A., Blaut, M. (2003). Anaerobic degradation of flavonoids by *Clostridium orbiscindens*. *Appl Environ Microbiol* 69:5849-5854.

Schwierz, A., Blaut, M. (2003). Molecular approaches in the study of gut micro-ecology. In: Holzapfel W, Naughton PJ (eds) *Microbial ecology of the growing animal*. Elsevier, Amsterdam.

Schwierz, A., Gruhl, B., Lobnitz, M., Michel, P., Radke, M., Blaut, M. (2003). Development of the intestinal bacterial composition in hospitalized preterm infants in comparison with breast-fed, full-term infants. *Pediatr Res* 54:393-399.

Schwierz, A., Hold, G.L., Duncan, S.H., Gruhl, B., Collins, M.D., Lawson, P.A., Flint, H. and Blaut, M. (2002). *Anaerostipes caccae* gen. nov., sp. nov., a new saccharolytic, acetate-utilising, butyrate-producing bacterium from human faeces. *Syst Appl Microbiol* 25, 46-51.

Schwierz, A., Lehmann, U., Jacobasch, G., Blaut, M. (2002). Influence of resistant starch on the SCFA production and cell counts of butyrate-producing *Eubacterium* spp. in the human intestine. *J Appl Microbiol* 93:157-162.

Seksik P, Rigottier-Gois L, Gramet G, Sutren M, Pochart P, Marteau P, Jian R, Dore J (2003) Alterations of the dominant faecal bacterial groups in patients with Crohn's disease of the colon. *Gut* 52:237-342.

Simmering, R., Taras, D., Schwierz, A., Le Blay, G., Gruhl, B., Lawson, P.A., Collins, M.D. and Blaut, M. (2002). *Ruminococcus luti* sp. nov., isolated from a human faecal sample. *Syst Appl Microbiol* 25, 189-193.

Song, Y., Liu, C., Molitoris, D.R., Tomzynski, T. J., Lawson, P.A., Collins, M.D. and Finegold, S.M. (2003). *Clostridium bolteae* sp. nov., isolated from human sources. *Syst Appl Microbiol* 26, 84-89.

Steer, T., Collins, MD., Gibson, GR., Hippe, H., Lawson, PA. (2001). *Clostridium hathewayi* sp nov., from human faeces. *Syst Appl Microbiol* 24:353-357.

Thiel R, Blaut M (2005). An improved method for the automated enumeration of fluorescently labelled bacteria in human faeces. *J Microbiol Meth* 61:369-379.

Vaughan, E.E., de Vries, M., Zoetendal, E.G., Ben Amor, K., Akkermans, A.D.L. & de Vos, W.M. 2002. The Intestinal LABs. In Proceedings of the Seventh Symposium on Lactic Acid Bacteria: Genetics, Metabolism and Applications. Eds RJ. Siezen, J. Kok, T. Abbe & G. Schaafsma. Kluwer Academic Publishers. p.341-352.

Vaughan, E.E., de Vries, M.C., Zoetendal, E.G., Ben-Amor, K., Akkermans, A.D.L. and de Vos, W.M. (2002). The intestinal LABs. *Antonie van Leeuwenhoek* 82:341-352.

Wolin, M.J., Miller, T.L., Collins, M.D. and Lawson, P.A. (2003) Formate requirement for growth and homoacetogenic fermentation by a bacterium from human feces: Description of *Bryantella formatexigens* gen. nov., sp. nov. *Appl Environ Microbiol* 69: 6321-6326.

### Cluster paper

Blaut, M., Collins, MD., Welling, GW., Dore, J., van Loo, J., de Vos, W. (2002). Molecular biological methods for studying the gut microbiota: the EU human gut flora project. *Br J Nutr.* 87 S2:S203-211.

### PROGID

Bairead, E., Harmon, D.L., Curtis, A.M., Kelly, Y., O'Leary, C., Gardner, M., Leahy, D.T., Vaughan, P., Keegan, D., O'Morain, C., O'Donoghue, D., Shanahan, F., Parfrey, N.A., Quane, K. Association of NOD2 with Crohn's

disease in a homogeneous Irish population. *Eur J H Genetics* 2003;11 (3):237-244.

Drummond, F.J., Annis, P., O'Sullivan, K., Wynne, F., Daly, M., Shanahan, F., Quane, K.A., Molloy, M.G.. Screening for asymptomatic celiac disease among patients referred for bone densitometry measurement. *Bone* 2003;33(6):970-4.

Goode, T., O'Connor, T., Hopkins, A., Moriarty, D., O'Sullivan, G.C., Collins, J.K., O'Donoghue, D., Baird, A., O'Connell, J., Shanahan, F. Neurokinin-1 receptor (NK-1R) expression is induced in human colonic epithelial cells by proinflammatory cytokines and mediates proliferation in response to substance P. *J Cell Physiol* 2003;197(1):30-41.

