



Introducción a FoodRisk-Labs

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FoodRisk-Labs



Instituto Federal Alemán de Evaluación de Riesgos (BfR)

Establecido: 1 Noviembre 2002 (crisis EEB)

Presupuesto anual: aprox. 85 Mio €

Presupuesto de investigación: aprox. 8 Mio €

Personal BfR: aprox. 800 empleados
aprox. 550 trabajando en investigación

Localizaciones: Berlin (Marienfelde, Jungfernheide)

1. Seguridad alimentaria

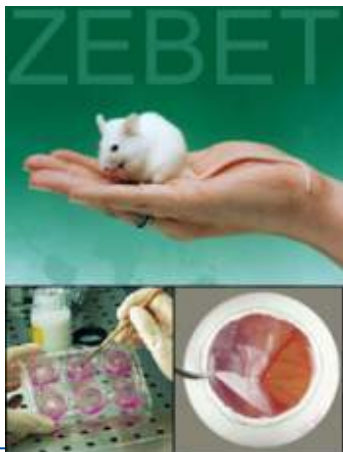


2. Seguridad de las sustancias químicas y preparados



3. Seguridad de los productos destinados al consumidor

4. Centro de desarrollo de métodos alternativos para animales de experimentación



5. Comunicación del riesgo



The screenshot shows the homepage of the German Federal Institute for Risk Assessment (BfR). At the top left is the BfR logo with the text 'Bundesinstitut für Risikobewertung'. To the right are navigation links for 'Homepage', 'Sitemap', and 'Contact', along with a language selector for 'German'. A search bar is present with the text 'Enter a search term' and a 'Search' button. Below the search bar is an 'A-Z Index' button. The main header features a large blue graphic of a stylized '15' and the text '15 YEARS Science in the Service of Humanity'. A text box on the right states 'Identify Risks - Protect Health' and describes the BfR's tasks. Below the header is a navigation menu with four categories: 'THE INSTITUTE', 'FOOD SAFETY', 'PRODUCT SAFETY', and 'CHEMICAL SAFETY'. The 'THE INSTITUTE' section is expanded, showing a breadcrumb 'You are here: Homepage' and a list of links: 'Risk communication', 'Research', 'Science News', 'Press office', 'Publications', 'Events', 'FAQ', 'New', 'Newsletter', 'RSS-Feed', 'Job advertisement', and 'Notepad'. The 'NEWS' section contains three articles: 'Campylobacter – the germ on chicken eggs' (with an image of eggs), 'How dangerous are tobacco heaters?' (with an image of tobacco), and 'Protection against foodborne infections in private households' (with an image of a woman and child). A fourth article, 'Safety in the age of global goods flows', is partially visible. On the right side, there are social media icons for Twitter, YouTube, and Instagram, an 'A-Z INDEX' with a grid of letters, a '15 YEARS BFR' graphic, and an 'INFORMATION' section with a link to 'Press information: Solanine in potatoes: Green and strongly germinating potato tubers should be...'. The footer contains the text 'NATIONAL BREASTFEEDING'.

Codex Alimentarius

ANÁLISIS DE RIESGOS



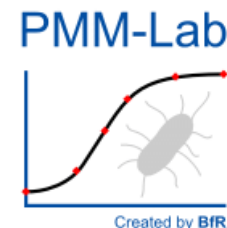
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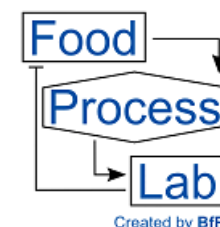
German Federal Institute for Risk Assessment (BfR):



Tracing food back and forward along food supply chains



Modelling bacterial growth or bacterial and toxin inactivation



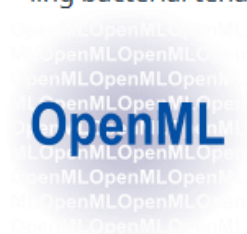
Representation of food process chains and modelling bacterial tenacity



Tools for predictive modelling in foods



Repository for predictive microbial models



OpenML for predictive modelling in foods



Food Safety Knowledge Lab (FSK-Lab)



link to non-BfR tools

FoodRisk-Labs



FoodChain-Lab

Predictive Microbial Modeling Lab (PMM-Lab)

FoodProcess-Lab

Food Safety Knowledge Lab (FSK-Lab)

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BfR & EFSA Safety Tools

RAKIP Web Portal

External Tools

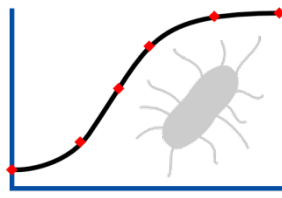
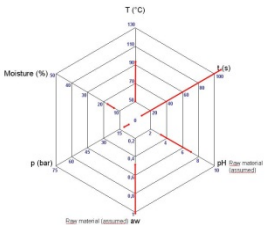
Events

