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Food Analytics and Biotechnology
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Employment

Assistant Professor

Food Analytics and Biotechnology

Frederiksberg C, Denmark

1 Jul 2019 → nu

No title

Food Analytics and Biotechnology

Frederiksberg C, Denmark

24 May 2019 → 15 Jul 2019

Scientific focus areas

Vibrational spectroscopy techniques (NIR, IR, Raman, SERS, imaging)

Multivariate data analysis

Analytical chemistry

Low-field NMR

Education

2014-2018 PhD in Chemistry (Cum laude), University of Wroclaw, Poland

2012-2014 MSc in Chemistry, University of Wroclaw, Poland

2009-2012 BSc in Chemical Informatics, University of Wroclaw, Poland

Positions

2022- present present Tenure Track Assistant Professor, Department of Food Science University of Copenhagen

2019-2022 Postdoc, Department of Food Science, University of Copenhagen, Denmark

2018-2019 Research Associate, Department of Chemistry, University of Wroclaw, Poland

Teaching

Responsible Quantitative bio-spectroscopy, Full-time MSc Course, 7.5 ECTS

Responsible Hurtigmetoder til måling af fødevarer kvalitet, Full-time BSc Course, 5 ECTS

Teacher Teacher Exploratory Data Analysis / Chemometrics, Full-time BSc Course, 7.5 ECTS

Teacher Teacher Foodomics and Plant Foods, Full-time MSc Course, 7.5 ECTS

Teacher Teacher Advanced Carbohydrate Technologies, Full-time MSc Course, 7.5 ECTS

Responsibilities

Responsible for spectroscopy laboratory including Oxford MQR-P Low Field NMR spectrometer, Bruker FTIR/Ram2, two Raman microscopes (Kaiser, Renishaw) and IR/NIR spectrometer.

Co-responsible for Foodomics laboratory including GC-MS and LC-MS and High Field NMR Spectrometers (600, 500, and 400 MHz).

Funding acquired as principal investigator (PI)/Co-PI

2024-2027	CoPI Towards improved and stabilised plant-based flavour profiles for non-alcoholic organic drinks (STABLEDRINK) Source of funding : Danish Green Development and Demonstration program (GUDP)
2019-2021	PI Polypyrrole–Methyl Orange Raman pH Sensor Source of funding: Polish National Science Center

Research outputs

Acid-induced gels from mixtures of micellar casein and pea protein: Effect of protein ratio and preheating route

Xia, Wenjie, Czaja, Tomasz Pawel, Via, M., Zhang, H., Clausen, M. P. & Ahrné, Lilia, 2024, In: Food Hydrocolloids. 153, 13 p., 110045.

Effect of coagulation temperature on cooking integrity of heat and acid-induced milk gels

Laursen, Anne Katrine, Dyrnø, S. B., Steven Mikkelsen, K., Czaja, Tomasz Pawel, Rovers, T. A. M., Ipsen, Richard & Ahrné, Lilia, 2023, In: Food Research International. 169, 8 p., 112846.

Insights into high hydrostatic pressure pre-treatment generating a more efficient catalytic mode of maltogenic α -amylase: Effect of multi-level structure on retrogradation properties of maize starch

Liu, Z., Zhong, Yuyue, Khakimov, Bekzod, Fu, Y., Czaja, Tomasz Pawel, Kirkensgaard, Jacob Judas Kain, Blennow, Andreas, Shen, Q. & Engelsen, Søren Balling, 2023, In: Food Hydrocolloids. 138, 10 p., 108480.

Spectroscopic characterisation of acidified milk powders

Czaja, Tomasz Pawel, Vickovic, Dolores, Pedersen, S. J., Hougaard, Anni Bygvrå & Ahrné, Lilia, 2023, In: International Dairy Journal. 142, 8 p., 105664.

The effect of acidification temperature and pH on intermolecular protein bonds and water mobility in heat and acid-induced milk gels

Laursen, Anne Katrine, Czaja, Tomasz Pawel, Rovers, T. A. M., Ipsen, Richard, Barone, Giovanni & Ahrné, Lilia, 2023, In: International Dairy Journal. 141, 10 p., 105611.

The effect of feed formulation on surface composition of powders and wall deposition during spray drying of acidified dairy products

Vickovic, Dolores, Czaja, Tomasz Pawel, Gaiani, C., Pedersen, S. J., Ahrné, Lilia & Hougaard, Anni Bygvrå, 2023, In: Powder Technology. 418, 9 p., 118297.

Differences in physicochemical properties of high-moisture extrudates prepared from soy and pea protein isolates

Wang, H., van der Berg, Franciscus Winfried J, Zhang, W., Czaja, Tomasz Pawel, Zhang, L., Jespersen, Birthe P Møller & Lametsch, Rene, 2022, In: Food Hydrocolloids. 128, 10 p., 107540.