Houston, A., Bennett, M.W., O'Sullivan, G.C., Shanahan, F., O'Connell, J. Fas ligand mediates immune privilege and not inflammation in human colon cancer, irrespective of TGF-beta expression. *Br J Cancer* 2003;89(7):1345-51.

Houston, A., Waldron-Lynch, F.D., Bennett, M.W., Roche, D., O'Sullivan, G.C., Shanahan, F., O'Connell, J. Fas ligand expressed in colon cancer is not associated with increased apoptosis of tumor cells in vivo. *Int J Cancer* 2003;107(2):209-214.

McCarthy, J., O'Mahony, L., O'Callaghan, L., Sheil, B., Vaughan, E.E., Fitzsimons, N., Fitzgibbon, J., O'Sullivan, G.C., Kiely, B., Collins, J.K., Shanahan, F. Double blind, placebo controlled trial of two probiotic strains in interleukin 10 knockout mice and mechanistic link with cytokine balance. *Gut* 2003; 52(7):975-980.

O'Brien, M.G., Collins, C.G., Collins, J.K., Shanahan, F., O'Sullivan, G.C. Oral immune tolerance to tumor specific antigens may confer growth advantage to esophageal and gastric cancers. *Dis Esophagus* 2003;16(3):218-23.

O'Connor, T.M., O'Connell, J., O'Brien, D.I., Bennett, M.W., Goode, T., Burke, L., Bredin, C.P., Shanahan, F. Upregulation of Neurokinin-1 Receptor Expression in the Lungs of Patients with Sarcoidosis. *J Clin Immunol* 2003; 23(5):425-435.

O'Leary, C., McCarthy, J., Humphries, M., Shanahan, F., Quigley E. The prophylactic use of a proton pump inhibitor before food and alcohol. *Aliment Pharmacol Ther* 2003; 17(5):683-686.

Renehan, A.G., O'Connell, J., O'Halloran, D., Shanahan, F., Potten, C.S., O'Dwyer, S.T., Shalet, S.M. Acromegaly and colorectal cancer: a comprehensive review of epidemiology, biological mechanisms, and clinical implications. *Horm Metab Res* 2003; 35(11-12):712-25.

Wynne, F., Drummond, F.J., Daly, M., Brown, M., Shanahan, F., Mollow, M.G., Quane, K.A. Suggestive linkage of 2p22-25 and 11q12-13 with low bone mineral density at the lumbar spine in the Irish population. *Calcif Tissue Int* 2003;72(6):651-8.

#### **Invited Editorials and Perspectives**

Cronin, C.C., Shanahan, F. Exploring the iceberg – the spectrum of celiac disease. *Am J Gastroenterology* 2003;98(3):518-520.

#### **Book chapters**

Cronin, C., Shanahan, F. Understanding symptoms and signs in inflammatory bowel disease. In: Targan, S., Shanahan, F. and Karp, L. (editors) *Inflammatory Bowel Disease: From Bench to Bedside*, 2<sup>nd</sup> Edition. Kluwer Academic Publishers, Dordrecht, The Netherlands. 2003; 253-267.

Marteau P, Shanahan F. Role of antibiotics and probiotics in the management of inflammatory bowel disease. In: Targan S, Shanahan F and Karp L. (editors) *Inflammatory Bowel Disease: From Bench to Bedside*, 2<sup>nd</sup> Edition. Kluwer Academic Publishers, Dordrecht, The Netherlands. 2003; 573-585.

Shanahan, F. The therapeutic use of probiotics in gastrointestinal inflammation. In: *Functional Dairy Products*. Eds. Tiina Mattila-Sandholm and Maria Saarela. CRC Press LLC, Florida 33431, USA. ISBN 0-8493-1743-6.

Shanahan, F, Karp, L., Targan. S. Introduction: Inflammatory bowel disease: from bench to bedside. In: Targan, S., Shanahan, F. and Karp, L. (editors) *Inflammatory Bowel Disease: From Bench to Bedside*, 2<sup>nd</sup> Edition. Kluwer Academic Publishers, Dordrecht, The Netherlands. 2003; 3-4.

Shanahan F. Probiotics: rationale, challenges and scope. In: Bernstein C (editor). *The Inflammatory Bowel Disease Yearbook*. Remedica Publishing, London. 2003;147-163.

Shanahan F. Encyclopaedia of Gastroenterology 2003. Probiotics. (in press)

Targan S, Karp L and Shanahan F. Epilogue: Bench to bedside and back to bench. In:

Targan S, Shanahan F and Karp L. (editors) *Inflammatory Bowel Disease: From Bench to Bedside*, 2<sup>nd</sup> Edition. Kluwer Academic Publishers, Dordrecht, The Netherlands. 2003; 887-891.

#### **Review papers**

Cashman, K., Shanahan, F. Is nutrition an aetiological factor for IBD? *Eur J Gastroenterol Hepatol* 2003; 15(6):607-613.

Dunne, C., Shanahan, F. Biotherapeutic Agents in the Treatment of Gastrointestinal Disorders. *Current Treatments in Infectious Diseases* 2003; 5:183-188.

