

# 16<sup>th</sup> Food Colloids Conference

## Structuring beyond the Colloidal Scale

### Program Booklet



April 10<sup>th</sup> – 13<sup>th</sup>  
Wageningen  
The Netherlands

16<sup>th</sup> Food Colloids Conference  
April 10<sup>th</sup> – April 13<sup>th</sup> 2016  
Wageningen, the Netherlands



## **Welcome words from the organizing committee**

Welcome to the 16<sup>th</sup> Edition of the Food Colloids Conference. The conference focusses on physical chemistry of complex food systems with a special emphasis on macromolecules that structure food. The first edition was held in the UK, and is a bi-annual conference that takes place within Europe. Although the conference is held in Europe, the participants come from all over the world.

The 16<sup>th</sup> edition called "structuring beyond the colloidal scale" discusses topics on developing new structures, both in bulk and on interfaces, the analysis of structures at different length scales, various aspects in multicomponent systems, and the role of specific microstructure during oral processing and digestion.

The program consists of 5 key-note speakers, 44 selected oral presentations, and roughly 100 poster presentations. Due to the high level of abstracts we received, we expect an excellent program, which we believe will lead to many fruitful discussions. We would like to thank our sponsors for their support.

On behalf of the whole organizing committee, we wish you an exciting and inspiring conference with fruitful discussions.

The organizing committee,

Elke Scholten, Assistant Professor Physics and Physical Chemistry of Foods, Wageningen University  
Anneke Martin, Senior Scientist Functional Ingredients, TNO, Zeist  
Claire Berton-Carabin, Assistant Professor Food Process Engineering, Wageningen University





## Oral presentations

<b>Monday, April 11<sup>th</sup>:</b>	Engineered Interfaces Physical Aspects of Oral Processing
<b>Tuesday, April 12<sup>th</sup>:</b>	Biopolymer Assembly Revealing Structure from Micro to Macro
<b>Wednesday, April 13<sup>th</sup>:</b>	Functionality of Multicomponent Systems

Oral presentations have a duration of 20 minutes including questions. All oral presenters are requested to bring their presentation file (on a USB stick) prior to the start of their session, preferably in the break before their session starts. The presenters of the first session can also upload their presentation on Sunday, April 10<sup>th</sup> during registration hours.

All presenters are required to keep their presentation within the timeframe of 20 minutes. In case the duration of the presentation exceeds this time, the chair may interrupt your presentation to keep to the time schedule.

## Poster presentations

The posters will be presented in two separate poster sessions:

<b>Session I</b> <b>Monday, April 11<sup>th</sup>, 17:30-19:00</b>	Engineered Interfaces Revealing Structure from Micro to Macro Physical Aspects of Oral processing
<b>Session II</b> <b>Wednesday, April 13<sup>th</sup>, 11:50-13:20</b>	Biopolymer Assembly Functionality of multicomponent systems

Presenters of posters in session I are requested to put up their posters during the coffee or lunch break prior to the poster session, and are requested to remove their posters before Tuesday lunch time. Presenters of posters in Session II are requested to put up their posters after lunch time on Tuesday, April 12<sup>th</sup>, or Wednesday morning before the poster session starts. The poster abstracts can be downloaded from the Food Colloids website.

## Social events

### Welcome dinner, Sunday, April 10<sup>th</sup>

The welcome dinner will take place at the conference venue the "Wageningsche berg" and starts at 19.00. Dinner and drinks will be served until 23:00.

### Gala dinner, Monday, April 11<sup>th</sup>

The gala dinner will take place at the conference venue the "Wageningsche berg" and starts at 19:30. After the dinner, the bar and dancefloor will be open from 22:00 until 01:00.

### Social program, Tuesday, April 12<sup>th</sup>

As a social activity, we will visit national park the "Hoge Veluwe". When we arrive, you can choose between two options:

- Guided tour through the museum "Kröller-Müller".
- Bike ride through the national park.

We gather at 18:45 at the museum to walk to the restaurant "Parkrestaurant de Hoge Veluwe". Here, dinner including drinks are served.



## Special Issue

Participants of the Food Colloids conference are invited to submit full manuscripts for consideration through a peer review process in the journal **Food Structure**. **Food Structure** is the premier international forum devoted to the publication of high-quality original research on food structure. The focus of this journal is on food structure in the context of its relationship with molecular composition, processing and macroscopic properties (e.g., shelf stability, sensory properties, etc.).

**Final submission date: June 30<sup>th</sup>, 2016**

## Abstracts

All abstracts of oral and poster presentations are available on the Food Colloids website:

<http://www.foodcolloids2016.nl/program>





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**Partner**



**Infogest** is an action granted by COST in the domain of Food and Agriculture. Adjacent to the Food Colloids conference, a workshop is organized on April 14<sup>th</sup>.  
<https://www.cost-infogest.eu>



## Conference Program

	Sunday April 10 <sup>th</sup>	Monday April 11 <sup>th</sup>	Tuesday, April 12 <sup>th</sup>	Wednesday, April 13 <sup>th</sup>
8.00		Registration		
8.30		Opening		
8.45				
9.00		Engineered interfaces	Biopolymer assembly	Multicomponent systems
9.15				
9.30				
9.45				
10.00				
10.15		Coffee break	Coffee Break	Coffee Break
10.30				
10.45				
11.00		Engineered interfaces	Biopolymer assembly	Multicomponent systems
11.15				
11.30				Poster session II
11.45				
12.00		Lunch	Lunch	
12.15				
12.30				
12.45				
13.00		Engineered interfaces	Revealing structure from micro to macro	Lunch
13.15				
13.30				
13.45				
14.00				
14.15		Coffee break		Multicomponent systems
14.30				
14.45				
15.00			Coffee break	
15.15				
15.30				
15.45				
16.00	Registration	Physical aspect of oral processing	Social program	Closing ceremony
16.15				
16.30				
16.45				
17.00				
17.15		Poster session I		
17.30				
17.45				
18.00				
18.15				
18.30				
18.45				
19.00	Welcome Reception			
19.15		Gala dinner		
19.30				
19.45				
20.00				
21.00				
22.00				
23.00				