References

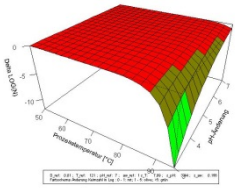
Contact

Desarrollo de software de código abierto

PMM-Lab

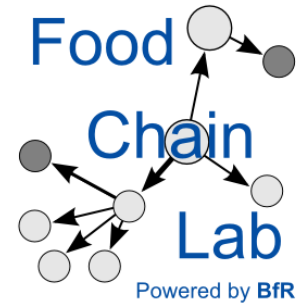


Powered by BfR

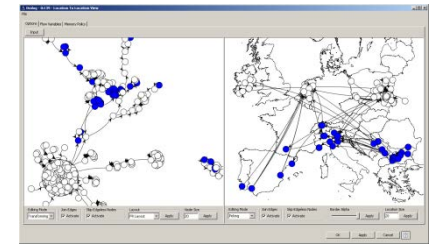


Microbiología Predictiva

Rastreo
Análisis y
Visualización



Powered by BfR



<http://silebat.github.io/BfROpenLab>

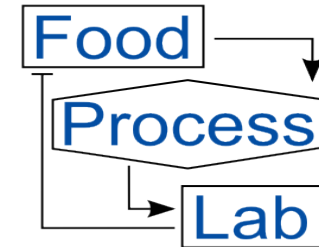
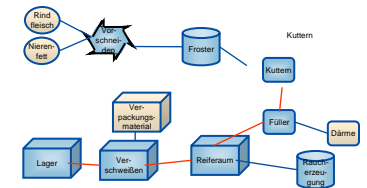
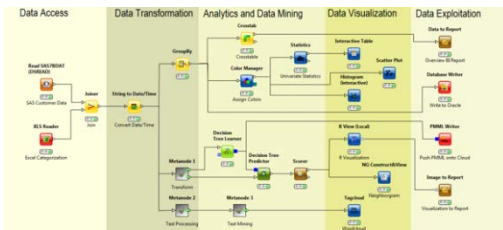
DB