Marteau, P., Seksik, P., Shanahan, F. Manipulation of the bacterial flora in inflammatory bowel disease. *Best Pract Res Clin Gastroenterol* 2003;17(1):47-61.

Marteau, P., Shanahan, F. Basic aspects and pharmacology of probiotics: an overview of pharmacokinetics, mechanisms of action and side-effects. *Best Pract Res Clin Gastroenterol*. 2003 Oct;17(5):725-40.

Shanahan, F. Gut Flora in Gastrointestinal Disease. *Eur J Surg* 2002;Suppl 587:47-52.

Shanahan, F. Probiotics: Perspective on Problems and Pitfalls. *cand J Gastroenterol* 2003; 38 Suppl 237:34-36.

Shanahan, F. Colitis-associated cancer – time for new strategies. *Aliment Pharmacol Ther*. 2003 Sep;18 Suppl 2:6-9.

Shanahan, F. Probiotics in inflammatory bowel disease: therapeutic rationale and role. *Adv Drug Delivery Rev* (in press).

#### **International Scientific Meetings**

An Update on Inflammatory Bowel Disease. Probiotics and IBD: Are we there yet? Winnipeg, Canada June 6, 2003

Current Topics in Gastroenterology. Options in Prevention in Colorectal Cancer. Faro, Portugal July 4, 2003.

Dutch Society of Gastrointestinal Surgery. Future perspectives on IBD treatment. Amsterdam Sept 12, 2003.

EAGE meeting. Is there a role for probiotics in cancer prevention? Madrid November 2, 2003.

Flemish Society of Gastroenterology. Current and future applications of probiotics. Leuven November 28<sup>th</sup>, 2003.

Glasgow Gut Club Melrose Lecture. Host-Microbe interactions in IBD - clinical implications. Glasgow November 20, 2003.

Dunne C, Shanahan F. Role of probiotics in the treatment of intestinal infections and inflammation. Current Opinion in Gastroenterology 2002;18:40-45.

McCarthy, J., O'Mahony, L., O'Callaghan, L., Sheil, B., Vaughan, E., Fitzsimons, N., Fitzgibbon, J., Kiely, B., O'Sullivan, G., Collins, JK., Shanahan, F. (2003). Double-blind, placebo-controlled trial of two probiotic strains in IL-10 KO mice and mechanistic link with cytokine balance. Gut (in press).

Ryan, P., Bennett, MW., Aarons, S., Lee, G., Collins, JK., O'Sullivan, GC., O'Connell, J., Shanahan, F. PCR detection of mycobacterium paratuberculosis in Crohn's disease granulomas isolated by laser capture microdissection. Gut 2002;51:665-670.

Ryan, P., Aarons, S., Bennett, MW., Lee, G., O'Sullivan, GC., O'Connell, J., Shanahan, F. *Mycobacterium paratuberculosis* detected by nested PCR in intestinal granulomas isolated by LCM in cases of Crohn's disease. In: Methods in Molecular Biology 2002;93:205-211. RT-PCR Protocols edited by O'Connell J. Humana Press Inc, Totowa, NJ.

Shanahan, F. Understanding inflammatory bowel disease. In: Research and Clinical Forums 2002;24(1):207-210. IBD and Salicylates – 5 edited by Modigliani R. Wells Medical Holdings Ltd., Kent, England.

Shanahan F. Implications of pathophysiology for the clinical management of inflammatory bowel disease. In: Satsangi J, Sutherland L (eds). Inflammatory Bowel Diseases (4<sup>th</sup> edition) Elsevier Science. (In press). Shanahan F. Crohn's disease. Lancet 2002;359:62-69.

Shanahan F. Inflammatory bowel disease: immuno-diagnostics, immunotherapeutics and ecotherapeutics. Gastroenterology 2001; 120:622-635.

Shanahan F. The host-microbe interface within the gut. Best Practice & Research Clinical Gastroenterology 2002;16(6); 915-931.

Shanahan, F. Probiotics and inflammatory bowel disease: from fads and fantasy to facts and future. British Journal of Nutrition 2002;88:Suppl. 1, S5-S9.

Targan, S., Shanahan, F., Karp, L. Inflammatory Bowel Disease: From Bench to Bedside (2<sup>nd</sup> edition) 2003 (pages 903) Kluwer Academic Publishers, Dordrecht.

## PROPATH

De Vuyst, L., Makras, E. & Avonts, L. (2003). Probiotics, prebiotics and gut health. In: Remacle, C. & Reusens, B. (Eds.). *Functional foods, ageing and degenerative disease*. Woodhead Publishing Ltd., Cambridge, UK. In press.

### International journals

Georgalaki, M.D., Van den Berghe, E., Kritikos, D., Devreese, B., Van Beeumen, J., Kalantzopoulos, G., De Vuyst, L. & Tsakalidou, E. (2002). Macedocin: a food grade lantibiotic produced by *Streptococcus macedonicus* ACA-DC 198. Applied and Environmental Microbiology 68, 5891-5903.

