

STRATEGY FOR SUCCESSFUL PARTICIPATION AND EXPERIENCE IN HORIZON 2020 PROJECTS

Jana Hajšlová

Department of Food Analysis and Nutrition, UCT Prague

University of Chemistry and Technology, Prague (UCT, in Czech: VSCHT)





- ▶ UCT is the largest institution of high learning focused on teaching of technical chemistry in Central Europe
- Founded in 1952, but it roots back to 1807 when course in chemistry was delivered at the Prague Polytechnics.

VSCHT position within Czech Universities

	Teaching (30%)			
1	Univerzita Karlova	29,0		
2	VŠCHT	24,8		
3	Masarykova univerzita	22,2		
4	ČVUT	20,2		
5	Univerzita Palackého v Olomouci	19,3		
6	Vysoké učení technické v Brně	19,1		
7	Česká zemědělská univerzita v Praze	18,7		
8	Vysoká škola báňská	18,6		
9	Západočeská univerzita v Plzni	18,5		
9	Technická univerzita v Liberci	18,5		
11	Univerzita Pardubice	18,4		
12	Univerzita Tomáše Bati ve Zlíně	17,9		
13	Ostravská univerzita	16,0		

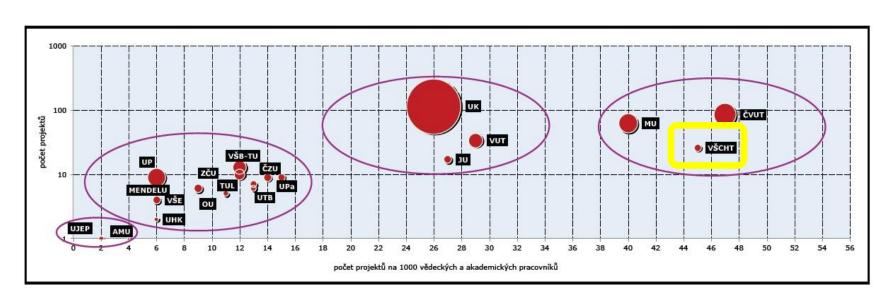






	Research (30%)	
1	Masarykova univerzita	22,7
2	Univerzita Karlova	22,0
3	ČVUT	17,3
4	VŠCHT	13,8
5	Vysoké učení technické v Brně	13,6
6	Univerzita Pardubice	13,4
7	Vysoká škola báňská	13,1
8	Univerzita Tomáše Bati ve Zlíně	13,0
9	Univerzita Palackého v Olomouci	12,2
10	Česká zemědělská univerzita v Praze	12,1
11	Západočeská univerzita v Plzni	11,8
12	Ostravská univerzita	11,4
13	Technická univerzita v Liberci	10,2

Activities of individual universities in the 7th FP



Activities of individual universities in the 7th FP:

Vertical axis: number of projects in which certain university participates

Horizontal axis: number of projects per 1000 scientific and academic staff of certain