## Oral Presentations

### Monday, April 11<sup>th</sup>

8:00 – 8:30		Registration
8:30 – 8:40		Opening ceremony
<b>8:40 – 10:20</b>		<b>Session 1A – Engineered interfaces</b> Chair: Reinhardt Miller
8:40 – 9:20	<b>KEY-EI</b>	<b>Engineering stability through interfacial rheology: where do we stand?</b> <u>Jan VERMANT</u> <i>ETH Zürich, Switzerland</i>
9:20 – 9:40	EI-1	<b>Adsorption kinetics and interfacial rheology as a means to tune the microstructure of citrus pectin emulsions</b> <u>Ulrike SCHMIDT</u> , Heike SCHUCHMAN <i>Karlsruhe Institute of Technology, Germany</i>
9:40 – 10:00	EI-2	<b>Experimental exploration of triglyceride ordering at surfactant-covered oil-water interfaces</b> Nicole GREEN, <u>Derick ROUSSEAU</u> , Stephan EUSTON <i>University of Toronto, Canada</i>
10:00 – 10:20	EI-3	<b>Sesame proteins for microbubble foams</b> Miro KIRIMLIDOU, Christos AMPATZIDIS, Thodoris KARAPANTSIOS, Vassileios KIOSSEOGLU, <u>Constantinos NIKIFORIDIS</u> <i>Wageningen University, the Netherlands</i>
10:20 – 10:50		Coffee break
<b>10:50 – 12:10</b>		<b>Session 1B – Engineered interfaces</b> Chair: Miguel Angel Cabrerizo-Vilchez
10:50 – 11:10	EI-4	<b>Microbubbles stabilised by mixtures of hydrophobin + casein : Experimental results and theoretical considerations</b> <u>Rammille ETTÉLAIE</u> , Pappole VALADBAIGI, Brent MURRAY <i>University of Leeds, UK</i>
11:10 – 11:30	EI-5	<b>Interaction of hydrophobins with other surface actives in ice cream and effect on bubble stability (a surface rheology perspective)</b> <u>Damiano ROSETTI</u> , Nick HEDGES, Andrew COX <i>Unilever, UK</i>
11:30 – 11:50	EI-6	<b>Creation of textured dairy emulsions by connecting oil droplets through whey protein aggregates</b> <u>Thibault LOISELEUX</u> , Catherine GARNIER, Thomas CROGUENNEC, Valerie BEAUMAL, Camille JONCHERE, Marc ANTON, Alain RIABLANC <i>INRA Nantes, France</i>
11:50 – 12:10	EI-7	<b>The influence of size and concentration of silica particles and salt on foaming property of casein/silica system</b> <u>M CHEN</u> , G SALA, M MEINDERS, E VAN DER LINDEN <i>Wageningen University, The Netherlands</i>
12:10 – 13:00		Lunch





<b>13:00 – 14:40</b>		<b>Session 1C – Engineered interfaces</b> Chair: Taco Nicolai
13:00 – 13:20	EI-8	<b>A novel measurement device for investigating the shelf life of single and double emulsions</b> Susanne NEUMANN, Heike SCHUCHMANN <i>Karlsruhe Institute of Technology, Germany</i>
13:20 – 13:40	EI-9	<b>EPR spin probing to characterize the impact of interfaces during lipid oxidation</b> Heimke KRUDOPP, Anna MIELKE, Anja STEFFEN-HEINS <i>Kiel University, Germany</i>
13:40 – 14:00	EI-10	<b>Stability of lycopene-loaded emulsions: Effect of dairy and plant proteins at the interface</b> Kacie HO, Fernanda SAN MARTIN GONZALEZ, Karin SCHROEN, Claire BERTON-CARABIN <i>Purdue University, USA / Wageningen University, the Netherlands</i>
14:00 – 14:20	EI-11	<b>Behaviour of Pickering emulsions stabilized by soft whey protein microgel particles during <i>in vitro</i> gastrointestinal digestion: Impact of heat treatment</b> Anwasha SARKAR, Brent MURRAY, Melvin HOMES, Rammile ETTALAIE, Azad ABDALLA, Xinyi YANG <i>University of Leeds, UK</i>
14:20 – 14:40	EI-12	<b>Interfacial aspects underlying the inhibitory effects of green tea extract on lipolysis <i>in vitro</i></b> Teresa DEL CASTILLO-SANTAELLA, Julia MALDONADO-VALDERRAMA, Deyanira RONDON-RODRIGUEZ, Jose GALVEZ-RUIZ, Miquel Angel CABRERIZO-VILCHEZ <i>University of Granada, Spain</i>
14:40 – 15:10		Coffee break

<b>15:10 – 17:30</b>		<b>Session 2A – Physical aspects of oral processing</b> Chair: Claire Berton - Carabin
15:10 – 15:50	<b>KEY-OP</b>	<b>Food structure, oral processing behavior and dynamic texture perception</b> Markus STIEGER <i>Wageningen University, the Netherlands</i>
15:50 – 16:10	OP-1	<b>Oral processing of food – structure breakdown and reorganisation</b> Sofia KIHLMAN ØISETH, Graham EYERS, Li DAY, Leif LUNDIN, Ingrid APPELQVIST <i>CSIRO, Australia</i>
16:10 – 16:30	OP-2	<b>Underlying mechanisms for sensory perception of double emulsions with gelled and non-gelled w1 phase</b> Anika OPPERMAN, Elke SCHOLTEN, Markus STIEGER <i>Wageningen University, The Netherlands</i>
16:30 – 16:50	OP-3	<b>The structure of dairy products effects gastrointestinal digestion at multiple length-scales</b> Alan MACKIE, Anabel MULET-CABERO, Neil RIGBY, Simon LOVEDAY, Janiene GILLILAND, Maria FERRUA <i>Institute of Food Research, UK</i>
16:50 – 17:10	OP-4	<b>Flavour release during food processing: a taste of mass transfer</b> Martijn WETERINGS, Igor BODNAR, Remko BOOM, Michael BEYRER <i>HESSO Valais-Wallis Institute of Life Technologies, Switzerland</i>
17:10 – 17:30	OP-5	<b>Tribological and sensory properties of food particles in liquid and semi-solid foods</b> Kun LIU, Markus STIEGER, Erik VAN DER LINDEN, Fred VAN DE VELDE <i>Wageningen University, The Netherlands</i>
<b>17:30 – 19:00</b>		<b>Poster session I</b>
<b>19:30</b>		<b>Gala dinner, hotel the "Wageningsche Berg"</b>



