Global Coalition for Regulatory Science Research

Singapore Food Agency

12TH GLOBAL SUMMIT ON REGULATORY SCIENCE (GSRS22)

19 – 21 October 2022 | Singapore

PROGRAMME OVERVIEW

GSRS22

The 12th Global Summit on Regulatory Science (GSRS22) is an in-person conference, which is scheduled to be held from October 19 - 21, 2022, in Singapore.

It is being co-hosted by Singapore Food Agency (SFA) and the Global Coalition for Regulatory Science Research (GCRSR).

The theme for this year's Global Summit is **Advances in Nanotechnology for Food and Medical Products: Innovations, Safety and Standards.**

ABOUT GSRS

The Global Summit on Regulatory Science (GSRS) is an international conference for discussion of innovative technologies and partnerships to enhance translation of basic science into regulatory applications within the global context.

The conference provides an opportunity for scientists from government, industry, and academic-research communities to objectively assess the utility of emerging technologies (such as nanotechnology, imaging, omics for translational science, personalized medicine, medical product safety, and food safety) for addressing regulatory-research questions and to discuss the best way to translate these technologies into real-world applications.

About GCRSR

Global Coalition for Regulatory Science Research

The Global Coalition for Regulatory Science Research (GCRSR) was established in 2013 under the leadership of the US-FDA. The mission of GCRSR is to foster the uptake of emerging technologies by engaging regulatory agencies in the global context. This is an international coalition with the objectives of facilitating education, scientific training and scientific exchanges in the field of regulatory science. It focuses on research to support regulatory decision making by identifying and promoting best practices to understand and interpret data from innovative technologies such as genomics. To date, GCRSR discussions have been focused on:

- Defining the role of global research collaborations in advancing regulatory science and its impact on public health.
- Exploring the future of regulatory science research as a tool for advancing regulatory science in the areas of food safety and medical products.
- Developing strategies for training of regulatory scientists in a global setting.

Consequently, its main activities involve:

- Holding workshops and scientific meetings, including the annual Global Summit on Regulatory Science, to discuss the current development of new technologies and their potential utility in the regulatory settings.
- Exchanging scholars and students for the purpose of providing education and training courses.
- Enhancing the development and use of regulatory science principles.

For more information about GCRSR, please visit https://www.fda.gov/about-fda/science-research-nctr/global-coalition-regulatory-science-research.

About Singapore Food Agency (SFA)

The Singapore Food Agency (SFA) was formed as a statutory board under the Ministry of the Environment and Water Resources (MEWR) on 1 April 2019 to oversee food safety and food security from farm-to-fork. MEWR has been renamed as the Ministry of Sustainability and the Environment (MSE). The SFA brings together food-related functions carried out by the former Agri-Food & Veterinary Authority of Singapore, the National Environment Agency and the Health Sciences Authority.

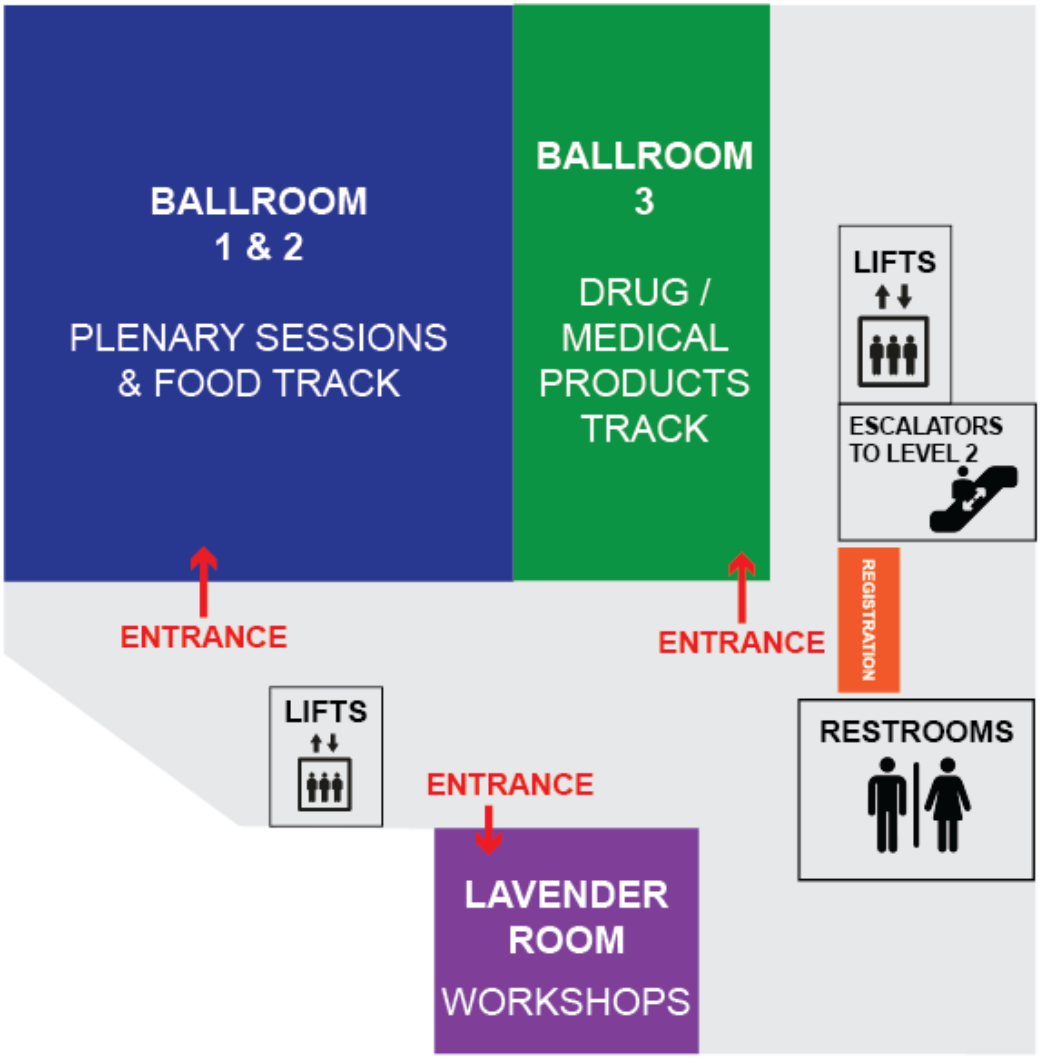
As the lead agency for food-related matters, SFA's mission is to ensure and secure a supply of safe food for Singapore. SFA works hand-in-hand with the industry and consumers to grow our three "food baskets" – Diversify import sources, Grow local, and Grow overseas, as well as ensure food safety from farm to fork. SFA also partners food businesses to strengthen capabilities, tap on technologies to raise productivity, undertake research to develop new lines of business, and catalyse industry transformation to ensure food security.

