

# Agenda

13:00	Welcome and introduction	15:05	Christian Kirchnawy (OFI) <i>"The long journey from the packaging to the bioassay"</i>
13:15	Silvia Apprich (FH Campus Wien) <i>"Looking back: Research questions &amp; project objectives"</i>	15:25	Elisa Mayrhofer (OFI) <i>"Introduction of the final Migratox method"</i>
13:30	Elisabeth Pinter (OFI) <i>Post-it survey</i>	15:50	Coffee & Networking
13:45	Maricel Marin-Kuan (Nestlé) <i>"Lessons learned from the contribution of bioassays to address packaging safety"</i>	16:20	Lukas Prielinger / Thomas Czerny (FH Campus Wien) <i>"The Ames Sense: optimization of a miniaturized Ames test"</i>
14:10	Bernhard Rainer (FH Campus Vienna) <i>"Which in-vitro bioassay is the most suitable?"</i>	16:45	Panel discussion
14:35	Coffee & Networking	17:15	Silvia Apprich & Christian Kirchnawy <i>"Closing remarks"</i>
		18:00	Networking Dinner Kleine Steiermark, Heeresmuseumstraße 1, 1030 Wien (20 Minutes walk from here)

# Anti-Trust Declaration

*"OFI and companies participating at OFI meetings shall not enter into any discussion, activity or conduct that may infringe, on its part or on the part of its members, any applicable competition law.*

*By way of example, members shall not discuss, communicate or exchange, any commercially sensitive information, including information relating to prices, marketing and advertising strategy, costs and revenues, trading terms and conditions with third parties, including purchasing strategy, terms of supply, trade programs, or distribution strategy.*

*Please take note that taking part in today's meeting is subject to having read and understood the OFI Business Conduct Guideline for events and meetings with competition law and antitrust relevant contents."*

# Looking Back: Research Question & Project Objectives

SECTION PACKAGING AND RESOURCE MANAGEMENT



# Main Research Questions

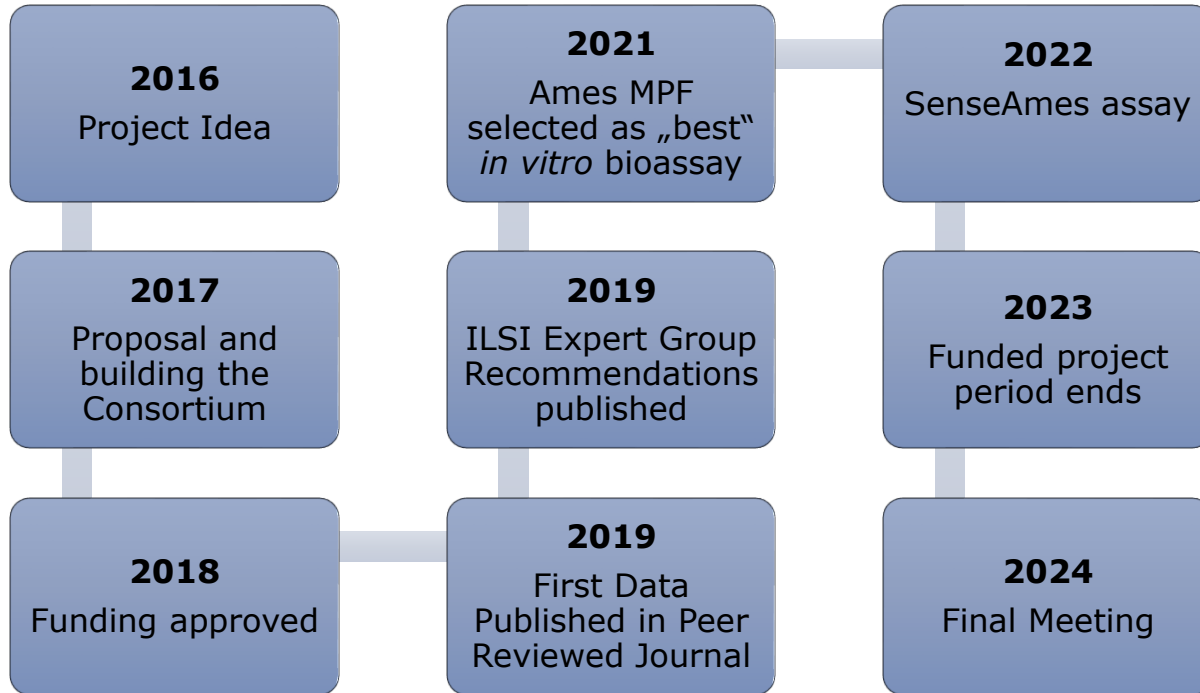
How can we prove that Food Packaging Materials don't contain genotoxic substances?