**Tuesday, April 12<sup>th</sup>**

**8:30 – 10:30**      **Session 3A – Biopolymer assembly**  
Chair: Bjorn Bergenstahl

8:30 – 9:10	<b>KEY-BA</b>	<b>Ethylcellulose interactions with colloidal particles and its effect on structuring jammed systems</b> <u>Alejandro MARANGONI</u> <i>University of Guelph, Canada</i>
9:10 – 9:30	BA-1	<b>Hybrid oleogel made of polymer and crystalline gelators</b> <i>ethyl Cellulose</i> <u>Maya DAVIDOVICH-PINHAS</u> , Andrew GRAVELLE, Shai BARBUT, Alejandro MARANGONI <i>Technion – Israel Institute for Technology, Israel</i>
9:30 – 9:50	BA-2	<b>Protein aggregates as building blocks for oil structuring</b> <u>Auke DE VRIES</u> , Erik VAN DER LINDEN, Elke SCHOLTEN <i>Wageningen University, The Netherlands</i>
9:50 – 10:10	BA-3	<b>Casein micro-particle as carriers for hydrophobic substances – a new approach for its isolation and characterization</b> <u>Yu ZHUANG</u> , Julia STERR, Alicia SCHULTE, Ulrich KULOZIK, Ronald GEBHARDT <i>Technische Universität München, Germany</i>
10:10 – 10:30	BA-4	<b>pH-dependent self-assembly of native soy globulin in aqueous solution and heat-induced aggregation</b> <u>Nannan CHEN</u> , Mouming ZHAO, Christophe CHASSENIEUX, Taco NICOLAI <i>Université du Maine, France</i>
10:30 – 11:00		Coffee break

**11:00 – 12:40**      **Session 3B – Biopolymer assembly**  
Chair: Elke Scholten

11:00 – 11:20	BA-5	<b>Production &amp; use of protein or P\polysaccharide microgel particles via jet homogenization</b> <u>Brent MURRAY</u> , Linda PRAVINATA, Natariche PHISARNCHANANAN, Kentaro MATSUMIYA <i>University of Leeds, UK</i>
11:20 – 11:40	BA-6	<b>Delivery of functional ingredients by self-assembled modified food biomacromolecules</b> <u>Yuan LI</u> , Wei LI, Luhai ZHAO, Mengxuan SHI, Willen NORDE <i>Beijing University of Chemical Technology, China</i>
11:40 – 12:00	BA-7	<b>Formation of fibrous protein structures from a condensed water-in-water emulsion by simple shear flow deformation</b> <u>Birgit DEKKERS</u> , Costas NIKIFORIDIS, Remko BOOM, Atze-Jan VAN DER GOOT <i>Wageningen University, The Netherlands</i>
12:00 – 12:20	BA-8	<b>Smart delivery vehicles based on the self-assembled complexes of the food biopolymers with polyunsaturated lipids stabilized by plant antioxidants: structure-functionality relationships</b> <u>Maria SEMENOVA</u> , Anna ANTIPOVA, Natalia VOROBYEVA, Natalia SMOTROVA, Vera SENINA, Nadezda PALMINA, Tamara MISHARINA, Ekaterina ALINKINA, Vladimir BINYUKOV, Natalia BOGDANOVA, Valerii KASPAROV <i>Emanuel Institute of Biochemical Physics of Russian Academy of Sciences, Russian Federation</i>
12:20 – 12:40	BA-9	<b>Oleosome-based gels prepared by hydrocolloid trapping</b> Behic MERT, <u>Thomas VILGIS</u> <i>Middle East Technical University, Turkey / Max-Planck Institute for Polymer Research, Germany</i>
12:40 – 13:30		Lunch





<b>13:30 – 15:50</b>		<b>Session 4A – Revealing structure from micro to macro</b> Chair: Richard Ipsen
13:30 – 14:10	<b>KEY-RS</b>	<b>Food structure from the inside with neutron scattering</b> Wim BOUWMAN <i>Delft University, the Netherlands</i>
14:10 – 14:30	RS-1	<b>Extended colloidal networks in emulsions. 3-D imaging by ptychographic X-ray computed tomography</b> Jens RISBO, Mikkel SHOU NIELSEN, Merete BOGELUND MUNK, Ana DIAZ, Emil Boje LIND PETERSEN, Mirko HOLLER, Stefan BRUNS, Kell MORTENSEN, Robert FEIDENHANS <i>University of Copenhagen, Denmark</i>
14:30 – 14:50	RS-2	<b>Structure of soybean oleosomes studied by small angle neutron scattering (SANS)</b> Brigitta ZIELBAUER, Sania MAURER, Gustav WASCHATKO, Andrew JACKSON, Marta GHEBREMEDHIN, Richard HEENAN, Lionel PORCAR, Thomas VILGIS <i>Max-Planck Institute for Polymer Research, Germany</i>
14:50 – 15:10	RS-3	<b>Dynamic interfacial tension of emulsions studied with microfluidics</b> Kelly MUIJLWIJK, Claire BERTON-CARABIN, Karin SCHROEN <i>Wageningen University, The Netherlands</i>
15:10 – 15:30	RS-4	<b>Milk protein hydrolysis during in-vivo and in-vitro digestion: Peptide generation and degradation</b> L EGGER, H STOFFERS, P SCHLEGEL, D GUGGISBERG, P STOLL, G VERGERES, R PORTMANN <i>Agroscope Institute for Food Sciences, Switzerland</i>
15:30 – 15:50	RS-5	<b>Passive rheology as a useful tool for food analyses</b> Roland RAMSCH, Maxime BAZIN, Giovanni BRANBILLA, Mathias FLEURY, Pascal BRU, Gerard MEUNIER <i>Formulaction, France</i>
15:50 – 16:10		Coffee break
<b>16:15</b>		<b>Social event and dinner – National park the "Hoge Veluwe"</b>





