

ISSUE 47 (APRIL-JUNE 2016)

CAT PROFESSOR RASMUS BRO AND A TEAM OF COLLEAGUES PUBLISH RESULTS THAT CAN FORECAST INDIVIDUAL BREAST CANCER 2-5 YEARS AHEAD OF TIME

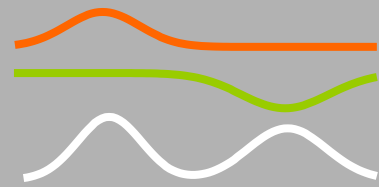
Together with professor Lars Ove Dragsted and colleagues from the Danish Cancer Society the team propose to use a biocontour obtained from NMR spectra of a blood sample and clinical parameters to predict breast cancer 2-5 years ahead of time. The study have been published in the journal *Metabolomics* and by several media including DR and TV2.



Tine, Karl Norris and Søren at IDRC2016

CAT PHD STUDENT TINE RINGSTED OBTAINED A TRAVEL GRANT TO GO TO THE INTERNATIONAL DIFFUSE REFLECTANCE SOCIETY (IDRS) MEETING IN CHAMBERSBURG (US)

Tine obtained the grant for her poster abstracts about (1) using supercontinuum lasers to measure long-wavelength NIR transmission spectra of barley seeds and (2) augmenting the interpretation of NIR spectra of bread staling by using 2DNIR-MIR covariance spectroscopy.



Peer reviewed publications April-June 2016:

AV Müller, FJ McEvoy, J Tomkiewicz, SN Politis, JM Amigo. Ultrasonographic predictors of response of European eels (*Anguilla anguilla*) to hormonal treatment for induction of ovarian development. *American Journal of Veterinary Research*. 77 (5), 478-486, 2016.

P Buldo, C Benfeldt, DM Folkenberg, HB Jensen, JM Amigo, S Siewerts, K Thygesen, F van den Berg, R Ipsen. The role of exopolysaccharide-producing cultures and whey protein ingredients in yoghurt. *LWT - Food Science and Technology*. 72, 189-198, 2016.

CE Eskildsen, PW Hansen, T Skov, F Marini, L Nørgaard. Evaluation of multivariate calibration models transferred between spectroscopic instruments: applied to near infrared measurements of flour samples. *Journal Of Near Infrared Spectroscopy*. 24, 151–156, 2016.

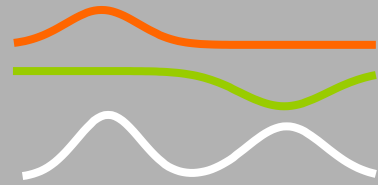
AJ Lawaetz, SMU Christensen, SK Clausen, B Jørnsgaard, SK Rasmussen, SB Andersen, Å Rinnan. Fast, cross cultivar determination of total carotenoids in intact carrot tissue by Raman spectroscopy and Partial Least Squares calibration. *Food Chemistry*. 204, 7–13, 2016.

I Lauri, F Savorani, N Iaccarino, P Zizza, LM Pavone, E Novellino, SB Engelsen, A Randazzo. Development of an Optimized Protocol for NMR Metabolomics Studies of Human Colon Cancer Cell Lines and First Insight from Testing of the Protocol Using DNA G-Quadruplex Ligands as Novel Anti-Cancer Drugs. *Metabolites*. 6 (4), 1-14, 2016.

C Schueuermann, B Khakimov, SB Engelsen, P Bremer, P Silcock. GC-MS Metabolite Profiling of Extreme Southern Pinot noir Wines: Effects of Vintage, Barrel Maturation, and Fermentation Dominate over Vineyard Site and Clone Selection. *Journal of Agricultural and Food Chemistry*. 64, 2342–2351, 2016.

V Aru, MB Pisano, F Savorani, S B Engelsen, S Cosentino, FC Marincola. Metabolomics analysis of shucked mussels' freshness. *Food Chemistry*. 205, 58–65, 2016.

P Ebrahimi, FH Larsen, HM Jensen, FK Vogensen, SB Engelsen. Real-time metabolomic analysis of lactic acid bacteria as monitored by *in vitro* NMR and chemometrics. *Metabolomics*. 12, 1-17, 2016.



Peer reviewed publications April-June 2016:

AMM Schoos, BL Chawes, MA Rasmussen, J Bloch, K Bønnelykke, H Bisgaard. Atopic endotype in childhood. *Journal of Allergy and Clinical Immunology*. 137 (3), 844-852, 2016.

LBB Andersen, K Arnberg, E Trolle, KF Michaelsen, R Bro, CB Pipper, C Mølgaard. The effects of water and dairy drinks on dietary patterns in overweight adolescents. *International Journal of Food Sciences and Nutrition*. 67 (3), 314-324, 2016.

IC Torres, G Mutaf, FH Larsen, R Ipsen. Effect of hydration of microparticulated whey protein ingredients on their gelling behaviour in a non-fat milk system. *Journal of Food Engineering*. 184, 31-37, 2016.