For more information about Singapore Food Agency, please visit www.sfa.gov.sg.

Conference Venue Map

Orchard Hotel Singapore
442 Orchard Road, Singapore 238879

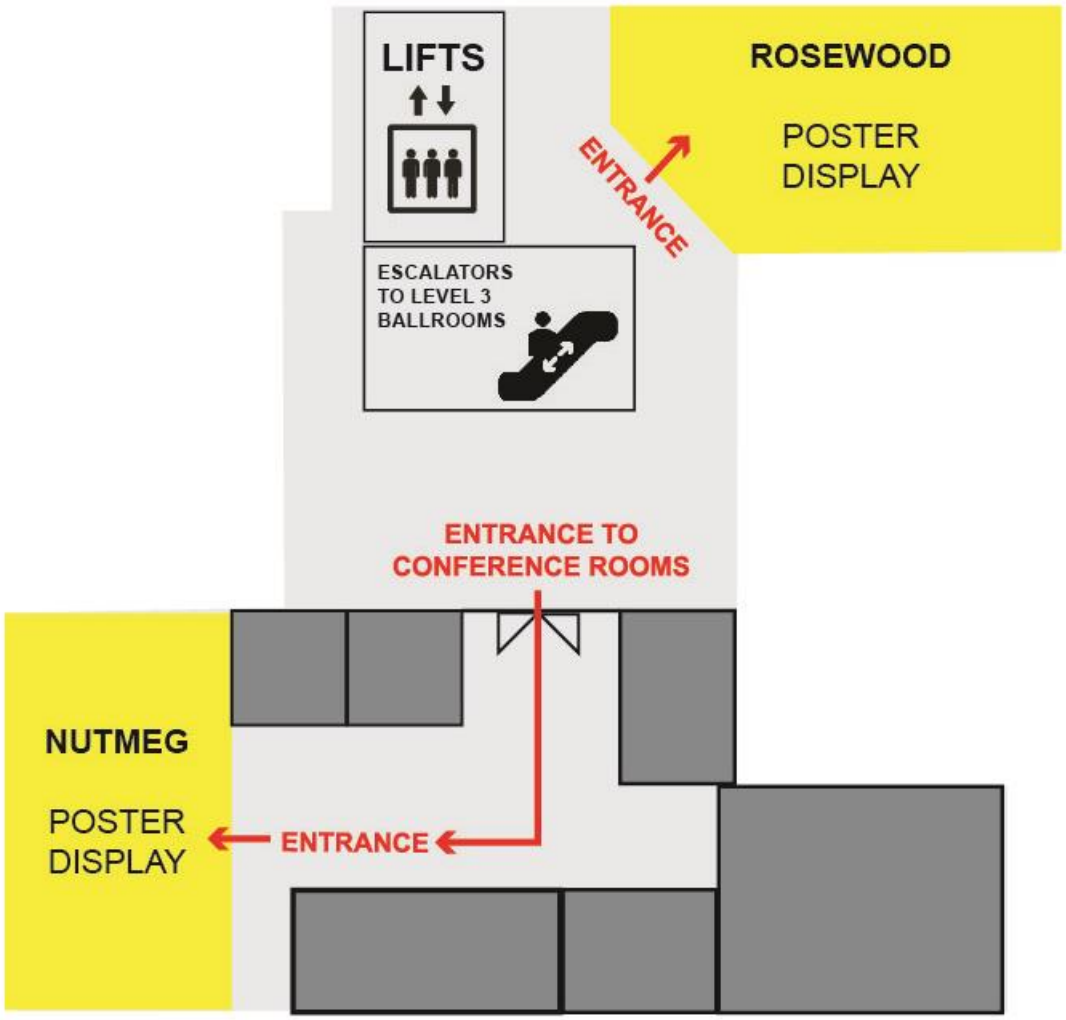
LEVEL 3 – PLENARY, TRACKS & WORKSHOPS



Conference Venue Map

Orchard Hotel Singapore
442 Orchard Road, Singapore 238879

LEVEL 2 – POSTER EXHIBITION



Programme

Accurate as of 18 October 2022

19 October 2022 (Wednesday)

Time	Programme
0830	**Registration** **Location: Level 3 Foyer**
	GSRS22 Opening **Location: Level 3, Ballroom 1 & 2**
0900	**Opening Address** **Dr Tan Lee Kim, PPA(P), PPA(G)** Director-General, Food Administration & Deputy Chief Executive Officer Singapore Food Agency (SFA)
0915	**Remarks by** **Dr Robert M. Califf M.D** Commissioner of Food and Drugs U.S. Food and Drug Administration (FDA) **Dr Weida Tong** Director, Division of Bioinformatics and Biostatistics, National Center for Toxicological Research (NCTR), U.S. Food and Drug Administration (FDA)
	Plenaries: Emerging Regulatory Science Topics in Nanotechnology related to Food and Medical Products **Location: Level 3, Ballroom 1 & 2**
0930	**Co-Chairs Session Opening Remarks** **A/P Joanne Chan Sheot Harn** Centre Director, National Centre for Food Science, Singapore Food Agency (SFA) **Dr Anil Patri** Director, Nanocore, Office of Scientific Coordination (OSC), National Center for Toxicological Research (NCTR), U.S. Food and Drug Administration
0940	**Plenary 1: Global Regulatory Science and Standards Landscape of Nanotechnology for Medical Products and Food** **Dr Anil Patri** Director, Nanocore, Office of Scientific Coordination (OSC) National Center for Toxicological Research (NCTR), U.S. Food and Drug Administration