Leroy, F. & De Vuyst, L. (2003). Exploring a functional starter culture. New Food 6 (2), 35-40.

Leroy, F. & De Vuyst, L. (2003). Llactic acid bacteria as functional starter cultures for the food fermentation industry. Trends in Food Science and Technology 2004, 15, 67-78.

P. Maragkoudakis, K. Petraki, B. Martinez, S. Michopoulos, G. Kalatzopoulos, B. Pot, E. Tsakalidou, A. Mentis and DN Sgouras (2003). Anti-Inflammatory activity of the probiotic *Lactobacillus casei* strain Shirota in C57BL6 mice infected with *Helicobacter pylori* SS1 strain. Helicobacter 2003, 8 (4), 412.

Neysens, P., Degeest, B., Vansielegem, W., Pot, B. & De Vuyst, L. The effect of tyrosine supplementation on the production of *p*-cresol by monocultures of the gut microflora during *in vitro* batch fermentations. Reproduction Nutrition Development 2002, 42 (Suppl. 1), S67.

Servin, A.L. & Coconnier, M.-H. (2003). Adherence of probiotics to the intestinal mucosa and interaction with pathogens. In Pre- and Probiotics in Gastroenterology (P.M. Marteau & J.P.G. Galmiche, Eds.). (In press).

Sgouras, D., Maragkoudakis, P. Petraki, K., Martinez-Gonzalez, B., Eriotou, E., Michopoulos, S., Kalantzopoulos, G., Tsakalidou, E. and Mantis, E. *In vitro* and *in vivo* inhibition of *Helicobacter pylori* by *Lactobacillus casei* strain Shirota. Applied and Environmental Microbiology 2004, 70, 518-526.

Van der Meulen, R., Avonts, L. & De Vuyst, L. Short fractions of oligofructose are preferentially metabolized by *Bifidobacterium animalis* DN-173 010. Applied and Environmental Microbiology. 2004, 70, 1922-1930.

Wessels, S., Axelsson, L., Hansen, E.B., De Vuyst, L., Laulund, S., Lähteenmäki, L., Lindgren, S., Mollet, B., Salminen, S., & von Wright, A (2003). The lactic acid bacteria, the food chain, and their regulation. Trends in Food Science and Technology 2004, 15, 498-505.

### Abstracts

De Preter, V., Vansielegem, W., Verbrugghe, K., De Vuyst, L., Vanhoutte, T., Huys, G., Swings, J. & Verbeke, K. (2003). Two candidate biomarkers to measure the functionality and effectivity of pre- and probiotics in healthy volunteers. ESPGHAN, Prague, Tchech Republic, June 4-7. (Selected speaker).

De Vuyst, L., Avonts, L., Makras, E., Holo, H., Servin, A., Managkoudakis, P., Tsakalidou, E., Kalantzopoulos, G., Sgouras, D., Mantis, A., Savu, L., Cappelle, S. & Nes, I. (2003). Probiotics against pathogenic microbes in the gastrointestinal tract. The Food, GI-Tract Functionality and Human Health Cluster PROEUHEALTH 2<sup>nd</sup> Workshop, Taormina, Italy, March 3-5, VTT Symposium 226, pp. 24-25. (Invited speaker).

De Vuyst, L. (2003). Inhibitory effects of probiotic lactic acid bacteria. Méte – Szie-étk - Flair-flow Workshop Functional Foods - Probiotics, Budapest, Hungary, April 25, pp. 19-21. (Invited speaker).

De Vuyst, L. (2003). Probiotics and gastrointestinal pathogens. Mini-symposium Probiotics. Leuven, Belgium, October 31. (Invited speaker).

De Vuyst, L., Makras, L., Avonts, L., Holo, H., Qing Yi, Servin, A., Fayol, D., Berger, C., Zoumpopoulou, G., Tsakalidou, E., Sgouras, D., Mantis, A., Smarandache, D., Savu, L.,

Cappelle, S. & Nes, I. (2003). The inhibitory effect of probiotic lactic acid bacteria towards pathogens. Milk & Dairy Products European Dairy Congress. Portoroz, Slovenia, November 15-18. (Invited speaker).

Makras, E., Avonts, L. & De Vuyst, L. (2003). *In vitro* activity of bifidobacteria and lactobacilli towards Gram-negative pathogenic bacteria.. Second Progress Meeting of the PROPATI project. Paris, France, January 15-18, pp. 20-21. (Speaker).

Zoumpopoulou, G., Maragkoudakis, P., Michalauskaite, L., Dezeure, N., Kalantzopoulos, G., Georgalaki, M., De Vuyst, L. & Tsakalidou, E. (2003). Probiotic potential of *Streptococcus macedonicus* strains. 2<sup>nd</sup> Probiotics & Prebiotics – New Foods. Rome, Italy, September 7-9. (Selected speaker).

