Monday 20 March

9:30 Conference Introduction and Overview
   Dr. Tony Hasting and Dr. Ian Wilson

10:00 Session I - Surfaces
   Session Chairs - Dr Tony Hasting and Dr Thierry Bénézech

10:00 Assessment of organic material and microbial components on hygienic surfaces
   J. Verran, P.J. Airey and K. Whitehead

   A.N. Parbhu, M. Danne and S. Hendy

10:50 A study of the effects of surface coating on the initial deposition mechanisms of dairy fouling
   S.S. Premathilaka, S. Wiehe, M.M. Hyland, X.D. Chen and B. Bansal

10:55 Effect of electroless Ni-P-based composite coatings with different surface free energies on cleaning time of tomato fouling deposit
   N. Ab Aziz, P.J. Fryer and Q. Zhao

11:00 The influence of surface treatment on removal of food fouling layers

11:05 Influences on the result of cleaning in food and pharma industry
   U. Beck, U. Bobe, G. Reiners and K. Sommer

Tea break and Posters

11:40 The effect of substratum surface topography on the retention of microorganisms and organic material on defined surfaces
   K. Whitehead and J. Verran

12:05 Innovative self-cleaning and bactericide coated polymer films and fabrics under daylight irradiation
   T. Yuranova, J. Rengifo, A. Rincon, C. Pulgarin and J. Kiwi

12:30 Solute-membrane fouling interactions during the ultrafiltration of black tea liquor
   P.J. Evans and M.R. Bird
### Monday 20 March

<table>
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<tr>
<th>Time</th>
<th>Session II – Measurement and Modelling</th>
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| 14:00 | Application of MRI and CLSM for the analysis of biofilm detachment  
| 14:25 | Monitoring deposit build-up using a novel mechatronic surface sensor (MSS)  
A. Pereira, R. Rosmaninho, J. Mendes and L.F. Melo |
| 14:50 | Diffusion of chlorine dioxide through aqueous and oil films  
A.A. Hosni, A. Jang, M. Coughlin and P.L. Bishop |
| 14:55 | Confocal laser scanning microscopy and fluid dynamic gauging as a tool for determination of biofilm stability  
| 15:00 | A method for monitoring substratum hygiene using a complex soil; the human fingerprint  
P. Airey and J. Verra |
| 15:05 | Monitoring of biofilm development in industrial water circuits by an online-sensor-system  
H. Horn, D. Goll and L. Teichmann |
| 15:10 | Investigation of membrane foulants in a drinking water production unit by ATR-FTIR spectroscopy and lectin-binding-analysis  
B. Doumèche, L. Galas, H. Vaudry and P. Di Martino |
| 15:15 | Use of a radial flow cell for the cleanability assessment of solid surfaces  
J. Detry, L. Boulangé-Petermann, P.G. Rouxhet, C. Deroanne and M. Sindic |
| 15:20 | Polyaspartic acid as a cleaning agent for calcite and barite deposits  
J. Braxton, B. Crow and C.S. Grant |
| 15:25 | The fouling of ultrafiltration membranes using model tea component solutions  
D. Wu and M.R. Bird |
| 15:30-16:00 | Tea Break |
Monday 20 March

16:00  **Session II – Measurement and Modelling (continued)**  
**Session Chairs**– Prof. Per Einar Granum and Dr John Chew

16:00  Predicting cleaning: Estimate fluctuations in signal from electrochemical wall shear stress measurements using CFD  
*B.B.B. Jensen, T. Bénézech, P. Legentilhomme, C. Lelièvre and A. Friis*

16:25  Simple models for cleaning 1: Cohesive and adhesive removal in the cleaning of model food deposits  
*W. Liu, Z. Zhang and P.J. Fryer*

16:50  Simple models for cleaning 2: Diffusion-reaction behaviour in the cleaning of model food deposits  
*G.K. Christian and P.J. Fryer*

16:55  Comparative studies of fluid dynamic gauging and a micromanipulation probe for strength measurements  

17:00  The mechanical effect of rinsing in cleaning of fermentation tank bottoms  
*S. Salo, S. Johnsen, B.B.B. Jensen, E. Storgårds and A. Friis*

17:05  Assessing the cleaning of unhygienic geometries in the food industry using computational fluid dynamics (CFD)  
*K. Asteriadou, T. Hasting, M.R. Bird and J. Melrose*

17:10  Development of a novel spinning disc deposition system  
*R. Nigo, W.R. Paterson and D.I. Wilson*

17:15  **Summary and Close**

18:00-19:30  **Session II Poster Session and pre-dinner drinks in Upper Hall, JE**
9:30  **Session III – Dairy**  
Session Chairs – Profs. Albrecht Graßhoff and Marie Paulsson