19 October 2022 (Wednesday)

Time	Programme
	Plenaries: Emerging Regulatory Science Topics in Nanotechnology related to Food and Medical Products **Location: Level 3, Ballroom 1 & 2**
1010	**Plenary 2: Nanotechnology and Food: EFSA's approach to safety** **Dr George Kass** Chief Scientist Office, European Food Safety Authority (EFSA)
1040	Break
1100	**Plenary 3: Nanotechnology in food - a food safety perspective** **Ms Angela Li** Director, Research and Exposure Science Department, National Centre for Food Science, Singapore Food Agency (SFA)
1130	**Plenary 4: Nanotechnology and food - the regulatory approach taken 'down under'** **Mr Steve J. Crossley** Director, International Affairs, Recalls, Incidents and Strategic Science, Food Standards Australia New Zealand (FSANZ)
1200	**Plenary 5: Initiatives for Safety Assessment of Nanomaterials at Center for Biological Safety and Research, National Institute of Health Sciences** **Dr Yoko Hirabayashi** Director, Center for Biological Safety and Research (CBSR), National Institute of Health Sciences (NIHS)
1230	Lunch Location: Level 3, Foyer Setup of Poster Presentations Location: Level 2, Rosewood Room

19 October 2022 (Wednesday)

Time	FOOD TRACK Session 2: Innovation in Nanotechnology for Food Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 3: Nanomaterials for Gene Delivery Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1400	**Co-Chairs Session Opening Remarks** **A/P Benjamin Smith** Director, Future Ready Food Safety Hub (FRESH), Nanyang Technological University (NTU) **Prof Wu Yongning** Chief Technical Officer, China National Centre for Food Safety Risk Assessment (CFSA), Director, NHC Key Laboratory of Food Safety Risk Assessment and Head, WHO Collaborating Center of Food Contamination Monitoring (China)	**Co-Chairs Session Opening Remarks** **Dr Luigi Calzolai** Project Leader, Joint Research Center of the European Commission **Dr Takao Inoue** Head, Division of Molecular Target and Gene Therapy Products, National Institute of Health Sciences (NIHS)	**Poster display room is open for viewing**
1410	**Advances in the physicochemical characterization of nanoparticles in a regulatory context** **Dr Jan Mast** Head of Service, Trace Elements and Nanomaterials, Sciensano	**Development of prototype LNP vaccines for Lyme disease** **Dr Michael Johnston** Research Scientist, Head, Nanomedicines Laboratory, Centre for Oncology, Radiopharmaceuticals and Research, Biologic and Radiopharmaceutical Drugs Directorate, Health Canada, Government of Canada	

19 October 2022 (Wednesday)

Time	FOOD TRACK Session 2: Innovation in Nanotechnology for Food Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 3: Nanomaterials for Gene Delivery Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1440	**Safety assessment of nanoparticles found in food: Current status and prospective** **Prof Ying Liu** Professor, National Center for Nanoscience and Technology	**Characterization of nanovaccines for COVID-19** **Dr Luigi Calzolai** Project Leader, Joint Research Center of the European Commission	**Poster display room is open for viewing**
1510	**Selenium nanoparticles functionalized by mushroom polysaccharide-protein complex: A novel nano-mineral for managing postmenopausal osteoporosis** **Prof Ka Hing Wong** Director, Research Institute for Future Food, The Hong Kong Polytechnic University	**Validation of the effects of transport on COVID-19 mRNA vaccines** **Dr Takenori Yamamoto** Chief, Gene Therapy Section, Division of Molecular Target and Gene Therapy Products, National Institute of Health Sciences (NIHS)	
1540	Break	Break	

19 October 2022 (Wednesday)

Time	FOOD TRACK Session 2: Innovation in Nanotechnology for Food Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 3: Nanomaterials for Gene Delivery Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1610	**Nanotechnology for Biomedical and Food Applications** **Prof Jackie Y. Ying** Director, NanoBio Lab and A*STAR Senior Fellow	**Analytical technology and regulatory concerns of liponanoparticle medicine – Taiwan FDA's experience sharing in reviewing and testing mRNA COVID-19 vaccines** **Dr Jiachuan Hsu** Section Chief, Division of Research and Analysis, Taiwan Food and Drug Administration (TFDA), Ministry of Health and Welfare Taiwan	**Poster display room is open for viewing**
1640	**Polymer Nanocomposite for Sustainable Food Packaging** **Dr Li Xu** Senior Scientist, Institute of Sustainability for Chemicals, Energy and Environment (ISCE2), Institute of Materials Research and Engineering (IMRE), Agency for Science, Technology and Research (A*STAR)	**Modular and adaptive dendrimer nanovectors for nucleic acid delivery** **Dr Ling Peng** Research Director Centre Interdisciplinaire de Nanoscience de Marseille (CINaM) Aix-Marseille University, CNRS	
1710	End of Session 2	End of Session 3	Room Closed
1730	**GSRS22 Networking Reception** Location: Level 2, Drinks Bar		

20 October 2022 (Thursday)

Time	FOOD TRACK Session 4: Monitoring and Characterization of Microplastics & Nanoplastics Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 5: Progress in Nanotechnology Standards Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
0830	**Co-Chairs Session Opening Remarks** **Dr Wu Yuansheng** Director, Food Science Rapid Response Department, National Centre for Food Science, Singapore Food Agency (SFA) **Dr Josefa Barrero** Team Leader, Directorate for Health, Consumers and Reference Materials, Joint Research Centre, European Commission	**Co-Chairs Session Opening Remarks** **Dr Åsa Jämting** Senior Research Scientist, National Measurement Institute Australia **Dr Shan Zou** Senior Research Officer, Team Leader, Nanoscale Measurement Team, Metrology Research Centre, National Research Council Canada (NRC) and Adjunct Professor, Department of Chemistry, Carleton University	**Poster display room is open for viewing**
0840	**Micro-plastics and other emerging issues: an overview on the food safety implications** **Dr Vittorio Fattori** Food Safety Officer,Food Systems and Food Safety Division, Food and Agriculture Organization of the United Nations (FAO)	**Nanotechnology Standards for Drug/Medical Products from ASTM International** **Dr Debra L. Kaiser** Senior Advisor, Office of Data and Informatics, Material Measurement Laboratory, **National Institute of Standards and Technology (NIST)**	