### Proceedings

Avonts, L. & De Vuyst, L. (2002). Bacteriocin production by probiotic lactobacilli. Nederlandse Darmendag “Microbiology of the GI-tract”, Lelystad, The Netherlands, October 11, p. 18.

Avonts, E., Bax, D.A., Kusters, J.G., Sako, T. & De Vuyst, L. (2002). Bacteriocin production by probiotic *Lactobacillus* strains may cause the antibacterial activity against *Helicobacter pylori*. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, pp. 44-45.

De Vuyst, L. (2002). PROPATI: Molecular analysis and mechanistic elucidation of the functionality of probiotics and prebiotics in the inhibition of pathogenic microorganisms to combat gastrointestinal disorders and to improve human health. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, pp. 26-27.

De Vuyst, L., Avonts, L., Makras, E., Holo, H., Servin, P., Managkoudakis, P., Tsakalidou, E., Kalantzopoulos, G., Sgouras, D., Mantis, A., Savu, L., Cappelle, S. & Nes, I. (2002). Probiotics against pathogenic microbes in the gastrointestinal tract. The Food, GI-Tract Functionality and Human Health Cluster PROEUHEALTH, Taormina, Italy, March 3-5. VTT Symposium 226, pp. 24-25.

Maragkoudakis, P., Sgouras D., Petraki, K., Martinez, B., Michopoulos, S., Kalatzopoulos,

G., Pot, B., Tsakalidou, E. and Mantis, A. (2003). Inhibition of *H. pylori* colonization and associated gastritis in the HpSS1 C57BL/6 mouse model via administration of the probiotic *Lactobacillus casei* ACA-DC 6002. XVI International Workshop Gastroduodenal Pathology and Helicobacter pylori, Stockholm, Sweden.

Maragkoudakis, P.A., Zoumpopoulou, G., Kalantzopoulos, G., Pot, B. and Tsakalidou, E. (2003). Probiotic potential of lactobacilli isolated from food and animal sources. 2<sup>nd</sup> Probiotics and Prebiotics New Foods, Rome, Italy.

Zoumpopoulou, G., Maragkoudakis, P., Michalauskaitė, L., Dezeure, N., Kalantzopoulos, G., Georganaki, M., De Vuyst, L. and Tsakalidou, E. (2003). Probiotic potential of *Streptococcus macedonicus* strains. 2<sup>nd</sup> Probiotics and Prebiotics New Foods, Rome, Italy.

Maragkoudakis, P.A., Miaris, C., Sgouras, D., Mantis, A., Kalantzopoulos, G. & Tsakalidou, E. (2002). *In vitro* evaluation of the probiotic potential of *Lactobacillus* strains and their application in yoghurt. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, p. 51.

Neysens, P., Degeest, B., Vansielegem, W., Pot, B. & De Vuyst, L. (2002). The effect of tyrosine supplementation on the production of *p*-cresol by monocultures of the gut microflora during *in vitro* batch fermentations. Beyond antimicrobials – the future of gut microbiology. RRI-INRA 2002, Aberdeen, United Kingdom, June 12-15, P-101.

Sgouras, D., Maragkoudakis, P., Petraki, K., Martinez, B., Michopoulos, S., Tsakalidou, E., Kalantzopoulos, G. & Mantis, A. (2002). Inhibition of *H. pylori* colonization and associated gastritis in the HpSS1 C57BL/6 mouse model via administration of the probiotic *Lactobacillus paracasei* subsp. *paracasei* ACA-DC 6002. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, p. 60.

## PROSAFE

Goossens, H. (2002). Biosafety evaluation of probiotic lactic acid bacteria used for human consumption (PROSAFE). The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 1<sup>st</sup> Workshop, Saariselkä, Finland, February 1-3. VTT Symposium 219, pp. 28-29.

Goossens, H., Vankerckhoven, V., Vael, C., Van Autgaerden, T., Vancanneyt, M., Huys, G., Temerman, R., Swings, J., Klare, I., Konstabel, C., Werner, G., Witte, W., Romond, M-B., Odou, M-F., Mullie, C., Morelloin, P., Knol, J., Mensink, A. and Wiertz, E. (2002). Biosafety evaluation of probiotic lactic acid bacteria used for human consumption (PROSAFE). First Year's Results. The Food, GI-tract Functionality and Human Health Cluster PROEUHEALTH 2<sup>nd</sup> Workshop, Taormina, Italy, March 3-5. VTT Symposium 226, pp. 28-29.

Klare, I., Konstabel, C., Müller-Bertling, S., Reissbrodt, R., Huys, G., Vancanneyt, M., Swings, J., Goossens, H. and Witte, W. 2004. Evaluation of new broth media for microdilution antibiotic susceptibility testing of lactobacilli, lactococci, pediococci, and bifidobacteria. Applied and Environmental Microbiology, in press.