university

Bubble size: number of scientific and academic staff of certain university

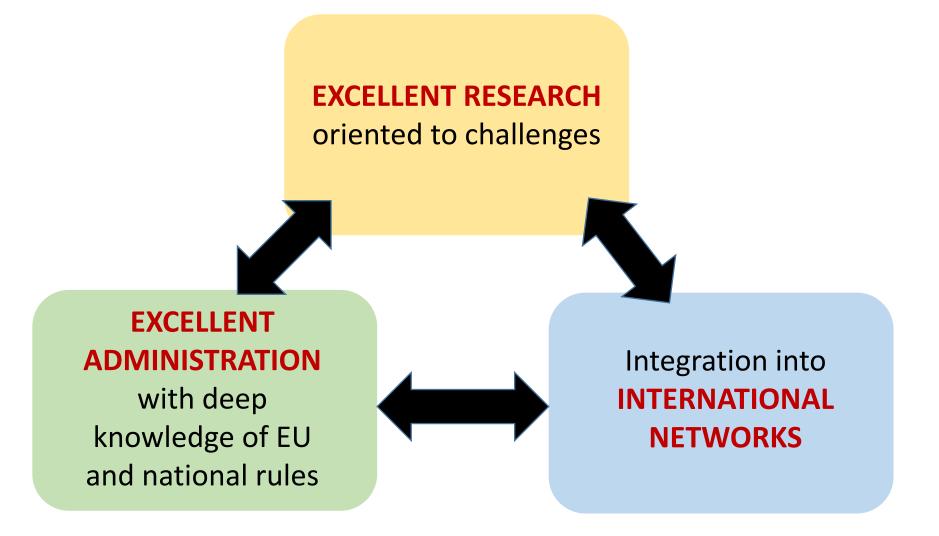


VSCHT position within Czech Universities: H2020 funded projects



Univerzita	Počet	Podpora z	Počet projektů na
Oniverzita	projektů	H2020 (€)	1. tis. pracovníků
Vysoká škola chemicko-technologická	30	7 280 866,19	47,6
České vysoké učení technické v Praze	90	19 246 066,88	47,4
Vysoké učení technické v Brně	51	26 968 178,07	38,3
Masarykova univerzita	61	18 257 326,49	29,1
Univerzita Karlova v Praze	117	21 547 856,84	26,3
Jihočeská univerzita v Českých Budějovicích	17	2 126 091,17	22,4
Vysoká škola ekonomie a managementu	2	144 847,00	17,1
Univerzita Pardubice	9	1 580 362,20	15,0
Technická univerzita v Liberci	7	882 886,25	13,4
Univerzita Tomáše Bati ve Zlíně	6	71 183,95	12,8
Česká zemědělská univerzita v Praze	9	995 129,00	12,6
Vysoká škola báňská - Technická univerzita	14	2 683 593,98	12,5
Západočeská univerzita v Plzni	11	1 393 425,10	12,4
Ostravská univerzita v Ostravě	5	420 558,00	10,7
Mendelova zemědělská a lesnická univerzi	6	388 840,00	8,6

3 key pillars for international collaboration:





Involvement in international projects





















Participation in management structure of FP6 and FP7 projects:



Group leader: Technology Transfer (Jana Hajslova) **WP leader:** Training network (Monika Tomaniova)



WP leader: Persistent Organic Pollutants (Jana Hajslova)

WP deputy leader: Perfluorinated compounds (Jan Poustka)



WP leader: Dissemination and training (Monika Tomaniova)



WP leader: Making an Impact (Monika Tomaniova)



WP leader: Dissemination and Knowledge Transfer (Jana Hajslova)

Project coordinator: Jana Hajslova

WP leader: Dissemination and Communication activities (Monika

Tomaniova)

WP deputy leaders: Milena Stranska (Zachariasova), Jana Pulkrabova 8



FP7 projects





FoodIntegrity (FP7–613688–CP) Ensuring the Integrity of the European food chain











CONFIDENCE (FP7–211326–CP Collaborative Project): Contaminants in Food and Feed: Inexpensive Detection for Control of Exposure

AT FOODSEG (FP7-266061) Safe Food for Europe -Coordination of research activities and Dissemination of research results of EC funded research on food safety

NANOLYSE (FP7–245 | 62–CP Collaborative Project) – Nanoparticles in Food: Analytical methods for detection and characterisation

PERFOOD (FP7–227525–CP Collaborative Project): PERFluorinated Organics in Our Diet

FR

PROMETHEUS (FP7–265558) PROcess contaminants: Mitigation and Elimination Techniques for High food quality and their Evaluation Using Sensors & Simulation



Q-SAFFE (FP7–265702) Quality and Safety of Feeds and Food for Europe UK



SUCCIPACK (FP7–289196) Development of active, intelligent and sustainable food PACKaging using FR PolybutyleneSUCCInate



AuthenticFood (CORE ORGANIC II) Fast methods for authentication of organic plant based foods

Projekty H2020





MultiCoop (H2020-TWINN-2015-692195)

Multidisciplinary approach to strengthen cooperation and establish novel platform for comprehensive assessment of food and feed safety

Jak zlepšit podmínky pro výzkum na VŠCHT v oblasti komplexního posuzování bezpečnosti potravin a krmiv?



AUTHENT-NET (H2020-SFS-2015-1-696371)

AUTHENT-NET – Food Authenticity Research Network

Jak financovat výzkum v oblasti autenticity potravin v EU?