20 October 2022 (Thursday)

Time	FOOD TRACK Session 4: Monitoring and Characterization of Microplastics & Nanoplastics Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 5: Progress in Nanotechnology Standards Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
0910	**Microplastics in typical seafood in China: current status and future perspectives** **Prof Wu Yongning** Chief Scientist, Unit Director and NHC Key Lab Director, Research Unit of Food Safety, Chinese Academy of Medical Sciences, NHC Key Laboratory of Food Safety Risk Assessment, China National Centre for Food Safety Risk Assessment (CFSA)	**Current Progress and Standards Needs for Nanomedicines** **Dr Caterina Minelli** Principal Research Scientist, National Physical Laboratory	**Poster display room is open for viewing**
0940	**Monitoring of microplastics in drinking water: stepping stones of developing a methodology** **Dr Dora Mehn** Project Officer, Scientific Research Consumer Products Safety, Joint Research Centre, European Commission	**Certified reference materials for lipid-based nano-delivery systems – development and unique challenges** **Dr Shan Zou** Senior Research Officer, Team Leader, Nanoscale Measurement Team, Metrology Research Centre, National Research Council Canada (NRC) and Adjunct Professor, Department of Chemistry, Carleton University	
1010	Break	Break	

20 October 2022 (Thursday)

Time	FOOD TRACK Session 4: Monitoring and Characterization of Microplastics & Nanoplastics Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 5: Progress in Nanotechnology Standards Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1040	**Micro-/Nanoplastics (MPs/NPs) in Food: Analytical Developments and Challenges** **Dr Yu Dingyi** Chemical Specialist Team Lead, Singapore Food Agency (SFA)	**NMIA's Nanometrology Section: Supporting accurate and reproducible nanotechnology research and commercialisation** **Dr Åsa Jämting** Senior Research Scientist, National Measurement Institute Australia	**Poster display room is open for viewing**
1110	**Monitoring and Characterization of Microplastics and Nanoplastics** **Dr Kay Ho** Environmental Research Scientist, Atlantic Coastal Environmental Sciences Division, United States Environmental Protection Agency	**ISO standards on Nanotechnology and Nanomaterials** **Dr Yung Lin Yue, Lanry** Associate Professor, National University of Singapore (NUS)	
1140	**Understanding the health risks from exposure to micro- and nanoplastics in food: an overview of CUSP' perspective** **Dr Alba Hernández Bonilla** Aggregate Professor & Head, UAB Mutagenesis Group, Department of Genetics and Microbiology, Autonomous University of Barcelona	**Development of National Nanotechnology standard and guidelines in Thailand** **Dr Waluree Thongkam** Senior technical officer, Nanosafety Alliance section (NSA), National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA)	

20 October 2022 (Thursday)

Time	Programme		
	FOOD TRACK **Session 4: Monitoring and Characterization of Microplastics & Nanoplastics** **Location: Level 3, Ballroom 1 & 2**	**DRUG / MEDICAL PRODUCTS TRACK** **Session 5: Progress in Nanotechnology Standards** **Location: Level 3, Ballroom 3**	**POSTER DISPLAY** **Location: Level 2, Rosewood Room & Nutmeg Room**
1210		**Standards relating to nanotechnology-based drug products in Japan** **Dr Kumiko Sakai-Kato** Professor, Kitasato University	**Poster display room is open for viewing**
1240	Lunch **Location: Level 3, Foyer**		

20 October 2022 (Thursday)

Time	FOOD TRACK Session 6: Emerging Nanomaterials Contaminants in Food Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 7: Generic Medical Products containing Nanomaterial Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1400	**Co-Chairs Session Opening Remarks** **Dr Yoko Hirabayashi** Director, Center for Biological Safety and Research (CBSR), National Institute of Health Sciences (NIHS) **Mr Neil Vary** Director, Ottawa Laboratory (Carling), Canadian Food Inspection Agency	**Co-Chairs Session Opening Remarks** **Dr Nadia Villar** Nanomedicine Working Group, Office of monitoring and risk management, National Institute of Drug (INAME), National Administration of Drug, Food and Medical Devices, Argentina (ANMAT) **Dr Fanny Caputo** Research Engineer and Project Manager, Nanomaterials, Laboratoire national de métrologie et d'essais (LNE)	**Poster display room is open for viewing**
1410	**Microplastics and Nanoplastics as an Emerging Food Contaminant: Gaps and Challenges** **Dr Calvin Yeo** Specialist Team Lead, Applied Research and Collaboration Branch, Research and Exposure Science, Department and Partnership Management Office, National Centre for Food Science, Singapore Food Agency (SFA)	**ANMAT Regulatory pathway on Nanosimilarity: characterization strategies, comparability tests and specifications** **Dr Nadia Villar** Nanomedicine Working Group, Office of monitoring and risk management, National Institute of Drug (INAME), National Administration of Drug, Food and Medical Devices, Argentina (ANMAT)	

20 October 2022 (Thursday)

Time	FOOD TRACK Session 6: Emerging Nanomaterials Contaminants in Food Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 7: Generic Medical Products containing Nanomaterial Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1440	**A systematic approach to investigate microplastics hazards with specific consideration of the carrier hypothesis for polycyclic aromatic hydrocarbons (PAHs)** **Dr Andrea Haase** Deputy Head, Chemicals and Product Safety, German Federal Institute for Risk Assessment (BfR)	**European perspective on liposomal follow-on nanomedicinal products** **Dr René Thürmer** Deputy Head, Unit Pharmaceutical Biotechnology, BfArM - Federal Institute for Drugs and Medical Devices	**Poster display room is open for viewing**
1510	**Further facts from orally exposed nanomaterials** **Dr Kumiko Ogawa** Head, Division of Pathology, National Institute of Health Sciences (NIHS)	**The Harmonisation & Standardisation roadmap of the French metrology community for medicinal** **Dr Fanny Caputo** Research Engineer and Project Manager, Nanomaterials, Laboratoire national de métrologie et d'essais (LNE)	
1540	Break	Break	