<http://sourceforge.net/projects/foodprocesslab/>

www.knime.org

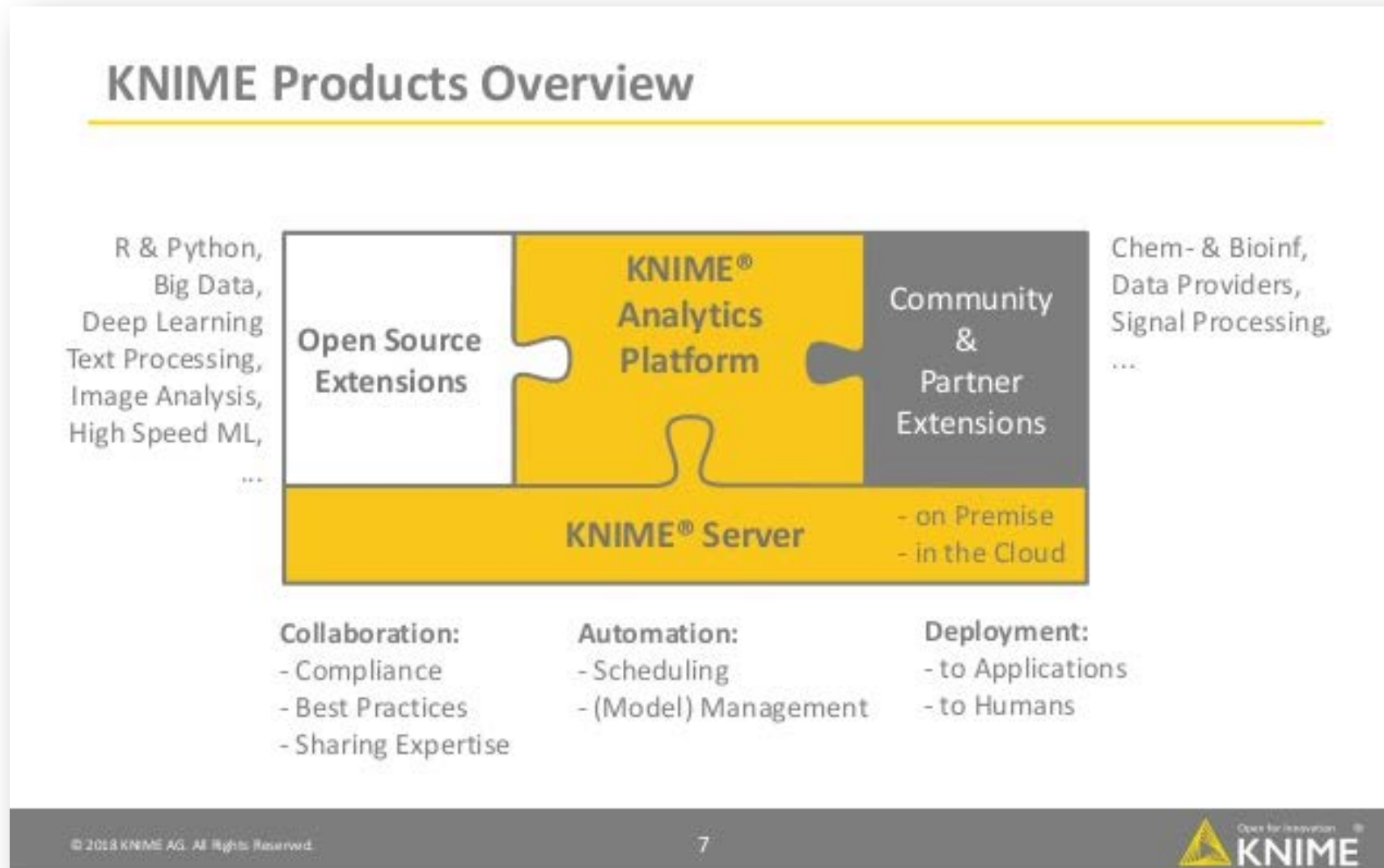
Minería de datos
Informes
Despliegue

Simulación de la
cadena de
producción
alimentaria



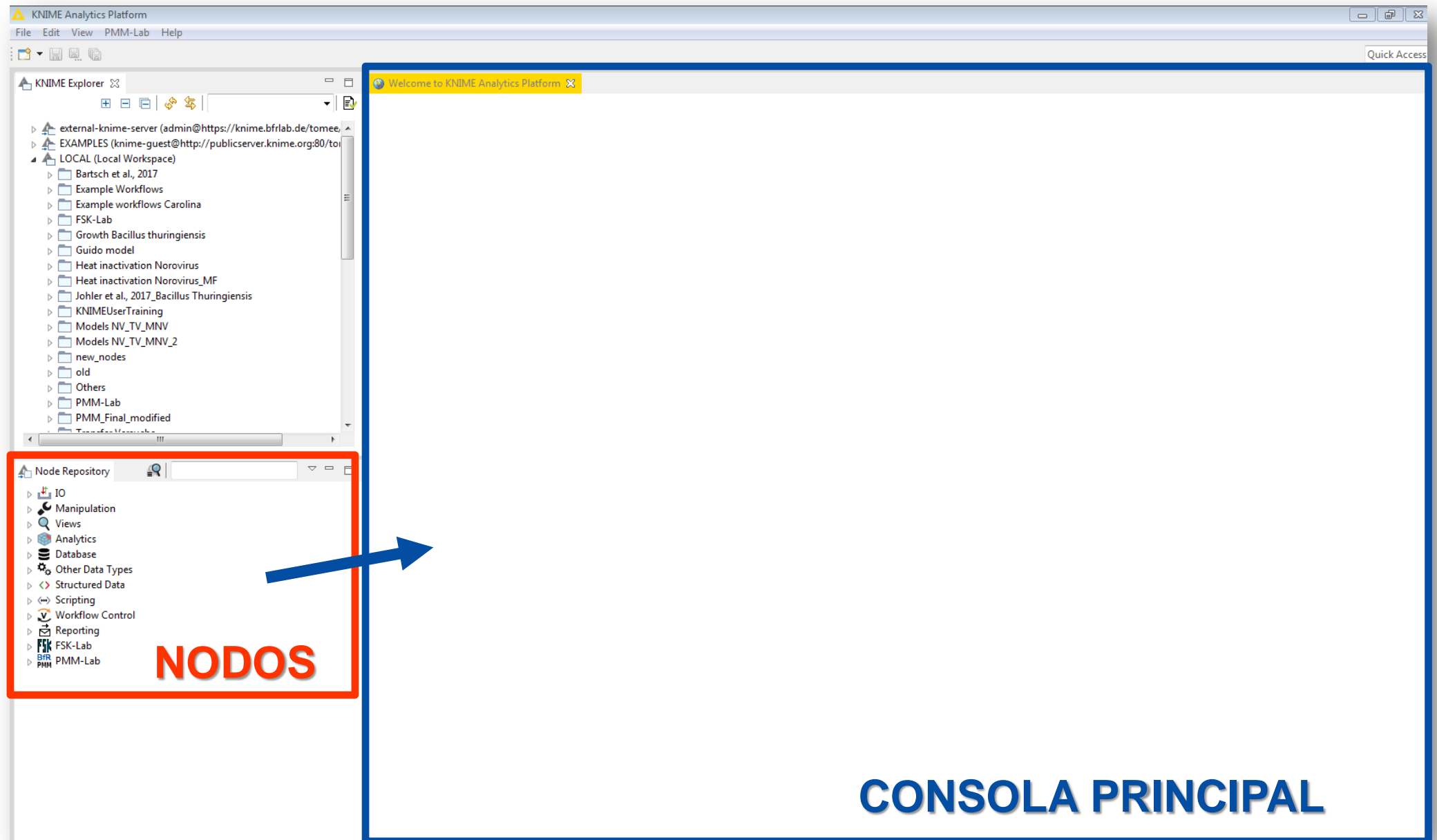
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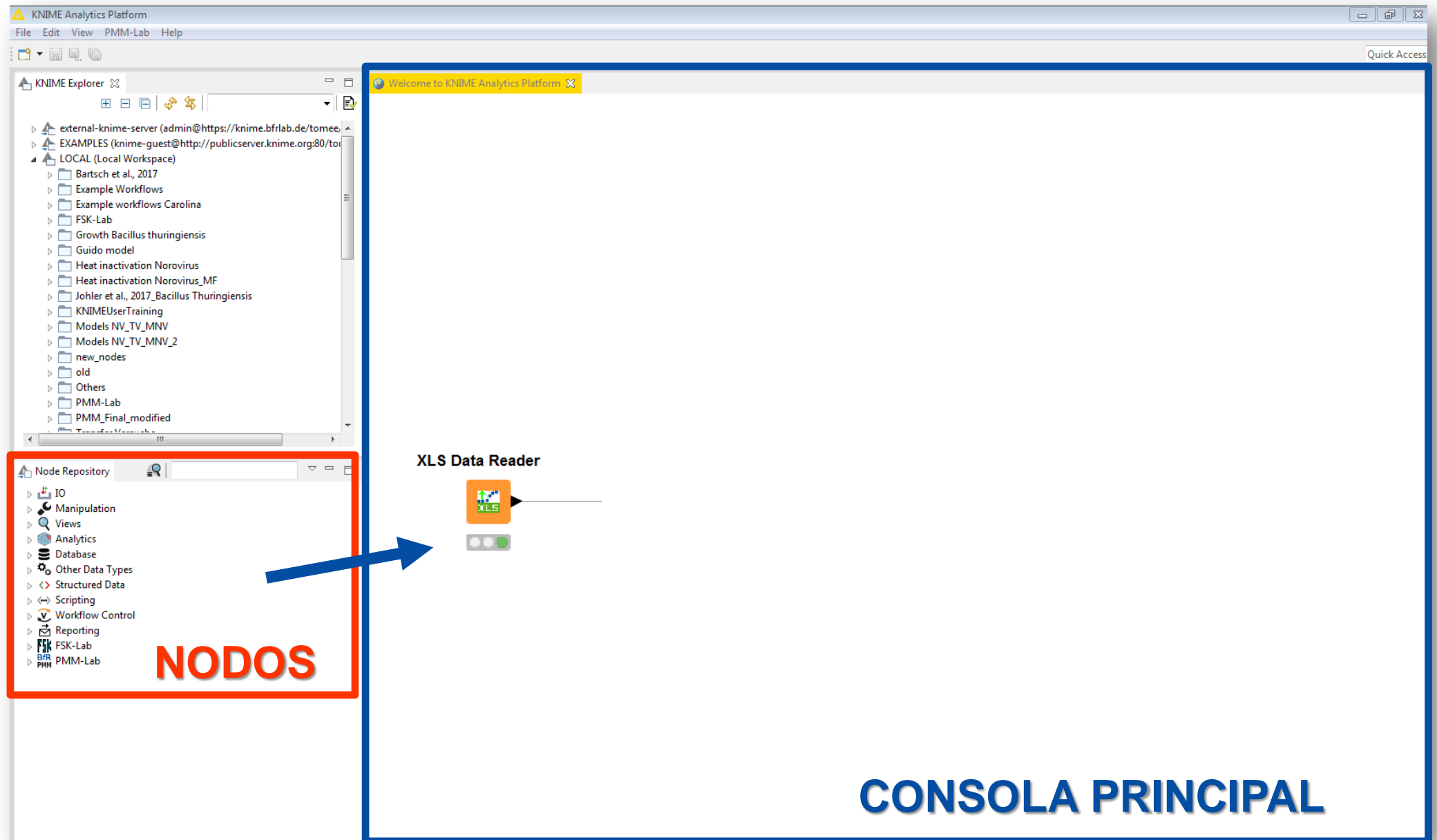




