Tutorial

Brainstorming with **percipio**<BigData>

https://percipio-big-data.com/

How to Create Novel Ideas?

- Creation of ideas constitutes the basis of a variety of techniques and methods for the identification and invention of new products and technologies.

- This workshop explains the method of brainstorming and its improvement by big data analytics.

What is Brainstorming?

Brainstorming is a **creativity technique** by which a group of people meet to generate new ideas and solutions around a specific domain of interest.

- Define a goal to understand what the main purpose of brainstorming is, e.g. a problem to solve or the creation of innovative ideas.

- Spontaneous ideas from all members of the groups are ideas written exactly as presented and displayed where everyone can see them. A facilitator also makes sure that initial ideas are not criticized.

- Participants are motivated to build on other's ideas, expand them or create totally new ones.

- There is no structure in brainstorming, and no idea is considered wrong. All ideas are noted during the brainstorming sessions for subsequent evaluation and ranking.

- After a limited amount of time the ideas are evaluated and ranked according their contribution to the original goal.

How to Improve Brainstorming?

- One of the challenges in brainstorming is the collection of as many ideas as possible to provide a holistic solution to the problem at hand.

- In many cases the stream of ideas ceases after some time and creativity needs a boost.
  How? → Try **percipio**<BigData> and explore novel ways of enhancing people's creativity.

Step 1 - Preparation

1. Define the goal of your brainstorming task, e.g. a problem to solve or the creation of innovative ideas for products and processes.

2. State this in the form of a clear question.

3. Define a couple of terms related to the question at hand (*see example 1*). This is best achieved by a quick glimpse at topic-related articles or web pages.

4. Initiate **percipio**<BigData> (https://percipio-big-data.com)

Example 1

- Definition of goal
  You want to learn about methods to produce functional food as a sound basis for expanding your current business.

- Research question
  "How can functional food be produced in novel ways?"

- Identification of related terms
  E.g., extracted from Collins dictionary (https://www.collinsdictionary.com/dictionary/english/functional-food) and (https://www.eufic.org/en/food-production/article/functional-foods)

- Familiarize with the **percipio**<BigData> tool (https://percipio-big-data.com)

- Send keywords to **percipio**<BigData> (info@percipio-big-data.com)
  E.g. FUNCTIONAL FOOD, NUTRITIONAL VALUE, NUTRACEUTICAL, HEALTH, DIET, DISEASE RISK

Step 2 - Realization

- Get familiar with **percipio**<BigData> homepage and your specific case (*see next slide*).

- Gather your brainstorming team and introduce brainstorm rules, research question and **percipio**<BigData> support.

- Dive into your brainstorming session for a dedicated time by using the **percipio**<BigData> word cloud (*see Brainstorming Procedure*).