FoodSmartphone (H2020-MSCA-ITN-2016-720325)

Smartphone analyzers for on-site testing of food quality and safety

Jak pomocí chytrého telefonu rychle ověřit kvalitu a bezpečnost potraviny?



HBM4EU (H2020-SC1-2016-RTD-733032)

European Human Biomonitoring Initiative

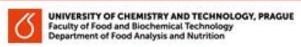
Jak provádět sledování zátěže obyvatel různými chemickými látkami a přispět k ochraně jejich zdraví?

EU-China-Safe (H2020-SFS-2016-2-727864-2)

Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership Jak mobilizovat zdroje v Evropě a Číně k vytvoření soudržného partnerství, které bude sdílet vize o bezpečnosti a autenticitě potravin a pracovat na "vzájemném uznávání"?



Current trends in research in the field of food quality, safety and authenticity





UCT PRAGUE:

YOUR PARTNER IN ADVANCED
RESEARCH IN FOOD QUALITY,
CHEMICAL SAFETY AND
AUTHENTICITY

2

CENTRE IN MODERN FOOD / ENVIRONMENTAL ANALYSIS

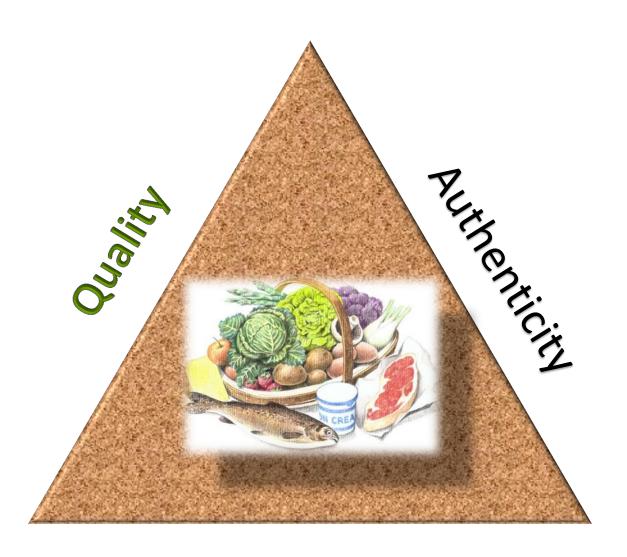


Contact:
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Head of Dept. of Food Analysis and Nutrition

Technicka 3, 166 18 Prague 6, Czech Republic

Phone: 00420 602 823 424 E-mail: jana.hajslova@vscht.cz www.vscht.cz

KEY RESEARCH FOCUS: FOOD INTEGRITY







Food safety under control ISO 17025 ACCREDITED METHODS



► TARGET ANALYSIS

POPs (chlorinated, brominated, fluorinated)
POLYCYCLIC AROMATIC HYDROCARBONS
PESTICIDE RESIDUES
VETERINARY DRUGS RESIDUES
MYCOTOXINS AND OTHER NATURAL TOXINS

PROCESSING CONTAMINANTS

► NON-TARGET SCREENING

(fingerprinting and profiling)





EU PT results - Rapid screening test: only 72 hour for reporting

Pesticide residues in potato homogenate



Only 4 labs of 61 were fully sucessful, UCT the best

Table 4.3.1 Classification of laboratories according to the number of spiked pesticides reported.

	No of Reported Pesticides	% of Reported Pesticides	Other Reported Pesticides	
Laboratory Code			Not Confirmed by the Organiser	Confirmed by the Organiser
Lab002	22	100		
Lab033*	22	100		
Lab042	22	100		
Lab053	22	100	4	0
Lab005*	21	95		
Lab030	21	95		
Lab034*	21	95		
Lab038	21	95		
Lab039	21	95		
Lab041	21	95		
Lab043	21	95		
Lab011	21	95	1	0
Lab056	21	95	3	0
Lab058*	21	95	3	0
Lab013	20	91		
Lab026	20	91		
Lab046*	20	91		
Lab017	20	91	1	0
Lab029	19	86		
Lab035	19	86		
Lab049	19	86		
1 1050	1.0	~.		