The screenshot displays the KNIME Analytics Platform interface. On the left, the **KNIME Explorer** shows a tree view of the local workspace, including folders like 'LOCAL (Local Workspace)', 'Examples Workflows', and 'Models NV_TV_MNV_2'. Below it, the **Node Repository** lists various tool categories such as IO, Manipulation, Views, Analytics, Database, and Scripting.

The main workspace area is titled 'Welcome to KNIME Analytics Platform!'. It features the KNIME logo and the tagline 'Open for Innovation'. Below the logo, there is a section for new users with links to introductory tips, a quickstart guide, and a learning hub. A section for updates lists available updates for FSK Lab Feature, KNIME Analytics Platform, KNIME Public Server Access, and PMM Nodes. At the bottom, there are two panels: 'Where to go from here' with links to create a new workflow, learning hub, browse example workflows, get additional nodes, go to my workflows, and mount the KNIME Cloud Server; and 'Most recently used workflows' listing specific workflow models.





FLUJOS DE TRABAJO ALMACENADOS

CONFIGURACIÓN DE LOS NODOS

CONSOLA PRINCIPAL

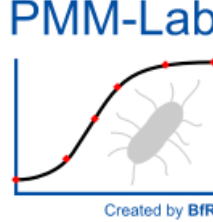
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BfR & EFSA Safety Tools