How can we assess the safety of non intentionally added substances?

How can we apply a combination of *in vitro* bioassays and optimised sample preparation methods for these issues?

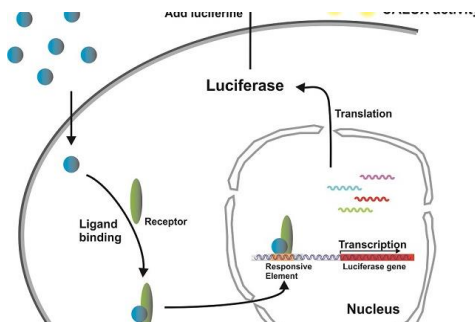
What are the limits of detection of the *in vitro* methods and how can they be improved?

# FFG Coin Migratox – 2016 - 2024



# Official Project Objectives

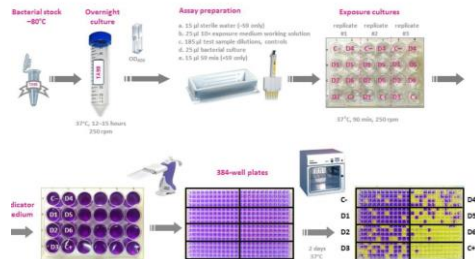
- > Development and validation of a comprehensive testing strategy for characterizing the genotoxicity of food contact materials (FCMs)
  - > Optimization and validation of sample preparation and concentration of FCMs with a focus on genotoxic substances
  - > Evaluation of five existing in vitro bioassays for their suitability in determining genotoxicity in FCMs
  - > Development of at least one new bioassay and optimization of at least four existing tests
  - > Testing the detection limits of five in vitro tests using representative substances
  - > Development of a testing strategy for assessing Non-Intentionally Added Substances (NIAS)
  - > Identification of genotoxic substances in FCM migrants using chromatographic methods
  - > Screening and evaluation of at least 100 selected packaging materials,



# Highlights: Method Development



## Ames MPF Aqua – Assay Procedure



- Reportergene assay HepGenTox
- SenseAmes assay
- Fully validated sample preparation method
- Standard protocol for the application of the Ames MPF Assay

## Evaluation of the Suitability of Mammalian *In Vitro* Assays to Assess the Genotoxic Potential of Food Contact Materials

Elisabeth Pinter <sup>1,\*</sup>, Bernhard Rainer <sup>1</sup>, Thomas Czerny <sup>1</sup>, Elisabeth Riegel <sup>1</sup>, Benoît Schilter <sup>2</sup>, Maricel Marin-Kuan <sup>2</sup> and Manfred Tacker <sup>1</sup>

<sup>1</sup> Department of Applied Life Sciences, University of Applied Sciences, FH Campus Wien, Helmut-Qualtinger-Casse 2, 1030 Vienna, Austria; bernhard.rainer@fh-campuswien.ac.at (B.R.); thomas.czerny@fh-campuswien.ac.at (T.C.); elisabeth.riegel@fh-campuswien.ac.at (E.R.); manfred.tacker@fh-campuswien.ac.at (M.T.)

<sup>2</sup> Nestlé Research Center, Route du Jorat 57, 1000 Lausanne, Switzerland; benoit.schilter@rdls.nestle.com (B.S.); maricel.marin-kuan@rdls.nestle.com (M.M.-K.)