Key assumptions for successful integration into EU projects: NETWORKING

- **A.** International 'visibility' ⇒ networking, participation / organization of conferences, workshops, trainings
- B. Availability of cutting edge technical background...and implemented quality assurance experimental system
- C. High publishing record (impact factors!)
- **D.** Involving young talented students since the beginning of studies into research activities
- Early identification of future challenges and trends
 issues ⇒ ... addressing which other researches have
 not dealt with yet

Organisation of international events: Conferences, workshops, trainings





International Conference on Organic Food Quality and Health Research

18 - 20 May, 2011 Prag, Czech Republic





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Programme

Book of Abstracts

Committees

Venue

Accomodation

Exhibitors/ Sponsors

Important dates and Deadlines

Registration

Abstracts

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Welcome - First International Conference on Organic Food Quality and Health Research

On behalf of the Food Quality and Health Association (FQH, The Netherlands), the Institute of Chemical Technology, Prague (ICT Prague, Czech Republic) and the Technology Platform Organics (TPOrganics) we would like to invite all researchers in the field of organic food quality and health research, representatives of national and international agencies, control bodies and industries to attend the First International Conference on Organic Food Quality and Health Research.

The Conference will focus on the State of the Art in Research on Organic Food Quality and Health in the following areas:

- > Quality and safety of organic plant and animal products
- > Organic food authenticity
- > Impact of organic food on animals and humans



Organisation of international events: Conferences, workshops, trainings





SEVENTH FRAMEWORK PROGRAMME



International Conference

CHEMICAL REACTIONS IN FOODS VII

November 14–16, 2012 ■ Prague, Czech Republic







HOME

CRF 2012 Outcomes

BOOK OF ABSTRACTS

PHOTOGALLERY

ACCOMMODATION

IMPORTANT DATES and

Biotage

Springer

PROGRAMME

COMMITTEES

VENUE

DEADLINES

ABSTRACTS

INFORMATION

EXHIBITION

REGISTRATION

OUTCOMES

CRF 2012 Outcomes

The organizers of CRF 2012 would like to thank all speakers, poster presenters, participants, exhibitors and media partners for their contributions to very interesting and successful conference.

Prof. Dr. Jana Hajšlová (ICT Prague) Chairwoman of Symposium

Assoc. Prof. Dr. Karel Cejpek (ICT Prague) Chairman of Organizing Committee



- 233 scientists participated
- 36 countries from 4 continents represented
- 37 lectures including 10 young scientists' (27%) presented
- 210 posters presented
- 2 companies exhibited at the conference
- 3 media partners participated



The CRF 2012 award for the best presented poster was given to Martin Globisch, Anne Wellner, Thomas Henle, Technische Universität Dresden, Dresden, Germany, The poster was entitled "MODIFICATION OF THE E-AMINO GROUP OF LYSINE BY trans-2-HEPTENAL - A PRODUCT OF LIPID PEROXIDATION OF HEATED PEANUT OIL".



CRF 2012 flyer
B !! !
Preliminary program

JOIN OL	JR MAILING LIST	n		
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Name:				
Surname:				
E-mail:				
Organization:				



RAFA – growing scientific community

→ 2003: 1st RAFA

→ 2005: 2nd RAFA

→ 2007: 3rd RAFA

→ 2009: 4th RAFA

→ 2011: 5th RAFA

→ 2013: 6th RAFA

→ 2015: 7th RAFA UCT PRAGUE

MASARYK college conference centre

VENUE:



DIPLOMAT hotel conference centre



CLARION

No. of participants / countries addressed:

250 / 27

320 / 35

380 / 37

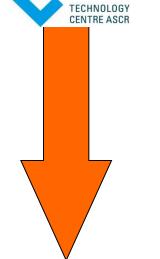
550 / 55

650 / 47

800 / 63

800 / 65

registrations



Commission

International conference series on new knowledge on chemical reactions during food processing / storage: future research challenges

CHEMICAL REACTIONS IN FOODS VIII

February 15-17 • 2017

Prague • Czech Republic



Organized by:

University of Chemistry and Technology, Prague, Department of Food Analysis and Nutrition, Prague, Czech Republic

Universitá del Piemonte Orientale "A. Avogadro", DSF, Novara, Italy

Under auspices of European Association for Chemical and Molecular Sciences, Food Chemistry Division