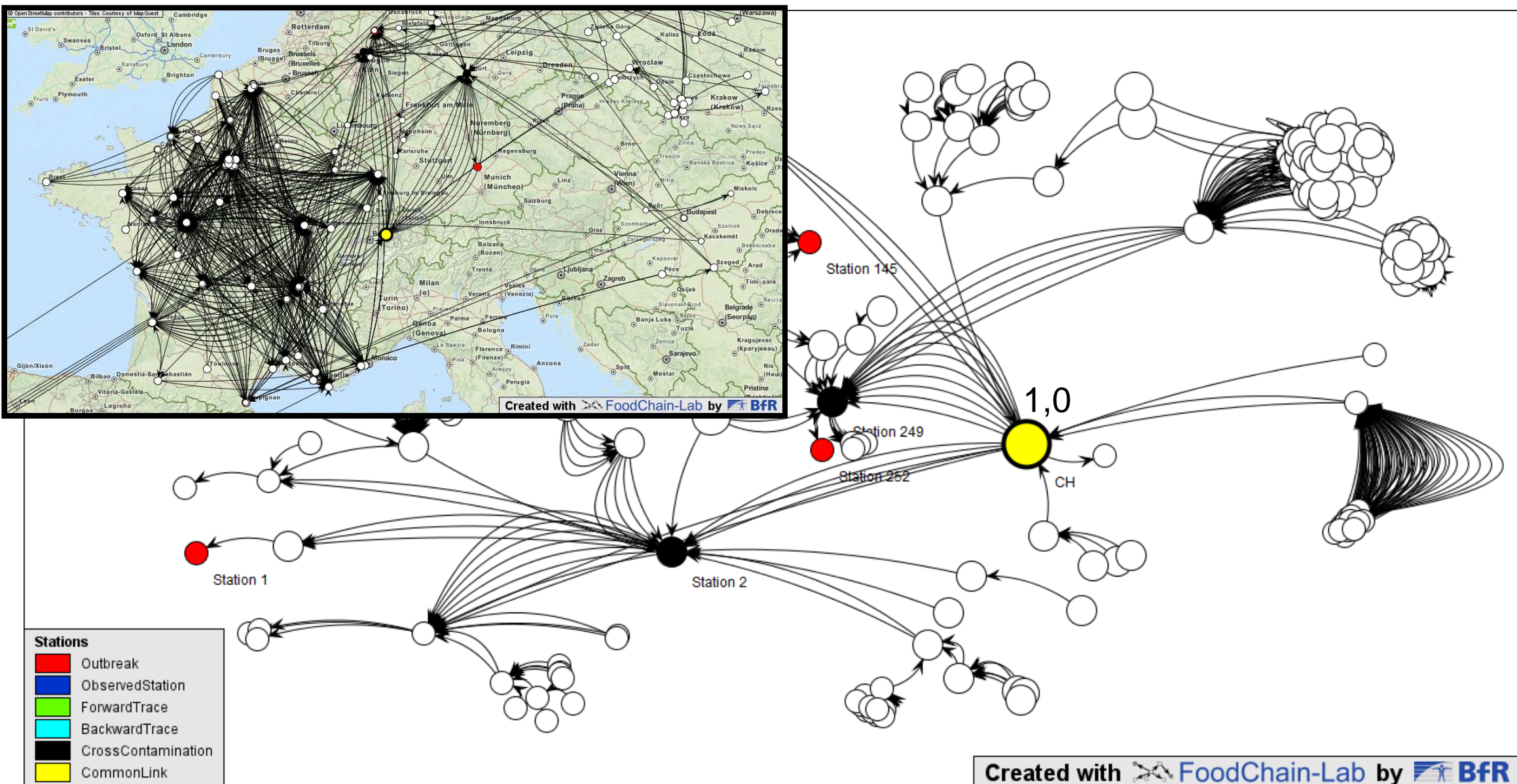
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Events

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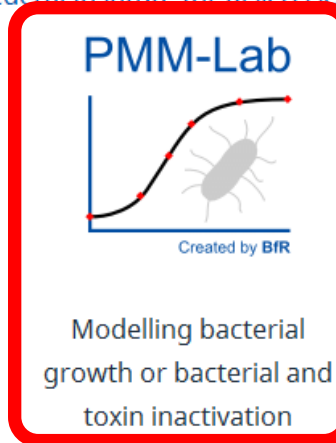
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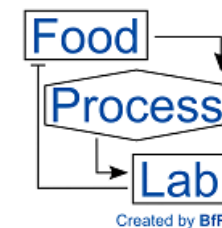
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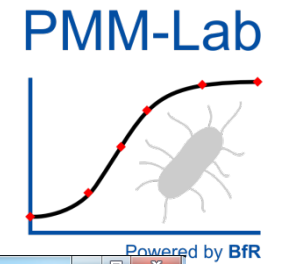
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PMM-Lab

Predictive Microbiology Modeling-Lab



KNIME Analytics Platform

File Edit View Node PMM-Lab Help

KNIME Explorer

- external-knime-server (admin@https://knime.bfrlab.de/tomee/ej)
- EXAMPLES (knime-guest@http://publicserver.knime.org:80/tomee)
 - LOCAL (Local Workspace)
 - Bartsch et al., 2017
 - Example Workflows
 - Example workflows Carolina
 - FSK-Lab
 - Growth Bacillus thuringiensis
 - Guido model
 - Heat inactivation Norovirus
 - Heat inactivation Norovirus_MF
 - Johler et al., 2017_Bacillus Thuringiensis
 - KNIMEUserTraining
 - Models NV_TV_MNV
 - Models NV_TV_MNV_2
 - new_nodes
 - old
 - Others
 - PMM-Lab
 - PMM_Final_modified

*4: AECOSAN2

Formula Creator

Model Creator

PMM Joiner

Model Fitting

Second Model

XLS Data Reader

Data Selection

Primary Model Selection

Model Fitting

PMM Joiner

Model Fitting

Tertiary Model Selection

Predictor View

XLS Data Reader

Data Selection

PMM Joiner

Model Fitting

Dialog - 0:2 - Microbial Data Selection(View data and)

Options | Flow Variables | Memory Policy

Concentration [log10(...)]

Time [h]

33 Salmonella () 34 Salmonella () 35 Salmonella () 36 Salmonella () 37 Salmonella ()

Selected	Shape	DataID	Organism	Matrix	Comment	Temperature	pH
<input checked="" type="checkbox"/>	Square	33	Salmonella ()	Culture medium ()	salm25	10	5.63
<input checked="" type="checkbox"/>	Circle	34	Salmonella ()	Culture medium ()	salm26	15	5.63
<input checked="" type="checkbox"/>	Triangle1	35	Salmonella ()	Dialog - 04 - Predictor View			
<input checked="" type="checkbox"/>	Diamond	36	Salmonella ()				
<input checked="" type="checkbox"/>	Rectangle1	37	Salmonella ()				
<input checked="" type="checkbox"/>	Triangle2	38	Salmonella ()				

Options | Flow Variables | Memory Policy

Concentration [log10(...)]