**Wednesday, April 13<sup>th</sup>**

<b>8:30 – 10:10</b>		<b>Session 5A – Functionality of multicomponent systems</b> Chair: Anneke Martin
8:30 – 9:10	KEY-MC	<b>Molecular interactions, phase behavior and transport phenomena from a low-solid gel to a high-solid glass</b> <u>Stefan KASAPIS</u> <i>RMIT University, Australia</i>
9:10 – 9:30	MC-1	<b>Effects of disulfide bonding between added whey protein aggregates and other milk components on the rheological properties of acidified milk model systems</b> <u>Guanchen LIU</u> , Marianne LUND, Colin RAY, Soren NIELSEN, Tanja JAEGER, Richard IPSEN <i>University of Copenhagen, Denmark</i>
9:30 – 9:50	MC-2	<b>Effect of non-ionic emulsifier on structure and properties of a bench-scale model cheese</b> <u>Seyed HOSSEINI-PARVAR</u> , Mita LAD, Christina COKER, Palatasa HAVEA, Matt GOLDING <i>Massey University, New Zealand</i>
9:50 – 10:10	MC-3	<b>The effect of competition for calcium ions on heat-induced aggregation and gelation of mixtures of whey protein isolate and sodium caseinate</b> <u>Trong Bach NGUYEN</u> , Christophe CHASSENIEUX, Christophe SCHMITT, Lionel BOVETTO, Taco NICOLAI <i>Nha Trang University, Vietnam</i>
10:10 – 10:30		Coffee break

<b>10:30 – 11:50</b>		<b>Session 5B – Functionality of multicomponent systems</b> Chair: Martin Leser
10:30 – 10:50	MC-4	<b>Mixed biopolymer gels prepared from cellulose microfibrils and whey protein isolate – the role of cellulose in structuring of foods</b> <u>Jinfeng PENG</u> , Paul VENEMA, Krassimir VELIKOV, Erik VAN DER LINDEN <i>Wageningen University, The Netherlands</i>
10:50 – 11:10	MC-5	<b>Quantitative confocal microscopy and probe diffusion in bicontinuous phase separated structures</b> <u>N LOREN</u> , E SCHUSTER, M RUDEMO, A-M HERMANSSON <i>Swedish Institute for Food and Biotechnology, Sweden</i>
11:10 – 11:30	MC-6	<b>Fate of solid lipid nanoparticles (SLN) in o/w emulsions</b> <u>Kathleen OEHLKE</u> , Johanna MILSMANN, Ralf GREINER, Anja STEFFEN-HEINS <i>Max Rubner Institute, Germany</i>
11:30 – 11:50	MC-7	<b>Process stability of whey protein-pectin complexes as new structuring elements in fat reduced food systems</b> <u>Kristin PROTTE</u> , Alina SONNE, Jochen WEISS, Jorg HINRICHS <i>University of Hohenheim, Germany</i>
<b>11:50 – 13:20</b>		<b>Poster session 2</b>
13:20 – 14:10		Lunch



<b>14:10 – 16:10</b>		<b>Session 5C – Functionality of multicomponent systems</b> Chair: Brent Murray
14:10 – 14:30	MC-8	<b>Mechanical properties of extra virgin olive oil based oleogels as affected by minor compounds</b> <u>Veronica GIACINTUCCI</u> , Carla DI MATTIA, Giampiero SACCHETTI, Saeed GHAZANI, Alejandro MARANGONI, Paola PITTIA <i>University of Teramo, Italy</i>
14:30 – 14:50	MC-9	<b>Oil solubilization in cationic surfactant–anionic polymer complexes: Effect of polymer concentration, temperature and ionic strength</b> <u>Hui ZHANG</u> , Lingli DENG, Jochen WEISS <i>Zhejiang University, China</i>
14:50 – 15:10	MC-10	<b>Potato protein based nanovehicles for health promoting hydrophobic bioactives in clear beverages</b> Shlomit DAVID, Yoav LIVNEY <i>Technion – Israel Institute of Technology, Israel</i>
15:10 – 15:30	MC-11	<b>Multilayered interfaces to delay in vitro lipolysis in O/W emulsions</b> <u>Meinou CORSTENS</u> , Claire BERTON-CARABIN, Annemarie KESTER, Remco FOKKINK, Johanna VAN DEN BROEK, Renko DE VRIES, Freddy TROOST, Ad MASCLEE, Karin SCHROEN <i>Wageningen University, The Netherlands</i>
15:30 – 15:50	MC-12	<b>Emulsion and microstructure design based on milk protein and guar gum system for controlled digestion</b> <u>Wentao LIU</u> , Tim FOSTER <i>University of Nottingham, UK</i>
15:50 – 16:10	MC-13	<b>Regulation of lipid digestion via encapsulation in protein gels with differing structures</b> <u>T WOOSTER</u> , J-M JUAN, S ACQUISTPACE, E KOLODZIEJCZYK, A SARKAR, L DONATO <i>Nestle, Switzerland</i>
<b>16:10</b>		<b>Closing ceremony</b>