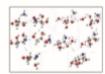
Prof. Jana Hajslova (chair) (University od Chemistry and Technology, Prague, CZ)

Prof. Marco Arlorio (co-chair) (Università del Piemonte Orientale A. Avogadro, I)





















ww.rafa2017.eu

8th International Symposium on

RECENT ADVANCES IN FOOD ANALYSIS

November 7–10, 2017 • Prague, Czech Republic

SESSIONS ADDRESSING RECENT AND EMERGING (BIO) ANALYTICAL STRATEGIES IN FOOD QUALITY AND SAFETY CONTROL:

- Allergens
- Industrial contaminants
- Metals & metalloids
- Mycotoxins, marine and plant toxins
- Packaging contaminants
- Processing contaminants
- Pesticide residues
- Veterinary drug residues

- Authenticity & food fraud
- Bioactive compounds
- Flavour significant compounds
- Omics including Foodomics
- Food forensics
- Nanoparticles in food
- Novel foods & supplements
- Organic crops & foodstuffs

QA/QC & Chemometrics & Data interpretation

SATELLITE EVENTS: WORKSHOPS & INTERACTIVE SEMINARS (tentative list)

- Ambient mass spectrometry in food and natural products (4th European event)
- Vibrational spectroscopy & chemometrics for monitoring of food products & contaminants detection
- Data quality and smart data handling in food analysis
- Experiences, achievements and recent challenges addressed by EU Reference Laboratories
- Step by step strategies towards fast development of smart analytical methods
- Food safety issues beyond the EU
- European Food Safety Authority (EFSA) information platform on emerging food quality/safety issues of high concern



UNIVERSITY OF CHEMISTRY AND TECHNOLOGY, PRAGUE

Faculty of Food and Biochemical Technology **Department of Food Analysis and Nutrition**

STRATEGIES IN FOOD QUALITY, SAFETY WITHENTICITY CONTROL: challenges act and in the recent years Jana Hajs. Per team AOACallas, TX





Organisation of international events: Conferences, workshops, trainings

Trainings organised:

- Within EU and other projects
- In cooperation with industry, governmental organisations, ...
- On request (on-site, one-to-one, hands-on, workshops, ...)







Key assumptions for successful integration into EU projects: RESEARCH

- A. International 'visibility' ⇒ networking, participation / organization of conferences, workshops, trainings
- B. Availability of cutting edge technical background...and implemented quality assurance experimental system
- C. High publishing record (impact factors!)
- **D.** Involving young talented students since the beginning of studies into research activities
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 issues ⇒ ... addressing which other researches have
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Continuous integration of emerging technologies into top research



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Building a top scientific team Excellent publication activity

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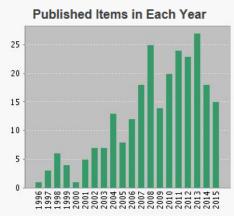
Marked List

Citation Report: 286

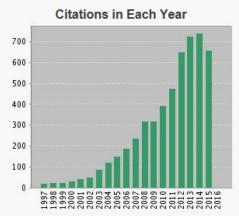
(from Web of Science Core Collection)

You searched for: AUTHOR: (hajslova j) ...More

This report reflects citations to source items indexed within Web of Science Core Collection. Perform a Cited Reference Search to include citations to items not indexed within Web of Science Core Collection.



The latest 20 years are displayed. View a graph with all years.



The latest 20 years are displayed. View a graph with all years.

Results found: 286

Sum of the Times Cited [?]: 5425

Sum of Times Cited without self-citations [?]: 4992

Citing Articles [?]: 3865

Citing Articles without self-citations [?]: 3699

Average Citations per Item [?]: 18.97

h-index [?]: 41



Assoc Prof Jana Pulkrabová, PhD, Head of Department (36 years)

High publication record:

WEB OF SCIENCE"



h-index
19

Average citations per item
14,98

Sum of Times Cited

989

Without self citations

909

804
Without self citations



Assoc Prof Milena Stránská (Zachariášová) ith the University of Chemistry and Technology, Prague, Professor at Inc. Department of Food Analysis and Nutrition. Milena is well-versed in mycotoxins, as witnessed by the theses 'Quality assurance in mycotoxins analysis', 'Mycotoxins: new analytical approaches and ways of minimising their

Award of the publication in World Mycotoxins Journal

The best paper of 2014 selected by the Editorial board

(Cross reactivity of rapid methods for mycotoxins detection towards metabolites and masked mycotoxins: the current state of knowledge by M. Zachariasova, P. Cuhra and J. Hajslova. World Mycotoxins Journal, 2014, 7(4), pages 449-464).

