Spectroscopy & Chemometrics

ISSUE 42 (JANUARY-MARCH 2015)

SPECTROSCOPY & CHEMOMETRICS TAKE OVER THE BSC COURSE ON STATISTICS AND MULTIVARIATE DATA ANALYSIS FOR FOOD SCIENCE STUDENTS CALLED FOOD DATA ANALYSIS 1

Based on the recent Scientific Advisory Board (Professor Dietrich Knorr, University of Berlin; Vice Director Esben Laulund, Chr. Hansen; Professor Douglas Rutledge, AgroParisTech; Professor Luca Coccolin, University of Turin; Senior vice-president R&D Paul Cornillon, ARLA; Research Director Einar Risvik, Nofima Food) **evaluations** and **recommendations**:

- **The section's key competences are in a wide range of spectroscopic techniques and chemometrics applied to industrial and academic research for food and health**
- **A very dynamic and creative team with involvement in a wide range of inter-disciplinary applications**
- **Very efficient in producing talents and research results with existing resources**
- **The SAB strongly recommends chemometrics as an enabler to reinforce the existing level of excellence of all sections**
- **Adaptation of some existing MSc chemometrics courses to the BSc level**
- **Create a means to share high-end instrumentation across FOOD and possibly KU**
- **Encourage even stronger, organic links between SPECC and the other FOOD teams**

The FOOD Leader Group supported by the Faculty of Science have decided to replace the existing statistic BSc course in statistics by a new course headed by SPECC. Former SPECC PhD Morten Arendt Rasmussen is hired to be in charge of the new course.

Spectroscopy & Chemometrics
Department of Food Science
Faculty of Science
University of Copenhagen

Rolighedsvej 26
DK - 1958 Frederiksberg C
Phone + 45 35 33 32 39
www.models.life.ku.dk

Spectroscopy & Chemometrics

Peer reviewed publications Jan-Mar 2015:

T Næs, A Segtnan, BS Granli, E Menichelli, M Hersleth. Stability in consumer responses to familiar and new chocolates during a period of exposure. *Food Quality and Preference.* 39, 176–182, 2015.

M Hersleth, E Monteleone, A Segtnan, T Næs. Effects of evoked meal contexts on consumers' responses to intrinsic and extrinsic product attributes in dry-cured ham. *Food Quality and Preference.* 40, 191–198, 2015.

L Louw, S Oelofse, T Næs, M Lambrechts,P van Rensburg, H Nieuwoudt. The effect of tasting sheet shape on product configurations and panellists' performance in sensory projective mapping of brandy products. *Food Quality and Preference*. 40, 132–136, 2015.

C Davino, R Romano, T Næs. The use of quantile regression in consumer studies. *Food Quality and Preference*. 40, 230–239, 2015.

A Biancolillo, I Måge, T Næs. Combining SO-PLS and linear discriminant analysis for multi-block classification. *Chemometrics and Intelligent Laboratory Systems*. 141, 58–67, 2015.

L Louw, S Oelofse, T Næs, M Lambrechts, P van Rensburg, H Nieuwoudt. Optimisation of the partial napping approach for the successful capturing of mouthfeel differentiation between brandy products. *Food Quality and Preference.* 41, 245–253, 2015.

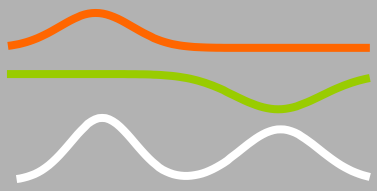
O Tomic, I Berget, T Næs. A comparison of generalised procrustes analysis and multiple factor analysis for projective mapping data. *Food Quality and Preference*. 43, 34–46, 2015.

H Babamoradia, JM Amigo, F van den Berg, MR Petersen, N Satake, G Boe-Hansen. Quality assessment of boar semen by multivariate analysis of flow cytometric data. *Chemometrics and Intelligent Laboratory Systems.* 142, 219–230, 2015.

R Civellia, JM Amigo, V Giovenzana, R Beghi, R Guidettia. Daily freshness decay of minimally processed apples using VIS/NIR multispectral imaging: preliminary tests. *Chemical Engineering Transactions.* 44, 1-6, 2015.

R Fernandez-Varela, N Ratola, A Alves, JM Amigo. Relationship between levels of polycyclic aromatic hydrocarbons in pine needles and socio-geographic parameters. *Journal of Environmental Management*. 156, 52-61, 2015.

Spectroscopy & Chemometrics



Peer reviewed publications Jan-Mar 2015:

M Khorasania, JM Amigo, J Sonnergaard, P Olsen, P Bertelsen, J Rantanen. Visualization and prediction of porosity in roller compacted ribbons with near-infrared chemical imaging (NIR-CI). *Journal of Pharmaceutical and Biomedical Analysis.* 109, 11–17, 2015.

Å Rinnan, D Giacalone, MB Frøst. Check-all-that-apply data analysed by Partial Least Squares regression. *Food Quality and Preference*. 42, 146–153, 2015.