Masco, L., Huys, G., Gevers, D., Verbrugghen, L. and Swings, J. 2003. Identification of *Bifidobacterium* species using rep-PCR fingerprinting. Systematic and Applied Microbiology. 26, 557-563

Ouwehand, A., Vankerckhoven, V., and Goossens, H. 2003. Safety assessment of clinical, faecal and dairy *Lactobacillus* isolates: adhesion to extra cellular matrix proteins and human intestinal mucus. In Conferences Papers of the International Dairy Federation Centenary, Bruges, Belgium.

Vankerckhoven, V., Van Autgaerden, T., Vael, C., Lammens, C., Chapelle, S., Rossi, R., Jabes, D. and Goossens, H. 2003. Multiplex PCR for the Detection of *asa1*, *gelE*, *cylA*, *esp* and *hyl* genes in European Hospital Isolates of *Enterococcus faecium*. In Program and Abstracts of the 43th Interscience Conference on Antimicrobial Agents and Chemotherapy, Chicago, Illinois.

Vankerckhoven, V., Van Autgaerden, T., Vael, C., Lammens, C., Chapelle, S., Rossi, R., Jabes, D. and Goossens, H. 2004. Development of multiplex PCR for the detection of *asa1*, *gelE*, *cylA*, *esp* and *hyl* genes and survey for

virulence determinants in European hospital isolates of *Enterococcus faecium*. Journal of Clinical Microbiology 42(10): 4473-4479.

Vankerckhoven, V.V., Van Autgaerden, T., Huys, G., Vancanneyt, M., Swings, J. and Goossens, H. 2004. Establishment of the PROSAFE collection of probiotic and human lactic acid bacteria. Microbial Ecology in Health and Disease 16(2-3): 131-136.

#### Book chapter

Ouwehand, A.C., Vankerckhoven, V., Goossens, H., Huys, G., Swings, J., Vancanneyt, M., Lähteenmäki, A.. The safety of probiotics in foods in Europe and its' legislation. In Probiotics in Food Safety and Human health, Goktepe and Juneja, Eds. 2003, Marcel Dekker, New York.

Ouwehand, A.C., Vankerckhoven, V., Goossens, H., Huys, G., Swings, J., Vancanneyt, M., Lähteenmäki, A. The safety of probiotics in foods in Europe and its legislation. In Probiotics in Food Safety and Human health, Goktepe and Juneja, Eds., Marcel Dekker, New York (in press).

## PROTECH

Alakomi, H.-L., Mättö, J., Virkajärvi, I., Saarela, M. (2005). Application of microplate scale fluorochrome staining assay for assessment of viability of probiotic preparations. Journal of Microbiological Methods 62: 25-35.

Ananta, E. et al. (2004). Processing Effects on the Nutritional Advancement of Probiotics and Prebiotics Microbial Ecology in Health and Disease 16:113-124.

Ananta, E., Ardia, A., Heinz, V. and Knorr, D. High pressure treatment of bacteria and spores – Monitoring pressure-induced changes in microbial metabolic activities and cellular properties using flow cytometer Poster presentation at ICEF9 International Congress on Engineering and Food, 7-11 March 2004, Montpellier, France.

Ananta, E., Bauer, B., Volkert, M. und Knorr, D. (2005). Sprühtröcknung von probiotischen Bakterien Deutsche Molkerei Zeitung – DMZ 2:52-55.

Ananta, E., Heinz, V. and Knorr, D. (2003). Impact of high pressure treatment on metabolic

activities of lactic acid bacteria as assessed by flow cytometric analysis. Poster presentation at European Federation of Food Science and Technology (EFFoST) meeting Nonthermal processing workshop, 7-10 September 2003, NL-Wageningen.

Ananta, E., Heinz, V. and Knorr, D. (2004). Assessment of high pressure induced damage on *Lactobacillus rhamnosus* GG by flow cytometry. Food Microbiology 21:567-577.

Ananta, E., Heinz, V., and Knorr, D. (2003). Anwendung von hohem hydrostatischen Druck zur Erhöhung der Hitzeresistenz von probiotischen Mikroorganismen. Vortrag anlässlich der Sitzung von GVC-VDI Fachausschuss Lebensmittelverfahrens-technik, 12-14 März 2003, D-Fresing-Weihenstephan.

Ananta, E. & Knorr, D. (2003). Pressure induced thermotolerance of *Lactobacillus rhamnosus* GG. Food Research International 36:991-997.

Ananta, E. and Knorr, D. (2003). Pressure-induced stress response of probiotic bacteria *Lactobacillus rhamnosus* GG and its potential towards their industrial production. Oral presentation at the conference New Functional Ingredients and Foods 2003, 9-11 April 2003, Copenhagen, Denmark.

Ananta, E. and Knorr, D. (2004). Evidence on the role of protein biosynthesis in the induction of heat tolerance of *Lactobacillus rhamnosus* GG by pressure pre-treatment International Journal of Food Microbiology 96:307-313.

Ananta, E. and Knorr, D. Cross-adaptive stress response of pressure pre-treatment on probiotic bacteria: Characterization and importance for production processes. Oral presentation at ICEF9 International Congress on Engineering and Food, 7-11 March 2004, Montpellier, France.

