Contents

NMR in foods: the industrial perspective
*J.P.M. van Duynhoven, A. Haiduc, F. van Dorsten and E. van Velzen*

**Food in the Human Body**

Functional MRI of food in the gastrointestinal tract
*E. Cox, C.L. Hoad, L. Marciani, R.C. Spiller and P.A. Gowland*

Nutrimetabonomics: metabonomics in food science
*H. Tang and Y. Wang*

Metabolomics in food science: evaluating the impact of functional foods on the consumer
*C.A. Daykin, F. Wülfer and J.P.M. van Duynhoven*

**Food Quality**

$^1$H NMR-based metabonomics applied in the elucidation of biochemical effects of consumption of whole grain cereals
*H.C. Bertram, K.E. Bach Knudsen, A. Malmendal, N.C. Nielsen, X. Fretté and H.J. Andersen*

Low molecular weight metabolites in white muscle from cod (*gadus morhua*) and haddock (*melanogrammus aeglefinus*) analyzed by high resolution $^1$H NMR spectroscopy
*I.B. Standal, I.S. Gribbestad, T.F. Baten, M. Aursand and I. Martinez*

NMR of cell walls: a multi-scale approach
*C. Rondeau-Mouro, H. Bizot and M. Lahaye*

MRI of a meat-related food system
*J.P. Renou, J.M. Bonny, L. Foucat and A. Traoré*

Use of MRI to probe the water proton mobility in soy and wheat breads
*A. Lodi and Y. Vodovotz*

Probing water migration and mobility during the ageing of bread
*N.M. Sereno, S.E. Hill1, J.R. Mitchell, U. Scharf and I.A. Farhat*

High resolution NMR tools for the analysis of beer and wine
*A.M. Gil and J. Rodrigues*
Adulteration study in Brazilian honey by SNIF and $^1$H NMR
E.F. Boffo, L.A. Tavares, A.G. Ferreira, M.M.C. Ferreira and A.C.T. Tobias

The practical aspects of the quantitative analysis of solid-liquid systems using TD-NMR with low-field instruments
L. Andrade, W. MacNaughtan and I.A. Farhat

**Food Processing**

Influence of grain structural components on the drying of wheat: a magnetic resonance imaging study

Dynamic visualisation of structural changes in cereal materials under high-moisture conditions using 3D MRI and XRT
W.P. Weglarz, G.J.W. Goudappel, G. van Dalen, H. Blonk and J.P.M. van Duynhoven

MRI study of polenta gelatinization during cooking
I. Serša, A. Sepe and U. Mikac

The melting behaviour of lard in “Danish style” liver pâté as measured by DSC and TD-NMR
G. Svenstrup, E. Micklander, J. Risbo and I.A. Farhat

**New Techniques and Novel Data Analysis and Exploitation**

Motional relativity and novel NMR sensors
B. Hills, K. Wright, N. Marigheto and D. Hibberd

Molecular dynamics in sugar classes as revealed by recent dynamic solid-state NMR methods
D. Reichert, O. Pascui, M. Kovermann, N.E. Hunter and P.S. Belton

How much information is there in an NMR measurement?
P.S. Belton

Advances in the magnetic resonance imaging of extracellular matrix of meat
J.M. Bonny, L. Foucat, M. Mouaddab, L. Sifre-Maunier, A. Listrat and J.P. Renou

Separation of two dimensional diffusion and relaxation time distributions from oil/fat and moisture in food
G.H. Sørland, F. Lundby and Å. Ukkelberg

Dairy product authentication by $^1$H NMR spectroscopy in combination with different chemometric tools
M. Cuny, E. Vigneau, M. Lees and D.N. Rutledge
Contents

A ternary full-rank experimental design as viewed by chemometrics and NMR spectroscopy
H. Winning and S.B. Engelsen 205

Phytic acid degradation by phytase as viewed by $^{31}$P NMR and multivariate curve resolution
M.M. Nielsen, N. Viereck and S.B. Engelsen 214

Subject Index 223