Time [h]

Baranyi - log10 scaled from R-package nstools

Filter	Time [h]	Concentration [log10(...)]
ModelName: Baranyi - log10 scaled from R-package nstools	10	2.7441
	20	3.3983
	30	5.4459
	40	7.5771

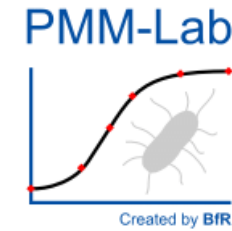
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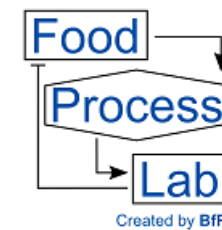
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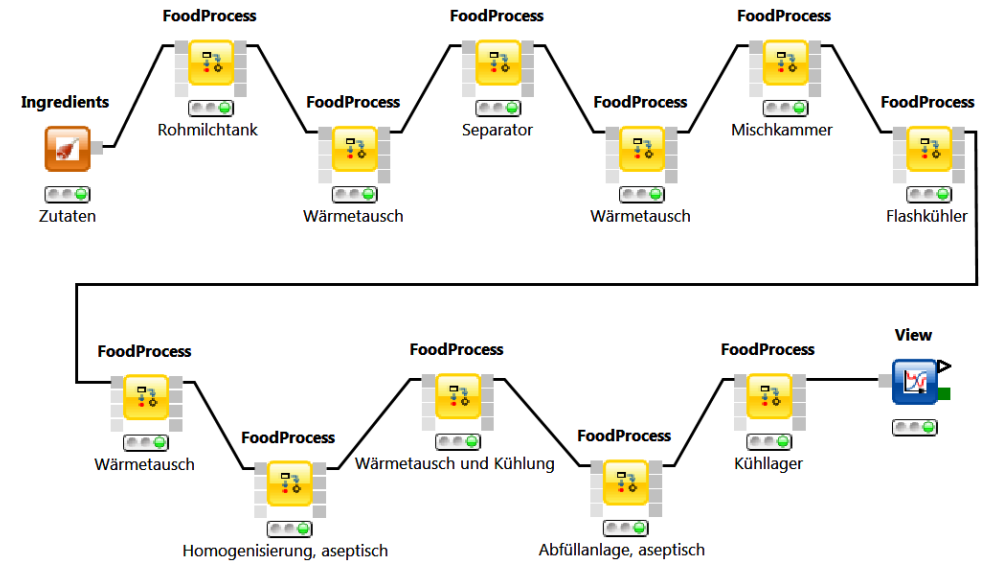
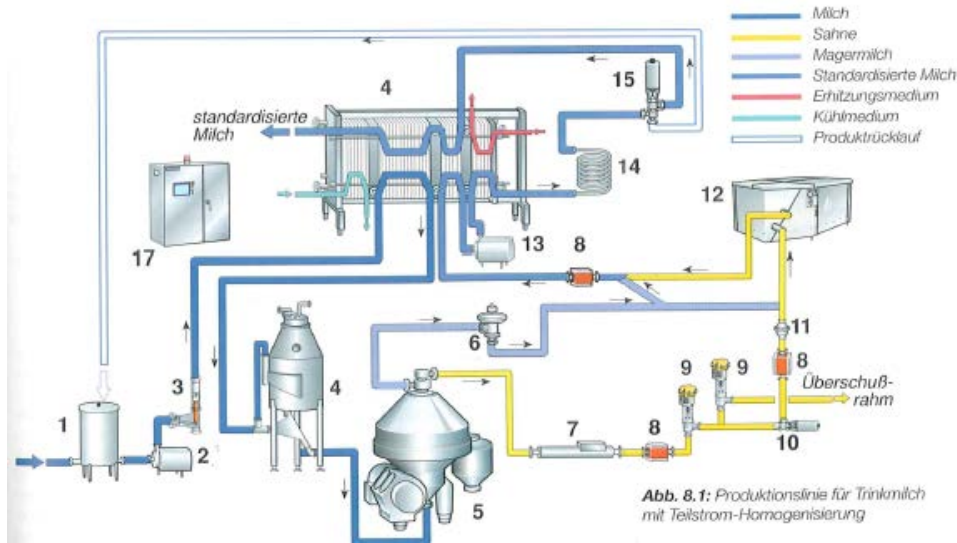
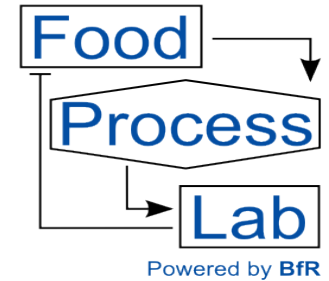
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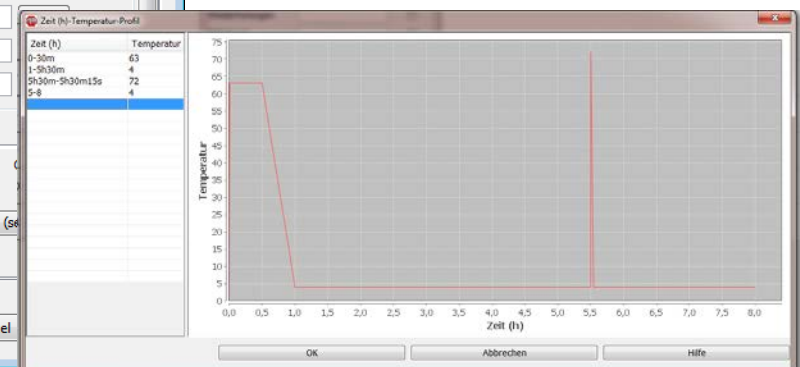
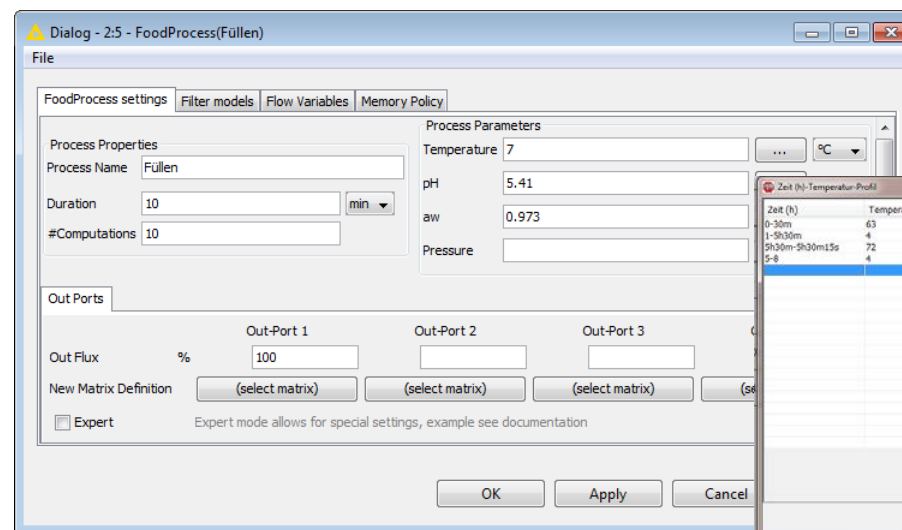
Contact