Ananta, E. and Knorr, D. Use of flow cytometric analysis for the evaluation of microbial inactivation mechanisms. Oral presentation at FoodMicro 2004, 12-16 September 2004, Portoroz, Slovenia.

Ananta, E., Ponanti, M. and Knorr, D. (2002). Improvement of survival rate of probiotic bacteria durino spray-drying using high pressure and heat pre-treatment. Poster presentation at IBERDESH 2002 – Symposium Drying: Process, structure and functionality,

25-27 September 2002, Valencia, Spain.

Ananta, E., Volkert, M., Gloyna, D. & Knorr, D (2003). Untersuchungen zur Anwendbarkeit von Sprühtrocknung in der Herstellungstechnologie von probiotischen Bakterien. Vortrag anlässlich des Kongresses der Gesellschaft Deutscher Lebensmitteltechnologen, 25-27 September 2003, D-Stuttgart-Hohenheim.

Ananta, E., Volkert, M. and Knorr, D. Crucial aspects of the application of spray drying in the production of probiotics and prebiotics containing preparation. Poster presentation at 3rdPROEUHEALTH workshop, 15-17 March, Sitges, Spain.

Ananta, E., Volkert, M. and Knorr, D. Factors influencing survival rate and storage stability of spray dried *Lactobacillus rhamnosus* GG. Oral presentation at International Probiotic Conference, 15-19 September 2004, Kosice, Slovakia.

Ananta, E., Volkert, M. and Knorr, D. (2005). Cellular injuries and storage stability of spray dried *Lactobacillus rhamnosus* GG International Dairy Journal 15:399-409.

Ananta, E., Volkert, M., Voigt, D., Gunawan, R., and Knorr, D. The role of protective media in the viability retention of probiotic bacteria *Lactobacillus rhamnosus* GG during spray drying and storage. Oral presentation at EFFoST Conference, Food Innovations for an Expanding Europe, 26-29 October 2004, Warsaw, Poland.

Corcoran, B.M., Ross, R.P., Fitzgerald, G., and Stanton, C. (2003). Comparative survival of probiotic lactobacilli spray dried in the presence of prebiotic substances. Australian Journal of Dairy Technology, 58: 182 (Poster Abstract).

Corcoran, B.M., Ross, R.P., Fitzgerald, G., and Stanton, C. (2003). Comparative survival of probiotic lactobacilli spray dried in the presence of prebiotic substances. Journal of Applied Microbiology 96:1024-1039.

Corcoran, B.M., Ross, R.P., Fitzgerald, G., and Stanton, C. Effect of growth phase and use of prebiotics for spray drying of probiotic lactobacilli. Poster presentation at 3rdPROEUHEALTH workshop, 15-17 March, Sitges, Spain.

Desmond, C., Fitzgerald, G.F., Stanton, C. and Ross, R.P. (2004). Improved stress tolerance of GroESL-overproducing *Lactococcus lactis* and probiotic *Lactobacillus paracasei* NFBC 338. Applied and Environmental Microbiology, 70:5929-5936.

Desmond, C., Ross, R.P., O'Callaghan, E., Fitzgerald, G. and Stanton, C. (2002). Improved survival of *Lactobacillus paracasei* NFBC 338 in spray-dried powders containing gum acacia. Journal of Applied Microbiology 2002:1003-1011.

Desmond, C. Stanton, C., Fitzgerald, G.F., Collins, K., Ross, R.P. (2001). Environmental adaptation of probiotic lactobacili towards improvement of performance during spray drying. International Dairy Journal 11:801-808.

Hinz, S.W.A., van den Broek, L.A.M., Beldman, G., Vincken, J.-P. and Voragen, A.G.J. Highly specific  $\beta$ -galacosidase from *Bifidobacterium adolescentis* DSM 2003. Poster presentation at 3rdPROEUHEALTH workshop, 15-17 March, Sitges, Spain.

Hinz, S.W.A., van den Broek, L.A.M., Beldman, G., Vincken, J.-P. and Voragen, A.G.J. (2004).  $\beta$ -Galactosidase from *Bifidobacterium adolescentis* DSM20083 prefers  $\beta$ (1,4)-galactosides over lactose, Applied Microbiology and Biotechnology 66:276-284.

Klijn, A., Restle, E., Jankovic, I., Aymes, F. and Zink, R. (2002). Determination of the viability kinetics of Bifidobacteria in fermented dairy systems. Poster presentation at 7<sup>th</sup> Symposium on Lactic acid bacteria: Genetics, metabolism, and application, Sept. 1-5, 2002; Egmond aan Zee, NL.

Knorr, D. Nutritional enhancement of probiotics and prebiotics. (2003). Oral presentation at 2nd PROEUHEALTH workshop, Taormina, Italy.

Knorr, D. The current status of emerging technologies. (2003). Fair Flow Innovation workshop, Dipartimento di Scienze degli Alimenti, Universita degli Studi di Udine, Italy.