20 October 2022 (Thursday)

Time	FOOD TRACK Session 6: Emerging Nanomaterials Contaminants in Food Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 7: Generic Medical Products containing Nanomaterial Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1600	**New developments in nanomaterial safety science for improved hazard assessment** **Prof Shareen Doak** Professor, Genotoxicology and Cancer, Swansea University Medical School	**Evaluation of nanomedicines** **Dr Yasuhiro Abe** Section Chief, Fourth Section, Division of Drugs, National Institute of Health Sciences (NIHS)	**Poster display room is open for viewing**
1630	**Guiding principles for the risk assessment of nanopesticides** **Prof Melanie Kah** Associate Professor, The University of Auckland	**Matching the physi-chemical characterizations of nanostructures with their biomedical functions in vitro and in vivo** **Prof Liang Xing-Jie** Principal Investigator, CAS Center for Excellence in Nanoscience	
1700	**Finding the tiny plastic-needle in the haystack: how field flow fractionation can help to analyze nanoplastics in food** **A/P Katrin Loschner** Associate Professor, National Food Institute, Technical University of Denmark	**Injectable Nanomedicines: Biopredictive Release Testing and IVIVC** **A/P Matthias Gerhard Wacker** Associate Professor, National University of Singapore (NUS)	
1730	End of Session 6	End of Session 7	Room Closed

20 October 2022 (Thursday)

Time	Programme
	WORKSHOP 1: BIOINFORMATICS **Location: Level 3, Lavender Room**
0800	**Session 0: Welcome and Session Overview** **Dr William Slikker** Adjunct Professorships, Department of Pediatrics and Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences Associate Editor for NeuroToxicology and Associate Editor, "Environmental Health" section of Experimental Biology and Medicine **AI4TOX – an FDA Artificial Intelligence (AI) program for toxicology** **Dr Weida Tong** Director, Division of Bioinformatics and Biostatistics, National Center for Toxicological Research (NCTR), U.S. Food and Drug Administration (FDA)
0840	**Session 1: Food and Drug Safety** **CO-CHAIRS** **Dr George Kass** Chief Scientist Office, European Food Safety Authority (EFSA) **Dr William Slikker** Adjunct Professorships, Department of Pediatrics and Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences Associate Editor for NeuroToxicology and Associate Editor, "Environmental Health" section of Experimental Biology and Medicine **SPEAKERS** **Data science for food safety: how to integrate new streams of data in the risk assessment process?** **Dr George Kass** Chief Scientist Office, European Food Safety Authority (EFSA) **Text Analytics for Food Safety Monitoring** **Mr Benjamin Er** Acting Specialist Team Lead, Statistics & Modelling, Research & Exposure Science Department (RESD), National Center for Food Science (NCFS), Singapore Food Agency (SFA) **Use of Machine-Learning and Artificial Intelligence for Drug Toxicology** **Dr Peter Newham** Vice-President, Safety Sciences, Clinical Pharmacology and Safety Sciences, R&D, AstraZeneca

20 October 2022 (Thursday)

Time	Programme
	WORKSHOP 1: BIOINFORMATICS **Location: Level 3, Lavender Room**
	Session 1: Food and Drug Safety (continued)
	Data Science in Early Derisking of Drug Targets and Discovery Chemistry **Dr Ruth Roberts** Director and Cofounder, ApconiX and Chair and Director, Drug Discovery, University of Birmingham
	Panel Discussion and Q&A
1020	Break
1040	**Session 2: Standards and Best Practice**
	CO-CHAIRS **Prof Timothy W Gant** Head, Toxicology Department, UK Health Security Agency, Harwell Science Campus
	Prof Maurice Whelan Deputy Director, Health, Consumers and Reference Materials; Head of Unit, Chemical Safety and Alternative Methods, Joint Research Centre (JRC), European Commission
	SPEAKERS **Open, FAIR and reproducible science** **Prof Susanna-Assunta Sansone** Professor, Data Readiness, Engineering Science; Associate Director, Oxford e-Research Centre; Academic Lead, Research Practice, University of Oxford
	Taking omics from concept to application in chemicals regulation **Prof Timothy W Gant** Head, Toxicology Department, UK Health Security Agency, Harwell Science Campus
	Multiomic reference materials and datasets for improved reproducibility **Dr Yuanting Zheng** Associate Professor, School of Life Sciences, Fudan University

20 October 2022 (Thursday)

Time	Programme
	WORKSHOP 1: BIOINFORMATICS **Location: Level 3, Lavender Room**
	Session 2: Standards and Best Practice (continued)
	Bridging scientific data with evidence needs for regulatory safety assessment **Prof Maurice Whelan** Deputy Director, Health, Consumers and Reference Materials; Head of Unit, Chemical Safety and Alternative Methods, Joint Research Centre (JRC), European Commission
1240	Lunch Location: Level 3, Foyer
1400	**Session 2: Standards and Best Practice (continued)**
	Two Decades' Effort on Developing Best Practice in Genomics and Its Contribution to Regulatory Science **Dr Leming Shi** Professor, School of Life Sciences, Human Phenome Institute and Shanghai Cancer Center, Fudan University
	Panel Discussion and Q&A
1440	**Session 3: Innovative Application**
	CO-CHAIRS **Mr Michael Renaudin** Lead, Swissmedic 4.0, Swissmedic
	Prof Lam Kwok Yan Associate Vice President, Strategy and Partnerships, President's Office; Professor, School of Computer Science and Engineering, Nanyang Technological University (NTU)
	SPEAKERS **Tricia - Leveraging NLP to enhance risk assessment of incoming incident reports** **Mr Alexander Horst** Digital Transformator, Swissmedic.4.0, Swissmedic
	MediCrawl **Dr Nicolas Perez Gonzalez** Data Scientist, Swissmedic 4.0, Swissmedic
1540	Break

20 October 2022 (Thursday)

Time	Programme
	WORKSHOP 1: BIOINFORMATICS **Location: Level 3, Lavender Room**
1600	**Session 3: Innovative Application (continued)**
	AI Empowers the Assessment for Hepatotoxicity Potential and Clinical Endpoints in Drug Discovery and Development **Dr Wenjun Bao** Chief Scientist and Director, Advanced Analytics R&D, JMP Statistic Discovery, SAS Institute Inc.
	Assessing allergenicity risk of proteins with AllerCatPro 2.0 **Dr Sebastian Maurer-Stroh** Executive Director, Bioinformatics Institute, Agency for Science, Technology & Research (A*STAR)
	Panel Discussion and Q&A
1700	Closing Remarks
1730	End of Workshop 1