L Lenhardt, R Bro, I Zekovic, T Dramicanin, MDDramicanin. Fluorescence spectroscopy coupled with PARAFAC and PLS DA for characterization and classification of honey. *Food Chemistry.* 175, 284–291, 2015.

B Khakimov, G Gürdeniz, SB Engelsen. Trends in the application of chemometrics to foodomics studies. *Acta Alimentaria*. 44 (1), 4–31, 2015.

C Svendsen, T Skov, F van den Berg. Monitoring fermentation processes using in-process measurements of different orders. *Journal of Chemical Technology and Biotechnology*. 90 (2), 244–254, 2015.

S Elcoroaristizabal, R Bro, JA García, L Alonso. PARAFAC models of fluorescence data with scattering: A comparative study. *Chemometrics and Intelligent Laboratory Systems*. 142, 124–130, 2015.

L Holm, AP Jespersen, DS Nielsen, MB Frøst, S Reitelseder, T Jensen, SB Engelsen, M Kjaer, T Damsholt. Hurrah for the increasing longevity: feasible strategies to counteract age-related loss of skeletal muscle mass. *Scandinavian Journal of Medicine & Science in Sports.* 25, 1–2, 2015.

JK Jensen, N Ottosen, SB Engelsen, F van den Berg. Investigation of UF and MF Membrane Residual Fouling in Full-Scale Dairy Production Using FT-IR to Quantify Protein and Fat. *International Journal of Food Engineering*. 11 (1), 1–15, 2015.

DT Berhe, AJ Lawaetz, SB Engelsen, MS Hviid, R Lametsch. Accurate determination of endpoint temperature of cooked meat after storage by Raman spectroscopy and chemometrics. *Food Control*. 52, 119-125, 2015.

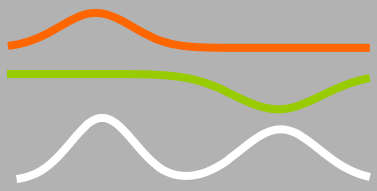
Other publications Jan-Mar 2015:

MB Mercader, JM Amigo. Manufacturing semi-solid and liquid dosage forms: A point of view from the NIR-PAT perspective. In: *European pharmaceutical review*. Chapter 13, 20 (1), 19-23, 2015.

Media:

-

Spectroscopy & Chemometrics



Staff:

- Morten Arendt Rasmussen, Assoc. Professor 1/1-2015 – 21/12-2016
- Marta Bevilacqua, Post doc 1/2 – 30/9-2015 (JM Amigo)
- Julie Ohrt Jensen, Stud. help. 1/3 – 31/3-2015 (T Skov)
- Sarah Kofoed-Nielsen, MSc student 1/2 – 3/8-2015 (FH Larsen)
- Cathryn Ann Bordenave, MSc student 1/2 – 31/7-2015 (R Bro)
- Karen H.G. Nielsen, MSc student 9/2 – 28/9-2015 (Å Rinnan)
- Caroline Holbek, MSc student 1/3 – 16/8-2015 (FH Larsen)
- Alessia Trimigno, DD PhD student 2/3 – 20/3-2015 (F Savorani)
- Nunzia Iaccarino, DD PhD student 2/3 – 6/3-2015 (F Savorani)
- Fransisca Gouveia, DD PhD student 2/3 – 6/3-2015 (R Bro)

Guest Researchers:

- Eva Lopez 21/1 – 28/2 2015 (host F Savorani)
- Rikke Kragh Lauridsen, PhD student 28/1-2015 – (host SB Engelsen)
- Viola Aru 16/2 – 14/8 2015 (host F Savorani)
- Ana Rita Monforte 17/2 – 27/2-2015 (host R Bro)
- Nicola Cavallini, Erasmus MSc student 1/3 – 31/8-2015 (host R Bro)
- Cristina Alamprese 9/3 – 13/3-2015 (host SB Engelsen)
- Prinya Wongsa 9/3 – 13/3-2015 (host FH Larsen)

PhD defences:

-

BSc & MSc defences:

- Charlotte Amalie J. Pedersen, MSc (supervisor F van den Berg): NIR modeling and prediction of compostitional parameters in dairy powders. February 9th, 2015

Courses Jan-Mar:
Block 3:

- Quality of Raw Food Materials (DMP, LT Dahl, A Mourhib, 120 students)
- Food Process Equipment (F van den Berg, 31 students)
- PhD: Light & Food (T Ringsted, SB Engelsen, 21 students)
- PhD: Preprocessing of quantitative NMR data for Chemometric Analysis (F Savorani, 5 students)
- ODIN: Liquid Chromatography-Mass Spectrometry (LC-MS) 4/2-2015 (G Gürdeniz, 15 students)
- ODIN: Near-infrared (NIR) Spectroscopy 24/3-2015 (SB Engelsen, F van den Berg, 12 students)

New granted projects:

-