NH Vissing, JM Larsen, MA Rasmussen, BLK Chawes, AH Thyssen, K Bønnelykke, S Brix, H Bisgaard. Susceptibility to Lower Respiratory Infections in Childhood is Associated with Perturbation of the Cytokine Response to Pathogenic Airway Bacteria. *The Pediatric Infectious Disease Journal*. 35 (5), 561-566, 2016.

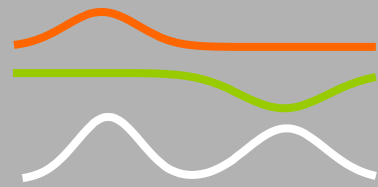
A Biancolillo, KH Liland, I Måge, T Næs, R Bro. Variable selection in multi-block regression. *Chemometrics and Intelligent Laboratory Systems*. 156, 89–101, 2016.

NA Poulsen, CE Eskildsen, M Akkerman, LB Johansen, MS Hansen, PW Hansen, T Skov, LB Larsen. Predicting hydrolysis of whey protein by mid-infrared spectroscopy. *International Dairy Journal*. 61, 44-50, 2016.

JM Amigo, A del Olmo Alvarez, MM Engelsen, H Lundkvist, SB Engelsen. Staling of white wheat bread crumb and effect of maltogenic α -amylases. Part 1: Spatial distribution and kinetic modeling of hardness and resilience. *Food Chemistry*. 208, 318–325, 2016.

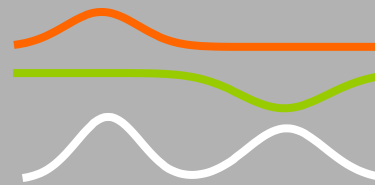
C Alamprese, JM Amigo, E Casiraghi, SB Engelsen. Identification and quantification of turkey meat adulteration in fresh, frozen-thawed and cooked minced beef by FT-NIR spectroscopy and chemometrics. *Meat Science*. 121, 175–181, 2016.

V Aru, MB Pisano, F Savorani, SB Engelsen, S Cosentino, FC Marincola. Data on the changes of the mussels' metabolic profile under different cold storage conditions. *Data in Brief*. 7, 951–957, 2016.



Other publications incl. media April-June 2016:

S Knøchel, SB Engelsen. Genbrug procesvandet. *Teknisk nyt.* 5, 10-13, 2016.



Staff:

- Lisbet Snedstrup Christensen, CAT secretary from 1/6-2016
- Jeppe Frans Steendahl Sørensen, MSc stud. 1/5 – 23/6-2016 (Å Rinnan)

Guest Researchers:

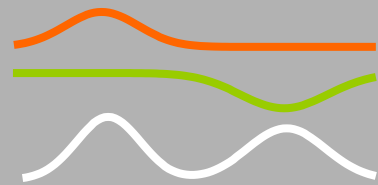
- Juliana Monteiro Balage, Guest PhD stud., 15/4 – 31/8-2016 (JM Amigo)
- Lina del Pilar Bonilla Camelo, Guest researcher, 1/5 – 30/7-2016 (R Bro)
- Sandra Munera Picazo, Guest PhD stud., 1/5 – 29/7-2016 (JM Amigo)
- Neirivaldo Cavalcante, Guest PhD stud., 11/5-2016 – 1/2-2017 (JM Amigo)
- Manuela Mancini, Guest PhD stud., 1/6 – 30/9-2016 (Å Rinnan)

PhD defenses:

- Anna Klimkiewicz (supervisor F van den Berg) successfully defended her PhD thesis, *Multivariate statistical process optimization in the industrial production of enzymes*, April 21st 2016
- Carl Emil Aae Eskildsen (supervisor T Skov) successfully defended his PhD thesis, *Prediction of milk quality parameters using vibrational spectroscopy and chemometrics*, May 27th 2016

BSc & MSc defenses:

- Marie Rosenberg Bak, MSc (supervisor F van den Berg): Determination of malic acid in wine by spectral evolution profiling using FT-IR. April 20th 2016
- Helena da Silva Friis, MSc (supervisor R Bro): Beer profiling - a new approach for understanding the complexity of beer. May 4th 2016
- Jakob Dan-Nielsen, MSc (supervisor FH Larsen): A spectroscopic and chemical analysis on the composition of spent coffee grounds – An exploratory investigation of processing effects. June 13th 2016



Courses April – June 2016:

Block 4:

- BSc: Fødevarerfremstilling og ernæring (KM Sørensen, 100 students)
- MSc: Process Analytical Chemistry and Technology (F van den Berg, T Skov, 5 students)
- MSc: Lectures in: Food Ingredients and Structure Design (FH Larsen, 18 students)
- PhD: Introduction to Matlab for Multivariate Data Analysis (JM Amigo, 11 students)
- PhD: Copenhagen School of Chemometrics – CSC 18/4 – 26/5-2016 (JM Amigo, 40 students)
- ODIN: Design of Experiments, (18/5 – 19/5-2016 (F van den Berg, 14 participants))

New granted projects:

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