## Poster presentations

### Poster session I, Monday, April 11<sup>th</sup> (17:30 – 19:00)

#### Engineered Interfaces

- pEI-1 **Influence of interfacial composition on the in vitro interfacial gastrointestinal digestion**  
Fernando BELLESI, Victor PIZONES RUIZ-HENESTROSA, Julia MALDONADO-VALDERRAMA, Ana PILOSO  
*Consejo Nacional de Investigaciones Científicas Y Técnicas, Argentina*
- pEI-2 **Interfacial and bulk rheological properties of sugar beet pectin – sodium caseinate stabilised emulsions**  
Juyang ZHANG, Bettina WOLF  
*University of Nottingham, UK*
- pEI-3 **Improved heat stability of whey protein isolate-stabilised emulsions by conjugation with low methoxyl pectin through dry heat treatment**  
Arima Diah SETIOWATI, Paul VAN DER MEEREN  
*Ghent University, Belgium*
- pEI-4 **Evolution of buriti oil-droplet sizes stabilised by soy protein/pectin during storage**  
Mirian FREITAS, Tiago POLACHINI, Ana RIBEIRO, Vania TELIS  
*Sao Paulo State University, Brazil*
- pEI-5 **Characterization of a microemulsion system composed of food-grade surfactants, soybean oil and water**  
Diana CANO-HIGUITA, Caroline FUZZETTI, Vania TELIS  
*Sao Paulo State University, Brazil*
- pEI-6 **Concentration effect of Quillaja saponin-Na-caseinate complexes on their emulsifying properties**  
Corina REICHERT, Hanna SALMINEN, Gabriela BADOLATO BÖNISCH, Christian SCHÄFER, Jochen WEISS  
*University of Hohenheim, Germany*
- pEI-7 **Emulsifying capacity of whey proteins covalently modified with cabbage compound allyl isothiocyanate**  
Julia KEPLER, Anja STEFFEN-HEINS, Claire BERTON-CARABIN, Karin SCHWARZ  
*CAU Kiel, Germany*
- pEI-8 **Effects of gelatin-alginate interactions on interfacial and forming characteristics**  
Natthiya PHAWAPHUTHANON, Moojoong KIM, Donghwa CHUNG  
*Ganneung-Wonju National University, Republic of Korea*
- pEI-9 **Effect of intrinsic wheat lipid composition on interfacial and foaming properties of dough liquor**  
Louise SALT, Irene GONZALEZ-THUILLIER, Gemma CHOPE, Simon PENSON, Peter SKEGGS, Paola TOSI, Richard HASLAM, Peter SHEWRY, Peter WILDE  
*Institute of Food Research, UK*
- pEI-10 **Generation of Ultra-stable microbubbles for industrial application**  
Pappole VALADBAIGI, Rammile ETTALAIE, Brent MURRAY  
*University of Leeds, UK*
- pEI-11 **Interfacial properties and emulsifying ability of crude and purified soybean oil bodies**  
Toya ISHII, Kentaro MATSUMIYA, Yuko NAMBU, Masahiko SAMOTO, Masanobu YANAGISAWA, Yasuki MATSUMARA  
*Kyoto University, Japan*
- pEI-12 **Effects of heat treatment and homogenization on milk fat globules and proteins in whipping cream**  
Kentaro MATSUMIYA, Sanae HORIGUCHI, Tatsuya KOSUGI, Taka-AKI MUTOH, Kimio NISHIMURA, Yasuki MATSUMURA  
*Kyoto University*
- pEI-13 **Kinetics, thermodynamics and dilational rheology of  $\beta$ -lactoglobulin adsorption at the water/tetradecane interface: effect of pH and ionic strength**  
Jooyoung WON, Jürgen KRAGEL, Georgi GOCHEV, V.B. FAINERMAN, REINHARD MILLER  
*Max Planck Institute of Colloids and Interfaces, Germany*
- pEI-14 **Adsorption of beta-lactoglobulin at the water/air surface: Effect of the pH and ionic strength of the aqueous solution**  
V ULAGANATHAN, I RETZLAFF, J WON, G GOCHEV, C GEHIN-DELVAL, M LESER, B NOSKOV, R MILLER  
*Max-Planck Institute for Colloid and Interfaces Science, Germany*
- pEI-15 **The impact of interfacial ingredients on the colloidal interactions in a model cheese**  
Jing LUO, Graeme GILLIES, Mita LAD, Matt GOLDING  
*Massey University, Fonterra, New Zealand*
- pEI-16 **Spinach lipid extract as an alternative flow aid for fat suspensions**  
Nizaha Juhaida MOHAMAD, David GRAY, Bettina WOLF  
*University of Nottingham, UK*
- pEI-17 **Stability of whey protein emulsions to heat treatments is mainly governed by the stability of the proteins in the aqueous phase**  
Marie CHEVALLIER, Alain RIAUBLANC, Christelle LOPEZ, Pascalline HAMON, Florence ROUSSEAU, Thomas CROGUENNEC  
*INRA Rennes, France*
- pEI-18 **Investigation of Emulsion Formation in Couette Flow**  
Reza FARZAD, Stefan PUTTINGER, Stefan PIRKER, Simon SCHNEIDERBAUER  
*Johannes Kepler University, Austria*
- pEI-19 **Emulsifying and emulsion-stabilizing properties of gradually demineralized casein aggregates**  
Fanny LAZZARO, Eric BEAUCHER, Christelle LOPEZ, Marie-Noelle MADEC, Arnaud SAINT-JALMES, Frederic VIOLLEAU, Mireille GAUCHER, Frederic GAUCHERON  
*INRA Rennes, France*





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- pEI-20 **Shear and osmotic sensitivity of W/O/W-type double emulsions with a gelled internal water phase**  
Mathieu BALCAEN, Lien VERMEIR, Arnout DECLERCK, Paul VAN DER MEEREN  
*Ghent University, Belgium*
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- pEI-21 **Improving the shelf-life of low-fat cheese through edible coatings based on antimicrobial nanoemulsions enriched with mandarin fibre**  
Maria ARTIGA-ARTIGAS, Alejandra ACEVEDO-FANI, Olga MARTIN-BELLOSO  
*University of Lleida, Spain*
- 
- pEI-22 **Protein-phenol complexes for interfacial stabilization**  
Dimitris KAREFYLLAKIS, Serkan ALTUNKAYA, Claire BERTON-CARABIN, Atze-Jan VAN DER GOOT, Constantinos NIKIFORIDIS  
*Wageningen University, the Netherlands*
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- pEI-23 **Solid foams of whey proteins and its mixtures with polysaccharides**  
Ricky Frank LOPEZ-SANTIAGO, Mariana RAMIREZ-GILLY, Alberto TECANTE  
*Universidad Nacional Autonoma de Mexico, Mexico*
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- pEI-24 **Stability evaluation of soy protein/pectin dispersions containing buriti oil through the creaming index**  
Mirian Luisa Faria FREITAS, Ana Paula Badan RIBEIRO, Vania Regina Nicoletti TELIS  
*Sao Paulo State University, Brazil*
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- pEI-25 **Role of the interface on the crystallisation of water-in-cocoa butter emulsions**  
Vincenzo DI BARI, William MACNAUGHTAN, Ian NORTON  
*University of Nottingham, UK*
- 
- pEI-26 **Fungal proteins from the Quorn fermentation co-product as novel foaming, emulsifying and gelling agents**  
Julien LONCHAMP, Paul CLEGG, Stephen EUSTON  
*Heriot Watt University, UK*
- 
- pEI-27 **Characterization and functionalities of isolate proteins from Tenebrio molitor and Tenebrio molitor meal produced by thermo-mechanical process**  
Christiane AZAGOH, Roux T, Fabrice DUCEPT, Samir MEZDOUR  
*INRA Paris-Saclay, France*
- 
- pEI-28 **Foaming and air-water interfacial properties of wheat gluten hydrolyzates and the influence of sucrose and ethanol thereupon**  
Arno WOUTERS, Ellen FIERENS, Ine ROMBOUTS, Nele SCHOEBRECHTS, Kristof BRIJS, Christophe BLECKER, Jan DELCOUR  
*KU Leuven, Belgium*
- 
- pEI-29 **Structure-affecting enzymes to engineer food dispersions**  
Benjamin ZEEB, Lutz GROSSMANN, Jacob EWERT, Timo STRESSLET, Lutz FISCHER, Jochen WEISS  
*Institute of Food Science and Biotechnology, Germany*
- 
- pEI-30 **Harnessing proteins to control crystal size and morphology, for improved delivery performance of hydrophobic bioactives, using genistein as a model**  
Gal ISRAELI-LEV, Marina PITCHKHADZE, Sahar NEVO, Lulu FAHOUM, Esther MEYRON-HOLTZ, Yoav LIVNEY  
*Technion, Israel*
- 
- pEI-31 **Towards a quantitative description of the formation of protein-stabilized emulsions and foams**  
Roy DELAHAÏJE, Harry GRUPPEN, Peter WIERENGA  
*Wageningen University, the Netherlands*
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## Physical Aspects of Oral Processing