Knorr, D. (2003). New and innovative extraction, separation and preservation processes. 2nd Annual World Food Technology & Innovation Forum, Amsterdam, NL held by European Federation of Food Science and Technology (EFFoST) and German Agricultural Society (DLG)

Laitila, A., Saarela, M., Kirk, L., Siika-aho, M., Haikara, A., Mattila-Sandholm, T., Virkajärvi, I. (2004). Malt sprout extract medium (MSE) for cultivation of *Lactobacillus plantarum* protective cultures. Letters in Applied Microbiology 39:336-340.

Luscher, C., Ananta, E. and Knorr, D. Application of high pressure processing to frozen food systems - Influence on microorganisms. Poster presentation at FoodMicro 2004, 12-16 September 2004, Portoroz, Slovenia.

Mättö, J., Malinen, E., Suihko, M.-L., Alander, M., Palva, A., Saarela, M. (2004). Genetic heterogeneity and technological properties of intestinal bifidobacteria. Journal of Applied Microbiology 97:459-470.

Maukonen J, Alakomi H-L, Nohynek L, Hallamaa K, Leppämäki S, Mättö J, Saarela M. Suitability of the fluorescent techniques for the enumeration of probiotic bacteria in non-dairy drinks and in pharmaceutical products, Food Res Int, in press.

Nilsson U.T.R. Nyman E.M.G-L Short-chain fatty acid content in the hindgut of rats-prebiotic and probiotic interactions. Summercourse Glycosciences (7th European Training Course on Carbohydrates), Wageningen, The Netherlands, 23-27 June 2002 (Poster).

Nilsson U.T.R. Nyman E.M.G-L Bildning av kortkedjiga fettsyror i kolon på råtta : pre- och probiotiska interaktioner. Functional Food konferens, Lund, 22-23 oktober 2002 (Poster).

Nilsson U.T.R. Nyman E.M.G-L Bildning av kortkedjiga fettsyror i kolon på råtta : pre- och probiotiska interaktioner. Livsmedelsforskardagarna Utsikt-Insikt, Lund, Sweden, 13-14 november 2002 (Poster).

Nilsson, U.T.R., Nyman, E.M.G.L: Short-chain fatty acid content in the hindgut of rats-prebiotic and probiotic interactions. International symposium "Future Technologies for Food Production and Future Food Scientists", Gothenburg, Sweden, June 2-4 2003 (Poster).

Nohynek L. Mättö J, Saarela M. Adhesive properties of plant fibres and their effect on storage stability of probiotic bacteria. 19<sup>th</sup> international ICFMH Food Micro 2004 symposium, Slovenia, September 2004.

Nyman, M. (2003). Importance of processing for physico-chemical and physiological properties of dietary fibre. Proceedings of the Nutrition Society, 62:1-6.

Saarela, M., Hallamaa, K., Mattila-Sandholm, T. and Mättö, J. (2003). The effect of lactose derivatives lactulose, lactitol and lactobionic acid on the functional and technological properties of potentially probiotic *Lactobacillus* strains. International Dairy Journal, 13, 291-302.

Saarela M, Virkajärvi I, Vaari A, Mättö J. Fibers and prebiotics as carriers for *Lactobacillus rhamnosus* during freeze-drying and storage in food products. ASM 105<sup>th</sup> general meeting, Atlanta, Georgia, USA June 6-9, 2005.

Stanton, C., Desmond, C., Coakey, M., Collins, J.K., Fitzgerald, G., Ross, R.P. (2003). Challenges Facing Development of Probiotic-Containing Functional Foods. In 'Handbook of Fermented Functional Foods: C Series: Functional Foods and Nutraceuticals Volume: 5' (Ed. Farnworth, E.R.) CRC Press, pp. 27-58.

Stanton, C; Desmond, C; Fitzgerald, G; Ross, R.P. (2003) Probiotic health benefits - reality or myth? Australian Journal of Dairy Technology, 58 (2): 107-113, Aug 2003.

Virkajärvi, Mättö, Vaari, Saarela. Effect of fermentation time and freeze-drying medium on viability and characteristics of probiotics. Poster at the 2<sup>nd</sup> workshop of PROEUHEALTH, Taormina, Italy, 3-5 March, 2003.

Virkajärvi, Mättö, Vaari, Saarela. Effect of fermentation time and freeze-drying medium on viability and characteristics of probiotics. NFIF2003, New Functional Ingredients and Foods, Copenhagen, Denmark, 9-10.4.2003.

Virkajärvi, Vaari, Siren, Mattila-Sandholm, Saarela. Development of a fermentation medium for probiotic lactobacilli and bifidobacteria. Poster at the 1<sup>st</sup> workshop of PROEUHEALTH, Saariselkä, Finland, 1-3 February, 2002.

Wesenfeld, J. and Stahl, U. Development of a new lyoprotective formulation to enhance the viability and stability of the probiotic *L. rhamnosus* E800 and *L. rhamnosus* GG. Poster presentation at 3rdPROEUHEALTH workshop, 15-17 March, Sitges, Spain.