21 October 2022 (Friday)

Time	FOOD TRACK Session 8: Nanotechnology in Agri-products and Feed Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 9: Role of Nanotechnology in Precision Medicine Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
0830	**Co-Chairs Session Opening Remarks** **Dr George Kass** Chief Scientist Office, European Food Safety Authority (EFSA) **Dr Wannee Chinsirikul** Executive Director, National Nanotechnology Center (NANOTEC)	**Co-Chairs Session Opening Remarks** **Dr Luigi Calzolai** Project Leader, Joint Research Center of the European Commission **A/P David Leong** Associate Professor, National University of Singapore (NUS)	**Poster display room is open for viewing**
0840	**New EFSA guidances on nano risk-assessment - Implementation strategy in the area of feed additives** **Dr Orsolya Holczknecht** Scientific Officer, European Food Safety Authority	**Regulatory challenges in development of Nanomedicine products** **Dr Amit K. Dinda** ICMR Emeritus Scientist, All India Institute of Medical Sciences	
0910	**Disruptive and Sustainable Technology for Agricultural Precision** **Dr Mervin Chun-Yi Ang** Associate Scientific Director DiSTAP, SMART	**Continuous Manufacturing Platform for Nanoparticle-Based Therapeutics** **Dr Diane Burgess** Distinguished Professor, Pfizer Distinguished Chair in Pharmaceutical Technology, University of Connecticut	

21 October 2022 (Friday)

Time	FOOD TRACK Session 8: Nanotechnology in Agri-products and Feed Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 9: Role of Nanotechnology in Precision Medicine Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
0940	**Addressing Food Security at the Intersection of Digital and Drug Development Technologies** **Prof Dean Ho** Provost's Chair Professor and Director, The N.1 Institute for Health (N.1); Director, The Institute for Digital Medicine (WisDM); Head, Department of Biomedical Engineering, Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore (NUS)	**Endothelial leakiness, a nanotoxic effect?** **A/P David Leong** Associate Professor, National University of Singapore (NUS)	**Poster display room is open for viewing**
1010	Break	Break	
1030	**Sustainable Approaches to Enhance Delivery of Nutrients and Agrichemicals for Maximizing Crop Yield** **Prof Ng Kee Woei** Professor, School of Materials Science and Engineering, Nanyang Technological University (NTU); Environmental Chemistry and Materials Centre, Nanyang Environment and Water Research Institute (NEWRI); Singapore-HUJ Alliance for Research and Enterprise (SHARE)	**Safety assessment of nanomedicines - A snapshot of current practices and challenges** **Dr Ho Han Kiat** Associate Professor, Department of Pharmacy, National University of Singapore (NUS)	

21 October 2022 (Friday)

Time	FOOD TRACK Session 8: Nanotechnology in Agri-products and Feed Location: Level 3, Ballroom 1 & 2	DRUG / MEDICAL PRODUCTS TRACK Session 9: Role of Nanotechnology in Precision Medicine Location: Level 3, Ballroom 3	POSTER DISPLAY Location: Level 2, Rosewood Room & Nutmeg Room
1100	**Indian landscape and achievements in the area of Nanotechnologies and products for Agriculture and food** **Dr Alok Adholeya** Founder & CEO, Translational Research and Innovations	**Taking Advantage of Disease Pathology for BBB transport: Development and Translation of Microglia -Targeted Systemic Dendrimer Nanomedicines** **Dr Kannan Rangaramanujam** Arnall Patz distinguished Professor of Ophthalmology, Co-director, Center for Nanomedicine, Wilmer Eye Institute at Johns Hopkins School of Medicine	**Poster display room is open for viewing**
1130		**Application of advanced nanomaterials and nanostructured substrates in In Vitro Diagnostics (IVD) and medical devices** **Dr Deanpen Japrung** Researcher and Research Group Director, Responsive Material and Nanosensor (RMNS) Research Group,National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA)	

21 October 2022 (Friday)

Time	Programme		
	FOOD TRACK **Session 8: Nanotechnology in Agri-products and Feed** **Location: Level 3, Ballroom 1 & 2**	**DRUG / MEDICAL PRODUCTS TRACK** **Session 9: Role of Nanotechnology in Precision Medicine** **Location: Level 3, Ballroom 3**	**POSTER DISPLAY** **Location: Level 2, Rosewood Room & Nutmeg Room**
1200		**Translation of a Polymeric Nanomedicine: From Preclinical Data to Clinic** **Dr Rana Sanyal** Professor, Department of Chemistry, Bogazici University, Co-founder and Chief Science Officer, RS Research Inc.	
1230	Lunch Location: Level 3, Foyer		**End of Poster Display. Presenters to remove posters.**

21 October 2022 (Friday)

Time	Programme
	WORKSHOP 2: CAPABILITY BUILDING WORKSHOP **Location: Level 3, Lavender Room**
0900	**Introductions** **CO-CHAIRS** **Dr Gonçalo Gamboa da Costa** Senior Science Advisor National Center for Toxicological Research (NCTR) U.S. Food and Drug Administration (FDA) **Dr Michael Johnston** Research Scientist, Head, Nanomedicines Laboratory, Centre for Oncology, Radiopharmaceuticals and Research, Biologic and Radiopharmaceutical Drugs Directorate, Health Canada, Government of Canada
0905	**An introduction to lipid nanoparticles** **Dr Michael Johnston** Research Scientist, Head, Nanomedicines Laboratory, Centre for Oncology, Radiopharmaceuticals and Research, Biologic and Radiopharmaceutical Drugs Directorate, Health Canada, Government of Canada **Considerations for the Quality, Safety, and Efficacy of Prophylactic Lipid Nanoparticle mRNA** **Dr Keith Pedan** Chief of Laboratory of DNA Viruses, Division of Viral Products, Office of Vaccines Research and Review, Center for Biologics Evaluation and Research (CBER), U.S. Food and Drug Administration (FDA)
1005	Q&A
1020	Break
1040	**Physicochemical characterization of lipid-based nanomedicines** **Dr. Luigi Calzolai** Project Leader, Joint Research Center of the European Commission **Lipid-Based Certified Reference Materials** **Dr. Shan Zou** Senior Research Officer, Team Leader, Nanoscale Measurement Team, Metrology Research Centre, National Research Council Canada (NRC); Adjunct Professor, Department of Chemistry, Carleton University
1140	Roundtable Discussion
1200	End of Workshop 2