Dr. Milena Zachariášová (see photograph) is affiliated ith the University of Chemistry and Technology, Prague, Each Republic, where she is now Associate Professor at the Department of Food Analysis and Nutrition. Milena is well-versed in mycotoxins, as witnessed by the theses 'Quality assurance in mycotoxins analysis', 'Mycotoxins: new analytical approaches and ways of minimising their occurrence in food' and 'Multiple mycotoxins in food and feed: new analytical challenges, occurrence, and fate during processing', that led to her MSc, PhD and Associate Professor degrees, respectively. Her current scientific focus is mainly on target/non-target analysis of food contaminants (especially free and 'masked' mycotoxins), metabolomic fingerprinting/profiling and bioprospecting. In 2011 she



h-index
17

Average citations per item
21,32

Sum of Times Cited

1 130

Without self citations
1 058

Citing articles **713**

Without self citations

688



Zbynek Dzuman, Ph.D.- young scientist, post doc. Research group leader (29 years)





11

Average citations per item

19,05

Sum of Times Cited

400

Without self citations

372

0

0

Citing articles

306

Without self citations

292



Graduates of the Department of Food Analysis and Nutrition, University of Chemistry and Technology, Prague, are used worldwide ...

Experiences obtained in int. projects =>
High competitiveness of graduates in the world market =>
Further collaboration























Agilent Technologies







A Thermo Fisher Scientific Brand



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CHALLENGE:

New processing contaminant discovered

ACRYLAMIDE





1.

Heat-generated food toxicants:
Identification, characterisation and risk
minimisation

Exploration of acrylamide formation and reducing its levels in processed food



3.

National program: **AKRYLAMID**







PROcess contaminants: Mitigation and Elimination Techniques for High food quality and their Evaluation Using Sensors & Simulation

2.

UCT introduces new method



Evidence that further risk management measures are needed to further reduce the presence of acrylamide in food

UCT performs national monitoring – data provided to EFSA



Potato frits producer introduces mittigation strategy

7.

New challenge in processing contaminants research
UCT is ready to provide advise and support to food producers

CHALLENGE:

Need for fast, reliable, harmonised multimethods for analysis of a range of contaminants



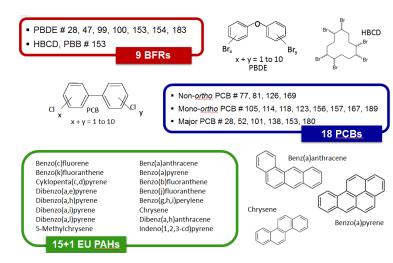
STORY no. 2: ENVIRONMENTAL CONTAMINANTS





CONtaminants in Food and Feed: Inexpensive DEtection for Control of Exposure

- □ Following the Mexico Gulf oil spill (April 2010), AOAC INTERNATIONAL launched the call for submitting rapid analytical methods suitable for quantification of polycyclic aromatic hydrocarbons (PAHs) in the raw edible portions of fin fish and seafood.
- □ The PURPOSE was to carry out evaluation through the AOAC Official Methods SM program and, supposing the collaborative study is successful, replace existing conventional, time and labour demanding methods, by the new one.











CHALLENGE:

Food fraud = Global issue

MELAMIN CRISIS,

Not only economic but also food safety issue



A major food safety incident in China was made public in September 2008.

Melamine had been deliberately added at milk-collecting stations to diluted raw milk ostensibly to boost its protein content.