This is your case, based on your keywords ...
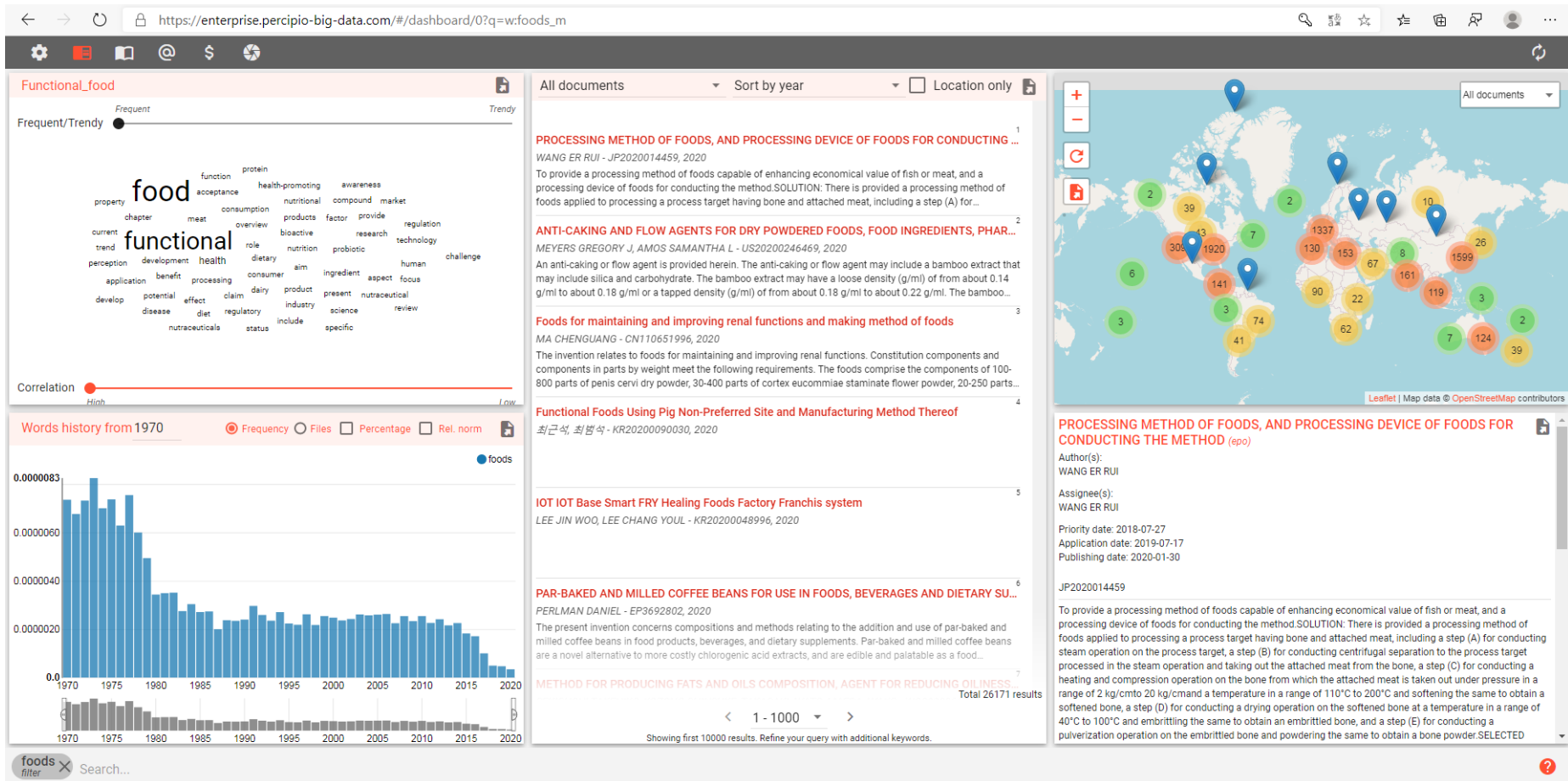

percipio<BigData> initially presents the word cloud based on your keywords, a complete word history, a list of documents (in that case 26175), and geographic data.

Brainstorming Procedure

- Use the words in the cloud as input for ideation.

- If the flow of ideas decreases, adjust the sliders "frequent/trendy" and/or "correlation" to create a new landscape of words. Alternatively, ask participants to select words from the cloud and add one of the words to the analysis by clicking on it. **percipio**<BigData> will present a new cloud based on your input.