pOP-1	<b>Harnessing polysaccharide-lectin interactions to functionalize emulsions: Insights from emulsions stabilized by waxy starch and Concanavalin-A</b> Dana SHUSHI, Asher SHAZMAN, Uri LESMES <i>Technion, Israel</i>
pOP-2	<b>Interfacial engineering of droplet interfaces towards controlled digestive fates in infants, adults and the elderly</b> Dafna Meshula PASCOVISHE, Carmit Shani LEVI, Uri LESMES <i>Technion - Israel Institute of Technology, Israel</i>
pOP-3	<b>Can we mimic in vivo digestion of the preterm newborn by an in vitro dynamic model?</b> S.C. de OLIVEIRA, C. BOURLIEU, O. MENARD, A. BELLANGER, F. CARRIERE, E. DIRSON, Y. LEGOUAR, P. PLADYS, D. DUPONT, A. DEGLAIRE <i>INRA, France</i>
pOP-4	<b>How the interfacial and aggregation behaviour of bile salts influence in vitro lipid digestion</b> Michael RIDOUT, Roger PARKER, Peter WILDE <i>Institute of Food Research, UK</i>
pOP-5	<b>Bioaccessibility of quercetin encapsulated in solid lipid microparticles: influence of the oil core composition and of the interactions among bioactive and surfactants</b> Caio PEREIRA, Cynthia DE CARLI, Ana Paule RAMOS, Samantha PINHO <i>University of Sao Paulo, Brazil</i>
pOP-6	<b>How the body reacts to food: an innovative In Silico tool to model and predict digestion, absorption and physiological responses</b> George VAN AKEN <i>NIZO Food Research, the Netherlands</i>
pOP-7	<b>Study on pepsin diffusion in protein gel digestion</b> Qi LUO, Remko BOOM, Anja JANSSEN <i>Wageningen University, the Netherlands</i>
pOP-8	<b>Oral processing of mixed biopolymer gel with different degrees of inhomogeneity</b> Laura LAGUNA, Anwesha SARKAR <i>University of Leeds, UK</i>

## Revealing Structure from Micro to Macro

PRS-1	<b>(SE)SANS as a tool to bridge the length scale of anisotropic protein structures</b> Bel TIAN, Wim BOUWMAN, Atzejan VAN DER GOOT <i>Delft University, the Netherlands</i>
PRS-2	<b>Effect of stabilizers on the mesostructure of cellulose microfibrils studies by small-angle X-ray scattering</b> Evgenii VELICHKO, Ruud DEN ADEL, Gert-Jan GOUDAPPEL, John VAN DUYNHOEVEN, Wim BOUWMAN <i>Delft University, the Netherlands</i>
PRS-3	<b>Milk protein hydrolysis during in-vivo and in-vitro digestion: Peptide generation and degradation</b> L. EGGER, H. STOFFERS, P. SCHLEGEL, D. GUGGISBERG, P. STOLL, G. VERGERES, R. PORTMANN <i>Agroscope Institute for Food Sciences, Switzerland</i>
PRS-4	<b>Microfluidics to study emulsifier adsorption and emulsion stability</b> Kelly MUIJLWIJK, Claire BERTON-CARABIN, Karin SCHROEN <i>Wageningen University, The Netherlands</i>
PRS-5	<b>Diffusing Wave Spectroscopy for the characterization of fat crystals</b> Maxime BAZIN, Giovanni BRAMBILLA, Mathias FLEURY, Pascal BRU, Gerard MEUNIER <i>Formulation, France</i>
PRS-6	<b>The supramolecular assembly behaviour of oleic acid and sodium oleate in hydrophobic environments</b> Steven CORNET, Marta MARTINEZ-SANZ, Anna SOKOLOVA, Andrew WHITTEN, Elke SCHOLTEN, Elliot Paul GILBERT <i>Wageningen University, the Netherlands</i>
PRS-7	<b>Dynamic structural characterisation of fat crystal networks under shear</b> Tatiana NIKOLAEVA, Daan DE KORT, Adrian VODA, Ruus DEN ADEL, Henk VAN AS, John VAN DUIJNHOFEN <i>Wageningen University, the Netherlands</i>



Poster session II, Wednesday, April 13<sup>th</sup> (11:50 – 13:20)