\* Correspondence: elisabeth.pinter@fh-campuswien.ac.at; Tel.: +43-1-606-6877-3584



### HepGentox: a novel promising HepG2 reporter gene-assay for the detection of genotoxic substances in complex mixtures

Elisabeth Pinter, Christina Friedl, Alexandra Innesberger, Thomas Czerny, Tina Piwonka, Alfonso Peñaroya, Manfred Tacker, Elisabeth Riegel  
Department of Applied Life Sciences, University of Applied Sciences Vienna, FH Campus Wien, Vienna, Austria

### Suitability of the Ames test to characterise genotoxicity of food contact material migrants

Bernhard Rainer\*, Elisabeth Pinter\*, Thomas Czerny\*, Elisabeth Riegel\*, Christian Kirchnawy\*, Maricel Marin-Kuan\*, Benoît Schilter\* and Manfred Tacker\*

\*Department of Applied Life Sciences, University of Applied Sciences, FH Campus Wien, Vienna, Austria; \*Department for Microbiology and Cell Culture, OFI – Austrian Research Institute for Chemistry and Technology, Vienna, Austria; \*Chemical Food Safety, Nestlé Research Center, Lausanne, Switzerland

# Highlights: Dissemination

- ~10 peer reviewed publications
- 12 industry board meetings
- Several newspaper articles and non peer reviewed articles
- Participation in 14+ international conferences
- „Migratox Symposium“ tomorrow



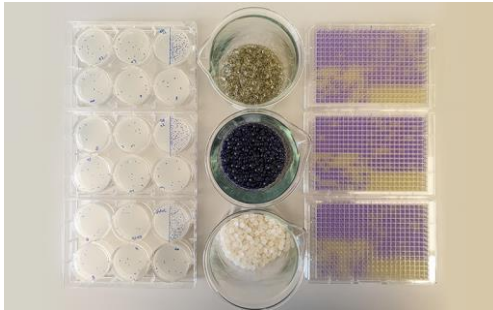
# Other Highlights



- Screening of 250+ FCMs from many material categories

- Three successful PhD theses
- Numerous Master theses

- Acquisition of several large follow-up projects e.g.:
  - CORNET PolyCycle
  - CORNET SafeCycle



- Building of sustainable research activities and know-how for OFI and FH Campus Wien

# Thank you for your attention!

FH-Prof. DI Dr. Silvia Apprich

Head of study programs

- Sustainable Packaging Technology
- Sustainable Resource Management
- Packaging Technology and Sustainability



[silvia.apprich@fh-campuswien.ac.at](mailto:silvia.apprich@fh-campuswien.ac.at)

# Agenda

13:00	Welcome and introduction	15:05	Christian Kirchnawy (OFI) <i>"The long journey from the packaging to the bioassay"</i>
13:15	Silvia Apprich (FH Campus Wien) <i>"Looking back: Research questions &amp; project objectives"</i>	15:25	Elisa Mayrhofer (OFI) <i>"Introduction of the final Migratox method"</i>
13:30	Elisabeth Pinter (OFI) <i>Post-it survey</i>	15:50	Coffee & Networking
13:45	Maricel Marin-Kuan (Nestlé) <i>"Lessons learned from the contribution of bioassays to address packaging safety"</i>	16:20	Lukas Prielinger / Thomas Czerny (FH Campus Wien) <i>"The Ames Sense: optimization of a miniaturized Ames test"</i>
14:10	Bernhard Rainer (FH Campus Vienna) <i>"Which in-vitro bioassay is the most suitable?"</i>	16:45	Panel discussion
14:35	Coffee & Networking	17:15	Silvia Apprich & Christian Kirchnawy <i>"Closing remarks"</i>
		18:00	Networking Dinner Kleine Steiermark, Heeresmuseumstraße 1, 1030 Wien (20 Minutes walk from here)



## Post-it Survey

Q1: What are the current and future challenges in NIAS risk assessment?

Q1: What are the current and future challenges in NIAS risk assessment?

Q2: Which methods do you use to evaluate NIAS?

Q1: What are the current and future challenges in NIAS risk assessment?

Q2: Which methods do you use to evaluate NIAS?

Q3: What are the main advantages and disadvantages of *in-vitro* bioassay-based testing?