FoodProcess-Lab

Recopilación de información de la cadena de producción

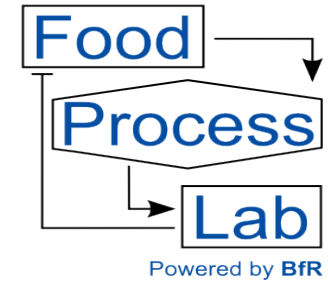


Tetra Pak Handbuch der Milch- und Molkeertechnik, Gösta Bylund, 2003, Verlag Th. Mann GmbH & Co. KG



FoodProcess-Lab

Diseño y simulación de escenarios



Ingredients

100 kg Pork

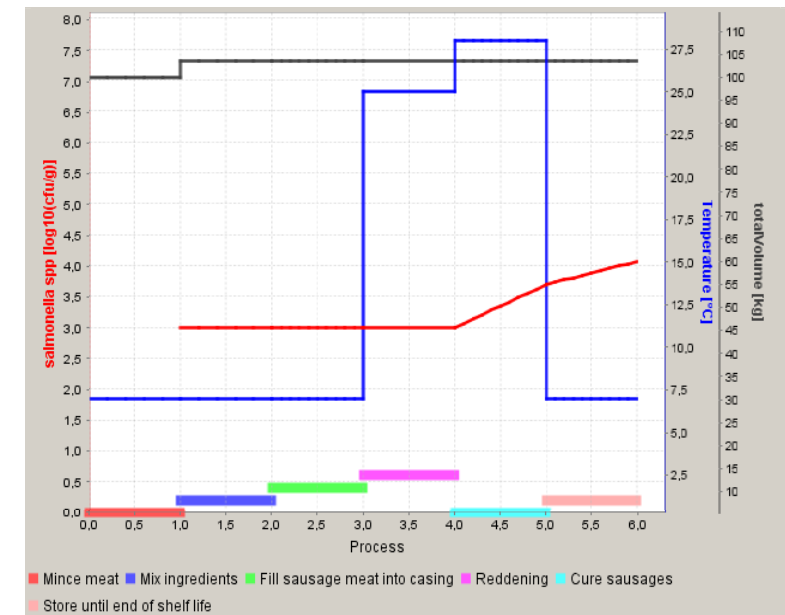
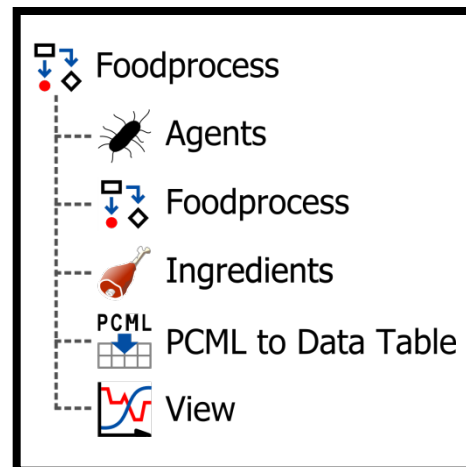
1 kg Onions

300 g Pepper, white, ground

2,2 kg Nitrite pickling salt

Agents

10⁸ cfu Salmonella spp



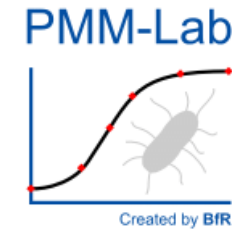
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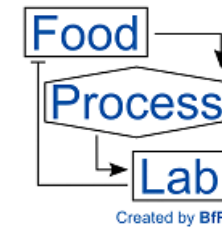
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openFSMR

open Food Safety Model Repository



open Food Safety Model Repository

a community driven search engine for predictive microbial models

Search this site

MENU

- [OPEN FSMR](#)
- [OPEN FSMR-DETAIL SEARCH VIEW](#)
- [IMPROVE DATA](#)
- [DOWNLOAD FILE FOR NEW ENTRIES](#)
- [FILE UPLOAD](#)
- [CONTACT FORM](#)