STORY no. 3: FOOD AUTHENTICATION





FoodIntegrity:

Ensuring the Integrity of the European food chain

€12M (€9M EC contribution) FP7 project with 38 partners





HOW TO JOIN US?

http://www.foodintegrity.eu





Home News Archive

Events Participants

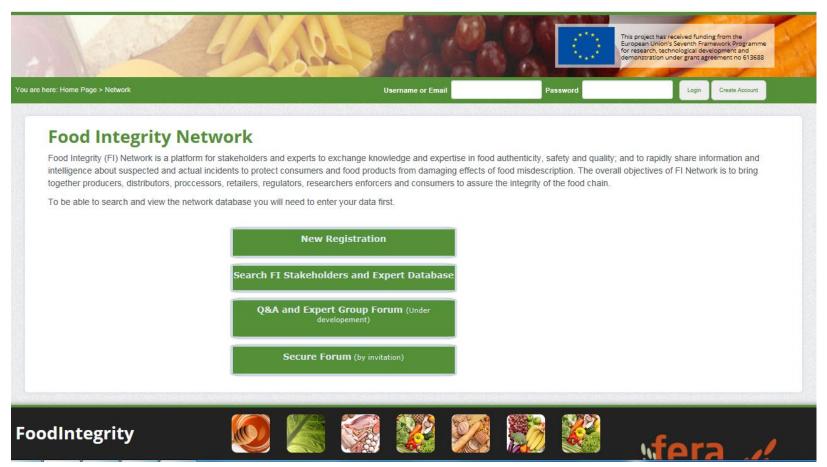
Dissemination Activities -



Surveys

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Procurement Call





Step by step..., continuous networking...







European Commission > CORDIS > Projects and Results > Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership

Search

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NEWS & EVENTS

PROJECTS & RESULTS

RESEARCH*EU MAGAZINES PARTNERS



EU-China-Safe

Project ID: 727864 Funded under:

H2020-EU.3.2.1.3. - Empowerment of rural areas, support to policies and rural innovation

H2020-EU.3.2.2.1. - Informed consumer choices

Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership

From 2017-09-01 **to** 2021-08-31, ongoing project

Project details

Total cost: Topic(s):

EUR 11 369 237,50 SFS-45-2016 - Increase overall transparency of processed agri-food products



5.

CHALLENGE:

Assessment of chemical cocktails in combination with bioactivity testing



STORY no. 4: COCKTAILS OF TOXIC COMPOUDS

MultiCoop (H2020-TWINN-2015-692195)

Multidisciplinary approach to strengthen cooperation and establish novel platform for comprehensive assessment of food and feed safety (2016 – 2018)

- Aimed at promoting new opportunities for participating partners (VSCHT, QUB and BOKU) by development of levels of excellence and expertise of all three institutions in the field of comprehensive food and feed safety assessment
 A major focus will be in enhancing the range of competences of VSCHT
- UNIVERSITY OF CHEMISTRY AND TECHNOLOGY PRAGUE







HORIZ N 2020



OBJECTIVES:

- Establishment of close links between project partners through organization of a series of training and mobility initiatives
- Dissemination and communication of project outcomes achieved by raising scientific capacity and through publication of joint scientific papers
- □ Identification of new and important research topics which will result in further development of new collaborations through preparation of joint projects proposals
- Enhancement of the profiles and competences of participating researchers.

MAIN SCIENTIFIC INTERESTS:

- ☐ Innovation in the field of analytical chemistry incorporating holistic analytical approach for analytical methods for targeted analysis of contaminants and health beneficial compounds
- Analytical approaches for non-targeted screening and metabolomic fingerprinting/profiling methods for identification of important metabolomic markers
- ☐ Fit-for-purpose methods for assessment of currently unknown risks resulting from presence of mixtures of chemical contaminants in food and feed
- ☐ Novel approaches used in bioprospecting, a new tool for uncovering important natural resources for improving health



Key assumption for successful integration into EU projects: ADMINISTRATION

"Research administration is not a necessary evil, but an essential part of a success"...

- □ To be successful in intra-European cooperation requires not only excellent researchers but also sophisticated administrative and managerial infrastructure of the university (legal, financial, administrative and personnel agenda).
- ☐ Cooperation with the teams in European Research Area brings not only funds, but strengthens research potential and human resources development of the university.



Projects implemented with financial support from the Ministry of Education under the EUPRO II:













Thank you for your kind attention ... collaboration is welcome ...

jana.hajslova@vscht.cz

Prof. Jana Hajslova, Czech Delegate in programme Committee H2020 Societal Challenge 2: Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy

Acknowledgement of EC to support research activities and mobility programmes for young researchers.