21 October 2022 (Friday)

Time	Programme
	Session 10: Plenary Session on Safety Assessment & Closing Remarks **Location: Level 3, Ballroom 1& 2**
1400	**Co-Chairs Opening Remarks** **Dr George Kass** Chief Scientist Office, European Food Safety Authority (EFSA) **Ms Ligia Lindner Schreiner** Food Risk and Efficacy Assessment Manager, ANVISA- Brazilian Health Regulatory Agency
1410	**Food for thought: Are we ready for new approach methodologies to assess nano-additives?** **A/P Benjamin Smith** Director, Future Ready Food Safety Hub (FRESH), Nanyang Technological University (NTU)
1440	**Advancing New Alternative Methods at The US Food and Drug Administration** **Dr Suzanne Fitzpatrick** Senior Advisor for Toxicology, Office of the Center Director, C enter for Food Safety and Applied Nutrition (CFSAN), US Food and Drug Administration (USFDA)
1510	**Biokinetics and biotransformation of nanomaterials in the body** **Prof Cho Wan-seob** Professor, Graduate School of Dong-A University
1540	**Exploring the use of New Approach Methodologies (NAMs) for the assessment of nanoscale considerations** **Ms Maria Chiara Astuto** Toxicologist, Methodology and Scientific Support Unit, European Food Safety Authority (EFSA)
1610	Break
1630	**Closing Address** **A/P Joanne Chan Shoet Harn** Centre Director, National Centre for Food Science, Singapore Food Agency (SFA)
1640	**Closing Remarks** **Dr George Kass** Chief Scientist Office, European Food Safety Authority (EFSA)
1700	**End of GSRS22**

Poster Presentations

Accurate as of 18 October 2022

Name	Affiliation	Title
Beat Fluhmann, Erik Phillip, Maria Wilhelm, Michael Bauer, Felix Funk, Amy Barton	Vifor Pharma, Inc, Glattbrugg, Switzerland	Physicochemical characteristics of the iron-carbohydrate complexes, Venofer and an approved iron sucrose generic
Nathan A. Koonce, Julian E. A. Leakey, Robert P. Felton, Kelly Davis, Wenlei Jiang[a] and Anil K. Patri	Nanotechnology Core Facility, Office of Scientific Coordination, National Center for Toxicological Research (NCTR), FDA, AR 72079 [a]: Office of Regulatory Sciences, Office of Generic Drugs, Center for Drug Evaluation and Research FDA, MD 20705	Investigation into reported differences in Doxil® and generic liposomal doxorubicin formulations: *in vivo* efficacy
Beat Fluhmann, Erik Phillip, Maria Wilhelm, Michael Bauer, Felix Funk, Amy Barton	Vifor Pharma, Inc, Glattbrugg, Switzerland	Physicochemical characteristics of the iron-carbohydrate complexes, Venofer and an approved iron sucrose generic
Camila Gonçalves Moreira	Health Regulation Specialist	The Regulatory Challenges of Biological Safety Assessment applied to Nanotechnology-based Medical Devices: A regulatory proposition from a risk perspective.
Diksha Nagpal, Deepak Kaushik	Department of Pharmaceutical Sciences, Maharshi Dayanand University, Rohtak, Haryana, India, 124001	Nanotherapeutic interventions for breast cancer treatment
Dylan Leong	National University of Singapore	Novel biopredictive in-vitro assay to examine the drug release from mucoadhesive buccal film formulations

Name	Affiliation	Title
George Hammons Marta Pogribna, Beverly Word, and Beverly Lyn-Cook	Division of Biochemical Toxicology, National Center for Toxicological Research, U.S. Food & Drug Administration, Jefferson, Arkansas USA	Epigenotoxicity of Titanium Dioxide Nanomaterial in Human Cell Lines.
Goutam Palui, Achyut Raghavendra, Sanghamitra Majumdar, Uday Nasini, Sunil Ramasahayam and Anil K Patri	Nanotechnology Core Facility, Office of Scientific Coordination, National Center for Toxicological Research, U.S. Food and Drug Administration, Jefferson, AR 72079	Standard Test Method for Liposomal Lipid Quantitation using HPLC and Evaporative Light Scattering Detector
Jeffery Koh Wei Heng, Boey Hui Kuang Adrian & Ho Han Kiat	National University of Singapore, Department of Pharmacy	Hepatotoxicity of Acute Polystyrene Nano- and Micro-plastics Exposure
Josefa Barrero[1], Hind El Hadri[1,], Ivana Bianchi[1], Otmar Geiss[1], Panagiotis Daskaleros[2]	[1] European Commission, Joint Research Centre (JRC), 21027 Ispra, Italy [2] European Commission, Health and Food Safety Directorate General (DG SANTE), Food Processing Technologies and Novel Foods Unit, Brussels, Belgium	Nanomaterials in Food: A collaborative effort to strengthen analytical capacity in EU Member States
Kao Yu Yen	Taiwan FDA Food Safety Division	Guidance on the Registration of Nano-Food / Nanomaterials-contained food containers and packages
Kennard Gan1, Stefan Halbherr2, Petra Gottier2, Matthias G. Wacker1	1 Department of Pharmacy, Faculty of Science, 4 Science Drive 2, 117544 Singapore, Singapore. 2 InnoMedica Holding AG, Gesellschaftsstrasse 16, 3012 Bern, Switzerland.	Evaluating Bioequivalence of Liposomal Drug Delivery Systems of Doxorubicin through Hybridizing Biopredictive *In-Vitro* Release Assays and *In-Silico* Methodologies