open FSMR

Organism (OR) +

Environment (OR) +

Model-Type (AND) v

Dependent-Vars (AND) v

Independent-Vars (AND) v

Software (OR) +

1 - 30 / 735

< >
1
2
10
20
25

Organism (OR)	Environment (OR)	Model-Type (AND)	Dependent-Vars (AND)	Feature	Value
Bacillus cereus	Culture medium	Growth	Concentration, Rate, Doubling time	DOLU	05/30/2016
Bacillus cereus	Culture media	Growth	Concentration, Rate, Doubling time	Model-Name	CombasePredictor_Growth_BacillusCereus
Bacillus licheniformis	Culture media	Growth	Concentration, Rate, Doubling time	PMF-Organism	Bacillus cereus
Bacillus subtilis	Culture media	Growth	Concentration, Rate, Doubling time	PMF-Environment	Culture medium
Brochothrix thermosphacta	Culture media	Growth	Concentration, Rate, Doubling time	Model-Creator	ComBase Consortium; ifr.combase@ifr.ac.uk
Clostridium botulinum (non-prot.)	Culture media	Growth	Concentration, Rate, Doubling time	Model-CurationStatus	long term use
Clostridium botulinum (prot.)	Culture media	Growth	Concentration, Rate, Doubling time	Model-Type	Growth
Clostridium perfringens	Culture media	Growth	Concentration, Rate, Doubling time		
Escherichia coli	Culture media	Growth	Concentration, Rate, Doubling time		
Escherichia coli	Culture media	Growth	Concentration, Rate, Doubling time		
Listeria monocytogenes/innocua	Culture media	Growth	Concentration, Rate, Doubling time		

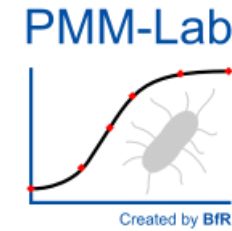
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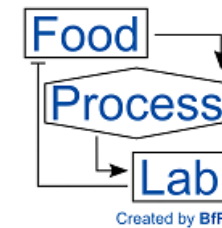
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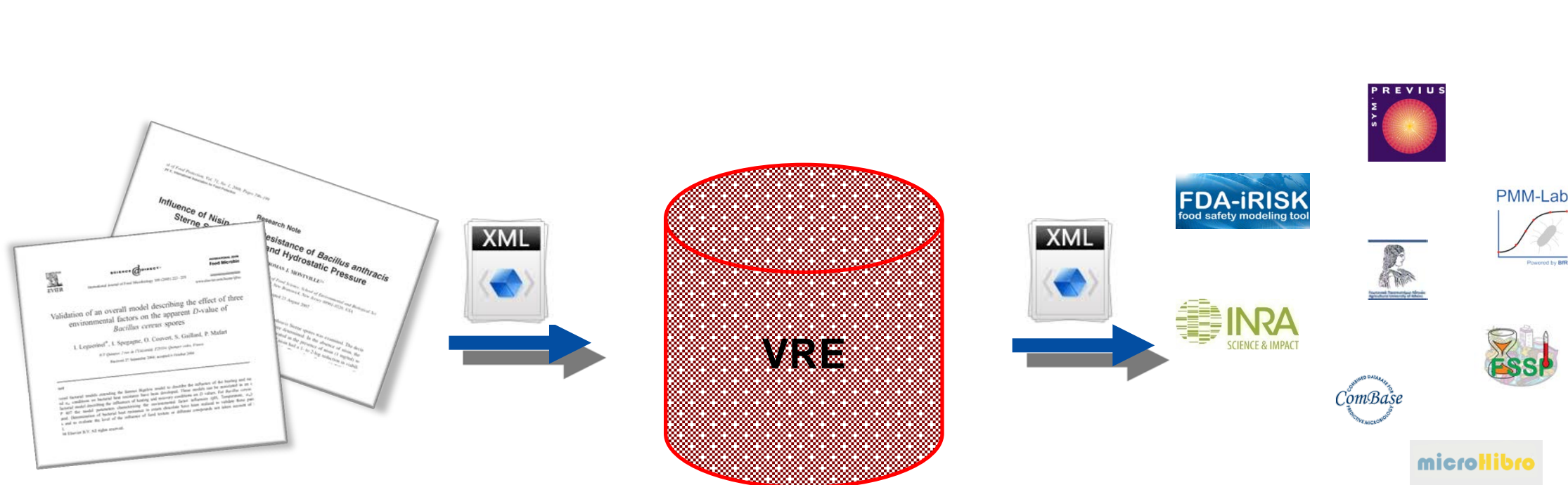
Contact

FSK_Lab / FSK-ML

Food Safety Knowledge Lab

Food Safety Knowledge Markup Language

Creando unions para la aplicación del conocimiento científico



Datos experimentales
Modelos matemáticos
Otro conocimiento

Base de datos con
funcionalidades de
búsqueda, filtrado y
computacionales

Uso y aplicación del
conocimiento por los
asesores del riesgo

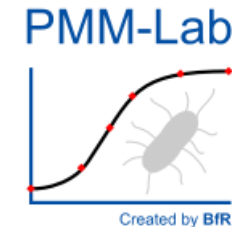
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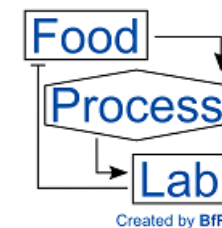
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Muchas gracias por su atención

Octavio Mesa Varona

Instituto Federal Alemán de Evaluación de Riesgos

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Phone +49 30 - 184 12 - 0 • Fax +49 30 - 184 12 - 47 41

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