9:30  Review on fouling control in the dairy industry: what do we have and what needs to be done  
*P. de Jong and A.J. van Asselt*

10:00  Role of ionic calcium in fouling of heat treated milk  
*S. Prakash, H. Deeth, A. Grandison and M. Lewis*

10:25  Effect of preheating on fouling of UHT sterilizing plants by fresh, recombined and reconstituted whole milk  
*A Srithantra, D.F. Newstead, O.J. McCarthy and A.J.H. Paterson*

10:50  **Tea Break**

11:15  Analysis of milk fouling in an ohmic heater: effect of temperature and power frequency  
*B. Bansal and X.D. Chen*

11:40  Minimum wetting rates for falling-films  
*K.R. Morison, Q. A.G. Worth and N.P. O’Dea*

11:45  Deposition on electrode surfaces during thermal processing of milk in an ohmic heater  
*B. Bansal and X.D. Chen*

11:50  Simulation of fouling behaviour in a helical triple tube ultra-high-temperature (UHT) milk sterilizer  
*P.K. Sahoo, P.K. Nema and A.K. Datta*

11:55  Reducing milk fouling using ultrasonic power  
*S.X. Lin and X.D. Chen*

12:00  Demonstration of cleaning kinetics using a pilot-scale test rig and implications for dairy manufacturers  
*M.W. Danne, S.C. Warren, G.C. Knight, J.G. Issa, D.V. Irwin and M.G. Weeks*

12:25  Cleaning of whey protein fouling layers using pulsed flow  
*K. Bode, R.J. Hooper, W.R. Paterson, D.I. Wilson, W. Augustin and S. Scholl*
Tuesday 21 March

14:15 Session III – Dairy (continued)
Session Chairs – Prof. Peter Fryer and Dr Michael Bird

14:15 Probing the mechanisms limiting dissolution of whey protein gels during cleaning
  R. Mercadé-Prieto, R.J. Falconer, W.R. Paterson and D.I. Wilson

14:40 Optimisation of cleaning of spiral PES ultrafiltration membranes in the dairy industry: Physico-chemical and hydrodynamic aspects
  M. Rabiller-Baudry, D. Delaunay, L. Paugam, L. Bégoin and B. Chaufer

15:05 Physico-chemical effect of simple alkaline and acid solutions in cleaning sequences of spiral ultrafiltration membranes fouled by skim milk
  L. Paugam, M. Rabiller-Baudry, D. Delaunay, J.F. Perez and B. Chaufer

15:10 Dissolving heat induced protein gel cubes in alkaline solutions
  J.Y. Yoo, X.D. Chen, R. Mercadé-Prieto and D.I. Wilson

15:15 Comparison of whey protein fouling layers derived by deposition and gelation
  R.J. Hooper, W.R. Paterson and D.I. Wilson

15:20 Development of a novel micro-scale technique for monitoring food proteins undergoing cleaning
  R.J. Hooper, J.Y.M. Chew, W.R. Paterson and D.I. Wilson

15:25 Cleaning the cleaning solution - an industry approach to CIP recovery
  D. Irwin, S. Warren, M. Danne and M. Weeks

15:30 Factors affecting the cleaning efficiency of polysulphone membranes after cream ultrafiltration
  Y. Hernández, A. Grandison, M. Lewis, J. Highnam and A. McInnes

15:40-17:00 Tea and Session III Poster Session
Wednesday 22 March

9:30   Session III – Microbes
       Session Chairs – Prof. Joanna Verran and Dr Ian Wilson

9:30  Influence of wall shear stress variations on microbial removal along different pipe arrangements during cleaning-in-place
       W. Blel, T. Bénézech, P. Legentilhomme, J. Legrand and C. Le Gentillelièvre

9:55  Control of flow-generated biofilms with surfactants - evidence of resistance and recovery
       M. Simões, L.C. Simões, I. Machada, M.O. Pereira and M.J. Vieira

10:20 Investigation of mechanisms of Bacillus cereus spore removal during an alkaline cleaning of a tubular ceramic microfiltration membrane
       P. Blanpain-Avet, C. Faille and T. Bénézech

10:45 Influence of material type and surface benzalkonium chloride preconditioning on biofilm formation and activity

10:50 UV intensity variation from high output sources - mercury arc lamps
       D. Chambers, S. Theng and D. Marsden

10:55 Measurement techniques and surface technologies to control biofouling on poultry equipment
       J.W. Arnold

11:00 Tea Break and Poster Session

11:30 Microbial activity of biopolymers isolated from Sphagnum papillosum
       T. Stalheim, S. Ballance, B.E. Christensen and P.E. Granum

11:55 Microbial inactivation using cold atmospheric gas plasmas
       X.T. Deng, J.J. Shi, G. Shama and M.G. Kong

12:20 Summary and Close