Structural characteristics of high-moisture extrudates with oil-in-water emulsions

Wang, H., Zhang, L., Czaja, Tomasz Pawel, Bakalis, Serafim, Zhang, W. & Lametsch, Rene, 2022, In: Food Research International. 158, 9 p., 111554.

Water mobility and microstructure of acidified milk model gels with added whey protein ingredients

Li, R., Czaja, Tomasz Pawel, Glover, Z. J., Ipsen, Richard, Jæger, T. C., Rovers, T. A. M., Simonsen, A. C., Svensson, B., van der Berg, Franciscus Winfried J & Hougaard, Anni Bygvrå, 2022, In: Food Hydrocolloids. 127, 13 p., 107548.

pH determination of small sample volumes using Raman spectra of azo dyes

Pielorz, S., Czaja, Tomasz Pawel & Szostak, R., 2022, In: Journal of Molecular Structure. 1253, 7 p., 132226.

Application of chemometric methods for the determination of fading and age determination of blue ballpoint inks

Łydźba-Kopczyńska, B., Czaja, Tomasz Pawel, Cieśla, R. & Rusek, G., 2021, In: Journal of Raman Spectroscopy. 52, 1, p. 159-169 11 p.

Effects of homogenization and pH adjustment of cheese feed without emulsifying salt on the physical properties of high fat cheese powder

da Silva, D. F., Wang, H., Czaja, Tomasz Pawel, van der Berg, Franciscus Winfried J, Kirkensgaard, Jacob Judas Kain, Ipsen, Richard & Hougaard, Anni Bygvrå, 2021, In: Powder Technology. 378, Part A, p. 227-236 10 p.

Impact of wet-mix total solids content and heat treatment on physicochemical and techno-functional properties of infant milk formula powders

Arzuaga, M. R., da Silva, D. F., Xanthakis, E., Aalaei, K., Czaja, Tomasz Pawel, Añón, M. C., Abraham, A. G. & Ahrné, Lilia, 2021, In: Powder Technology. 390, p. 473-481 9 p.

The Effect of α -, β - and γ -Cyclodextrin on Wheat Dough and Bread Properties

Jodal, A. S., Czaja, Tomasz Pawel, van der Berg, Franciscus Winfried J, Jespersen, Birthe P Møller & Larsen, K. L., 2021, In: Molecules. 26, 8, 14 p., 2242.

Quantification of Ash and Moisture in Wheat Flour by Raman Spectroscopy

Czaja, Tomasz Pawel, Sobota, A. & Szostak, R., 2020, In: Foods. 9, 3, 7 p., 280.

Polypyrrole-methyl orange Raman pH sensor

Czaja, Tomasz Pawel, Wójcik, K., Grzeszczuk, M. & Szostak, R., 2019, In: Polymers. 11, 4, 715.

Electrocrystallization of silver nanoparticles from silver halides in polypyrrole evidenced by their SERS activity—thermodynamic and kinetic conditions

Wójcik, K., Czaja, Tomasz Pawel, Szostak, R. & Grzeszczuk, M., 1 Dec 2018, In: Journal of Solid State Electrochemistry. 22, 12, p. 3933-3945 13 p.

Determination of nutritional parameters of yoghurts by FT Raman spectroscopy

Czaja, Tomasz Pawel, Baranowska, M., Mazurek, S. & Szostak, R., 5 May 2018, In: Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy. 196, p. 413-417 5 p.

Determining moisture content in pasta by vibrational spectroscopy

Czaja, Tomasz Pawel, Kuzawińska, E., Sobota, A. & Szostak, R., 1 Feb 2018, In: Talanta. 178, p. 294-298 5 p.

Silver(I) chloride-polypyrrole composite: electrochemical preparation, characterization, and application as a SERS platform

Wójcik, K., Czaja, Tomasz Pawel, Szostak, R. & Grzeszczuk, M., 1 Mar 2017, In: Journal of Solid State Electrochemistry. 21, 3, p. 823-832 10 p.

Quantitative analysis of solid samples using modified specular reflectance accessory

Czaja, Tomasz Pawel, Mazurek, S. & Szostak, R., 1 Dec 2016, In: Talanta. 161, p. 655-659 5 p.

Quantification of gluten in wheat flour by FT-Raman spectroscopy

Czaja, Tomasz Pawel, Mazurek, S. & Szostak, R., 15 Nov 2016, In: Food Chemistry. 211, p. 560-563 4 p.

Analysis of milk by FT-Raman spectroscopy

Mazurek, S., Szostak, R., Czaja, Tomasz Pawel & Zachwieja, A., 2015, In: Talanta. 138, p. 285-289 5 p.