## Biopolymer Assembly

- pBA-1 **Structure of hyperbranched heteropolysaccharides of Acacia gum exudates: From spheroidal to prolate ellipsoidal conformation**  
Michael NIGEN, Lizeth LOPEZ-TORRES, Pascale WILLIAMS, Thierry DOCO, Christian SANCHEZ  
*UM-INRA, France*
- pBA-2 **Stabilization of oil-in-water emulsion by protein-polysaccharide colloidal particles**  
Wahyu WIJAYA, Ashok PATEL, Hanny WIJAYA, Paul van der Meeren  
*Ghent University, Belgium*
- pBA-3 **Structure and functionality of the supramolecular complexes of food biopolymers with PC liposomes mixed with docosahexaenoic fatty acid and stabilized by plant antioxidants**  
Natalia VOROBYEVA, Natalia SMOTROVA, Sergey CHEBOTAREV, Anna ANTOPOVA, Nadezda PALMINA, Tamara MISHARINA, Ekaterina ALINKINA, Vladimir BINYUKOV, Natalia BOGDANOVA, Valerii KASPAROV, Maria SEMENOVA  
*N.M. Emanuel Institute of Biochemical Physics of Russian Academy of Sciences, Russian Federation*
- pBA-4 **Microencapsulation of betalain microemulsion by complex coacervation in matrices of gelatin and gum arabic**  
Diana CANO-HIGUITA, Caroline FUZZETTI, Vania TELIS,  
*Sao Paulo State University, Brazil*
- pBA-5 **Characterisation of carboxymethylcellulose, a cellulose gum from wheat bran**  
Suzaira BAKAR, Peter HO, Rammile ETTOLAIE  
*University of Leeds, UK*
- pBA-6 **Cloudifiers in beverage manufacturing: Microparticles**  
Lykke ANDERSEN, Christian VESTERGAARD, Richard IPSEN  
*CO-RO A/S, Denmark*
- pBA-7 **Investigation of lipo & hydrocolloids in structuring edible oil**  
Pravin RAJARETHINEM, Francine FAYOLLE, Joelle GRUA, Alain LEBAIL  
*ONIRIS-Site, France*
- pBA-8 **Velocity of rising air bubbles in aqueous beta-lactoglobulin solutions at different pH and salt concentrations**  
V. ULAGANATHAN, G. GOCHEV, C. GEHIN-DELVAL, M.E. LESER, R. MILLER  
*Max Plank Institute for Colloid and Interface Science, Germany*
- pBA-9 **Structure and viscosity of dense suspensions of fractal globular protein aggregates**  
Walailuk INTHAVONG, Christophe CHASSENIEUX and Taco NICOLAI  
*Universite du Maine, France*
- pBA-10 **Hybrid nanoliposome/electrosprayed encapsulation structures for the delivery of bioactive ingredients**  
Laura GOMEZ-MASCARAQUE, Caroline CASAGRANDE SIPOLI, Lucimara GAZIOLA DE LA TORRE, Amparo LOPEZ-RUBIO  
*Institute of Agrochemistry and Food Technology, Spain*
- pBA-11 **Potential use of casein glycomacropptide to design gelled emulsions as delivery of bioactive compounds**  
Rocio MORALES, Maria Julia MARTINEZ, Ana Maria Renata PILOSOFF  
*Universidad de Buenos Aires, Argentina*
- pBA-12 **Prediction of collapse time of polymer stabilized O/W emulsions**  
Christelle TISSERAND, Giovanni BRAMBILLA, Mathias FLEURY, Pascal BRU, Gerard MEUNIER  
*Formulaction, France*
- pBA-13 **Improved stabilisation of concentrated oil-in-water emulsions by complexing soy protein with κ-carrageenan**  
Iris TAVERNIER, Paul VAN DER MEEREN, Koen DEWETTINCK, Ashok PATEL  
*Ghent University, Belgium*
- pBA-14 **Molecular Dynamics Simulation of Triglyceride Ordering at Surfactant Covered Triglyceride-Water Interfaces**  
Stephen EUSTON, Derick ROUSSEAU  
*Heriot-Watt University, UK*
- pBA-15 **Alternative crosslinking strategies for whey protein particles and the effect on the particle stability and functionality**  
Jeroen BOEVE, Loic BUYSE, Iris JOYE  
*KU Leuven, Belgium*
- pBA-16 **Simple coacervation of Acacia gum solutions**  
Veronica MEJIA TAMAYO, Michael NIGEN, Christian SANCHEZ  
*Unite Mixte de Recherche Ingeniere des Agro-polymeres et Technologies Emergentes, France*
- pBA-17 **Colloidal stability of polyphenols in young red wine by Acacia gum: the major implication of arabinogalactan-proteins rich in proteins**  
Michael NIGEN, Rafael APOLINAR-VALIENTE, Pascale WILLIAMS, Thierry DOCO, Nerea ITURMENDI, Virginie MOINE, Isabelle JAOUEN, Christian SANCHEZ  
*INRA Montpellier, France*
- pBA-18 **Extraction of functional proteins from *Chlorella* spp**  
Lutz GROSSMANN, Caroline KRATZNER, Jorg HINRICH, Jochen WEISS  
*University of Hohenheim, Germany*
- pBA-19 **Gelatin dissolution is more affected by the structure than the water mobility**  
Anne DUCONSEILLE, Amidou TRAORE, Fabrice AUDONNET, Thierry ASTRUC, Veronique SANTE-LHOUTELIER  
*INRA, France*
- pBA-20 **Spontaneous self-assembly of bovine collagen is modulated by age of animal and drying process**  
Vincenza FERRARO, Marc ANTON, Veronique SANTE-LHOUTELIER  
*INRA Nantes, France*