Name	Affiliation	Title
Su Hui Lim, Khin Yin Win, Man Shu Mei, Carolyn Lee Xin Min, Maria Antipina	Singapore Institute of Food and Biotechnology Innovation, Agency for Science, Technology and Research (A*STAR), 31 Biopolis Way, #01-02, Nanos, Singapore 138669, Singapore	Safety of Pickering Emulsion in Food Products
Mervin Chun-Yi Ang[1], Jolly Madathiparambil Saju[2], Sarangapani Sreelatha[2], Duc Thinh Khong[1], Thomas Koizumi Porter[3], Suh In Loh[1], Song Wang[1], Gajendra Pratap Singh[1], Nam-Hai Chua[1,2], Michael Strano[1,3*], Sarojam Rajani[1,2*]	[1]Disruptive & Sustainable Technologies for Agricultural Precision IRG, Singapore-MIT Alliance for Research and Technology, 1 CREATE Way, #03-06/07/08 Research Wing, Singapore 138602, Singapore [2]Temasek Life Sciences Laboratory Limited, 1 Research Link National University of Singapore, Singapore 117604, Singapore [3]Department of Chemical Engineering, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139, USA	Early plant stress detection in vivo using novel salicylic acid nanosensor multiplexed with H2O2 nanosensor
Yanina I. Rodríguez, Ana Laura Canil, Paola Carvalho, María Victoria Cid, Laura Cladouchos, Karla Freire, Verónica Llauró, Ana Laura Rinaldi, Alina Sordelli, Nadia Villar, Matías Gómez.	Office of Monitoring and Risk Management, National Institute of Drugs, National Administration of Drugs, Food and Medical Devices (ANMAT), Argentina.	ANMAT regulatory framework for the evaluation of drug products containing liposomal Doxorubicin: ANMAT Guideline Nº 9943/19 implementation

Name	Affiliation	Title
Sanghamitra Majumdar, Udaya Nasini, and Anil K. Patri	Nanotechnology Core Facility, Office of Scientific Coordination, National Center for Toxicological Research, US Food and Drug Administration, 3900 NCTR Rd., Jefferson, AR, 72079, USA.	Standard Test Method for Lipid Quantitation in Liposomal Formulations Using Ultra-High-Performance Liquid Chromatography (UHPLC) with Triple Quadrupole Mass Spectrometry (TQMS)
Shakti Nagpal, Matthias G Wacker	National University of Singapore, Faculty of Science, Department of Pharmacy, Singapore, 117543.	A model conversed approach to manufacture high-quality liposomes
Eman M. Hassan, Shan Zou	National Research Council Canada	Silencing anti-phagocytosis marker CD47 in acute myeloid leukemia (AML) cells by using graphene oxide as nanocarrier
Sungyoon Jung and Anil K. Patri	Nanotechnology Core Facility, Office of Scientific Coordination, National Center for Toxicological Research, Food and Drug Administration, Jefferson, AR 72079, USA	Analysis of common polymers using hyphenated TGA-FTIR-GCMS towards the development of an analytical database for micro- and nanoplastics identification, characterization, and quantitation
Tan, Wee Chong, Jolly Madathiparambil Saju, Sarojam Rajani & Ang, Kah Wee	National University of Singapore	Diseases detection from bacterial infection based on inkjet-printed nanomaterial and artificial olfaction
Vivian Martin	Zentek Ltd.	ZenGUARD™, A Novel Breakthrough in Medical Devices and HVAC

Name	Affiliation	Title
Chunhui Li [1,a], Tongren Yang [1, a], Yuhua Weng [1,a,b], Xing-Jie Liang [a,c], Yuanyu Huang [a]	[a] Advanced Research Institute of Multidisciplinary Science; Beijing Institute of Technology; School of Medical Technology, Beijing, 100081, P. R. China [b] School of Physical&Mathematical Science, Nanyang Technological University, 637371, Singapore. [c] Chinese Academy of Sciences (CAS) Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology of China, Beijing, 100190, China.	Ionizable lipid-assisted efficient hepatic delivery of gene editing elements for oncotherapy
Xianlei Li	National University of Singapore	Core-satellite nanomedicines for in vivo real-time monitoring of enzyme-activatable drug release by fluorescence and photoacoustic dual-modal imaging.
Yoshinari Suzuki[1], Masae Harimoto[1], Hiroshi Akiyama[1,2], Tomoaki Tsutsumi[1]	[1] Division of Foods, National Institute of Health Sciences, 3-25-26 Tonomachi, Kawasaki-ku, Kawasaki-shi, Kanagawa, 210-9501, Japan [2] School of Pharmaceutical Sciences, Hoshi University, 2-4-41 Ebara, Shinagawa-ku, Tokyo 142-8501, Japan	Estimation of dietary exposure to Ag-nanoparticles using a total diet study

Name	Affiliation	Title
Yoshinari Suzuki[1], Masae Harimoto[1], Hiroshi Akiyama[1,2], Tomoaki Tsutsumi[1]	[1] Division of Foods, National Institute of Health Sciences, 3-25-26 Tonomachi, Kawasaki-ku, Kawasaki-shi, Kanagawa, 210-9501, Japan [2] School of Pharmaceutical Sciences, Hoshi University, 2-4-41 Ebara, Shinagawa-ku, Tokyo 142-8501, Japan	Estimation of dietary exposure to Ag-nanoparticles using a total diet study
Zhitong Zhao,[1] Tao Xu,[2] Xiaoyong Pan,[1] Susanti,[3] Jason C. White,[4] Yansong Miao,[3] Xiao Hu,[1,5] Philip Demokritou,[2] Kee Woei Ng[1,2,5,6]	[1]School of Materials Science and Engineering, Nanyang Technological University, Singapore [2]Center for Nanotechnology and Nanotoxicology, Harvard T.H. Chan School of Public Health, Harvard University, United States [3]School of Biological Sciences, Nanyang Technological University, Singapore [4]The Connecticut Agricultural Experiment Station, Connecticut, United States [5]Environmental Chemistry and Materials Centre, Nanyang Environment and Water Research Institution, Singapore [6]Singapore-HUJ Alliance for Research and Enterprise (SHARE), Singapore	Sustainable Substrates Derived from Bio-wastes for Seedling Development in Hydroponics

Abstracts & Bios of Presenters

Accurate as of 19 October 2022

Session	Link
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Session 2	https://www.gsrs2022.sg/Session2.pdf
Session 3	https://www.gsrs2022.sg/Session3.pdf
Session 4	https://www.gsrs2022.sg/Session4.pdf
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