**Functionality of Multicomponent Systems**

pMC-1	<b>Influence of the incorporation of curcumin-loaded solid lipid microparticles on the characteristics of mixed whey protein isolate-xanthan gum gels</b> Ivana GEREMIAS-ANDRADE, Danielle ANDREASSA, Samantha PINHO <i>University of Sao Paulo, Brazil</i>
pMC-2	<b>Factors of influence on cold set gelation of mixed gels produced with soy protein isolate and locust bean gum</b> Thais BRITO-OLIVEIRA, Samantha PINHO <i>University of Sao Paulo, Brazil</i>
pMC-3	<b>Physico-chemical and structural characterization of multilamellar curcumin-loaded liposomes obtained by hydration of proliposomes</b> Camila JANGE, Matheus CHAVES, Juliana ROCHA, Pedro OSELIERO FILHO, Cristiano OLIVEIRA, Samantha PINHO <i>University of Sao Paulo, Brazil</i>
pMC-4	<b>Formation of micro- and nano-sized gel particles of calcium alginate via the Leeds Jet Homogenizer</b> Linda PRAVINATA, Brent MURRAY <i>University of Leeds, UK</i>
pMC-5	<b>Exploration of the effect of liquid anti-solvent precipitation production parameters on colloidal protein particle properties</b> Jeroen BOEVE, Loïc BUYSE, Iris JOYE <i>KU Leuven, Belgium</i>
pMC-6	<b>Influence of pH on the emulsifying properties of aqueous extract of <i>Rhyncophorus phoenicis</i> Larvae</b> Aymar FOGANG MBA, Michele VIAU, Elisabeth DAVID-BRIAND, Gustave DEMMANO, Germain KANSCI, Claude GENOT <i>University of Yaoundé, France</i>
pMC-7	<b>Rheology of emulsions stabilized by the electrostatic interaction between pectin and whey protein concentrate with ultrasound application</b> Kivia ALBANO, Vania TELIS <i>Sao Paulo University, Sao Paulo</i>
pMC-8	<b>Rheological behaviour of emulsions stabilized by the electrostatic interaction between sodium alginate and whey protein concentrate subjected to sonication</b> Kivia ALBANO, Caroline OLIVEIRA, Vania TELIS <i>Sao Paulo State University, Brazil</i>
pMC-9	<b>Behaviour of soy protein isolate/high-methoxyl pectin complexes as affected by pH and protein concentration</b> Mirian FREITAS, Kivia ALBANO, Vania TELIS <i>Sao Paulo State University, Brazil</i>
pMC-10	<b>Encapsulation of iron for fortification of plant-based structured foods</b> Patricia DUQUE ESTRADA, Ralf DE MEIJ, Anna PIERUCCI, Claire BERTON-CARABIN, Atze-Jan VAN DER GOOT <i>Wageningen University, the Netherlands</i>
pMC-11	<b>Incorporation of solid lipid nanoparticles (SLN) in protein gels: Impact on water holding capacity and rheological properties</b> Verena WIEDENMANN, Kathleen OEHLKE, Ralf GREINER, Heike SCHUCHMANN <i>Max Rubner Institute, Germany</i>
pMC-12	<b>Foam-mat Freeze-drying of blackcurrant juice: anthocyanin survival and drying analysis</b> Diana SALGADO, Rammile ETTELAIE, Peter HO, Brent Murray <i>University of Leeds, UK</i>
pMC-13	<b>Solvency Effects on biopolymer interactions</b> Alessandro GULOTTA, Evellen BEULING, Brent MURRAY, Johan MATTSSON <i>University of Leeds, UK</i>
pMC-14	<b>Proteins characterization of sparkling cider and study their foam behavior</b> Giovanna LOMOLINO, Andrea CURIONI, Gabriella PASINI, Mara VEGRO, Simone VINCENZI <i>DAFNAE Università degli Studi di Padova, Italy</i>
pMC-15	<b>Rheology of heat-induced egg yolk gels as affected by phenolic compounds</b> Carla DI MATTIA, Veronica GIACINTUCCI, Valerio CEROLINI, Giampiero SACCHETTI, Paola PITTIA <i>University of Teramo, Italy</i>
pMC-16	<b>Fostering biopolymer interactions for developing novel satiating ingredients</b> Amparo LOPEZ-RUBIO, Paula TARANCON, Laura GOMEZ-MASCARAQUE, Maria FABRA, Marta MARTINEZ-SANZ, Susana FISZMAN <i>Institute of Agrochemistry and Food Technology, Spain</i>
pMC-17	<b>Controlled release of water soluble vitamins in high solid polysaccharides with co-solutes</b> Naksit PANYOYAI, Anna BANNIKOVA, Darryl SMALL, Stefan KASAPIS <i>RMIT University, Australia</i>
pMC-18	<b>Effect of Biopolymers Structural Relaxation on Governing Dynamic Diffusion of Fatty Acid in Polysaccharide/Co-Solute System</b> Vilia Darma PARAMITA, Anna BANNIKOVA, Stefan KASAPIS <i>RMIT University, Australia</i>
pMC-19	<b>Gelation of WPI (Whey Protein Isolate) Aggregates in the Sodium Caseinate Matrix: Kinetics and Structure of the Gels</b> Anna KHARLAMOVA, Taco NICOLAU, Christophe CHASSENIEUX <i>Universite du Maine, France</i>
pMC-20	<b>Effect of composition of outer water phase (w2) on yield of double emulsions (w1/o/w2)</b> Anika OPPERMANN, Markus STIEGER, Eike SCHOLTEN <i>Wageningen University, The Netherlands</i>



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- PMC-21 **Structure engineering of oil-filled protein microbeads to tailor release of hydrophobic compounds in gastric digestion**  
P. VAN LEUSDEN, G. DEN HARTOG, A. BAST, M. POSTEMA, E. VAN DER LINDEN, L. SAGIS  
*Wageningen University, the Netherlands*
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- PMC-22 **Insights into the mechanism of myofibrillar protein gel stability: Influencing texture and microstructure using a model hydrophilic filler**  
Andrew GRAVELLE, Shai BARBUT, Alejandro MARANGONI  
*University of Guelph, Canada*
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- PMC-23 **Structure-function relationships in roll-in shortenings**  
Braulio MACIAS-RODRIGUEZ, Fernanda PEYRONEL, Alejandro MARANGONI  
*University of Guelph, Canada*
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- PMC-24 **Protein matrices ensure safe and functional delivery of marjoram (*Origanum majorana*) extracts**  
Elena ARRANZ, Anilda GURI, Marisol VILLALVA, Laura JAIME, Guillermo REGLERO, Sasana SANTOYO, Milena CORREDIG  
*University of Guelph, Canada*
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- PMC-25 **Stabilising properties of whey protein covalently bonded with lactose via Maillard reaction**  
Rui DING, Mahmood AKHTAR, Rammile ETTALAIE  
*University of Leeds, UK*
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- PMC-26 **Encapsulation of Liquorice Extract in Water-in-Oil-in-Water Multiple Emulsion**  
Mahmood AKHTAR, Justine SEGUI  
*University of Leeds, UK*
- 
- PMC-27 **Characterization of Functionalized and Non-Functionalized Carvacrol-loaded colloids used to Inactivate *Escherichia coli* O157:H7 lux**  
Veronica RODRIGUEZ-MARTINEZ, Bruce APPLGATE, Jeffrey YOUNGBLOOD, Ronald TURCO, Wendy PEER, Kendra ERK, Fernanda SAN MARTIN-GONZALEZ  
*Purdue University, USA*
- 
- PMC-28 **Impact of type and concentration of cellulose derivatives on the rheological behavior of the batter of a model sponge cake**  
Josselin BOUSQUIERES, Catherine BONAZZI, Camille MICHON  
*INRA, France*
- 
- PMC-29 **Evaluating the Digestive Fate of Coaxially Electrospun Starch Fibers for Oral Delivery of Bioactive Lipids**  
Anica LANCUSKI, Ron AVRAHAMI, Uri LESMES, Eyal ZUSSMAN  
*Technion - Israel Institute of Technology, Israel*
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