- Repeat this by adding new words as long as necessary (*see examples 2 and 3*). For inspiration, make also use of the word history and the abstracts from displayed patents and articles.
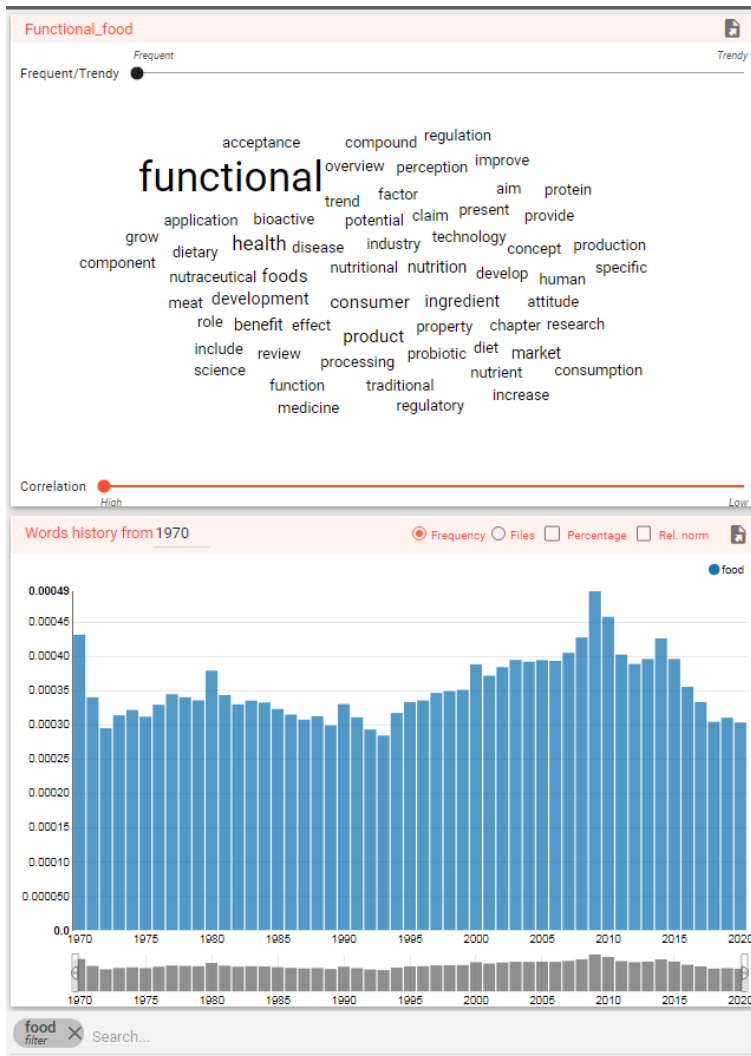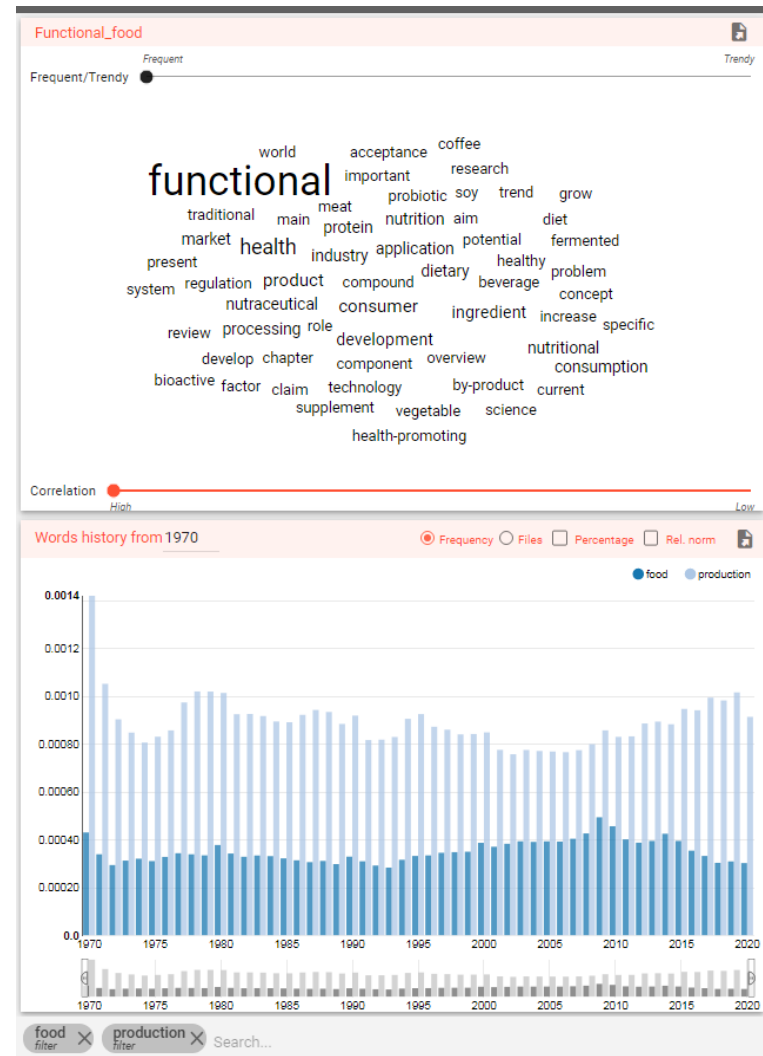
Example 2: Use the Sliders
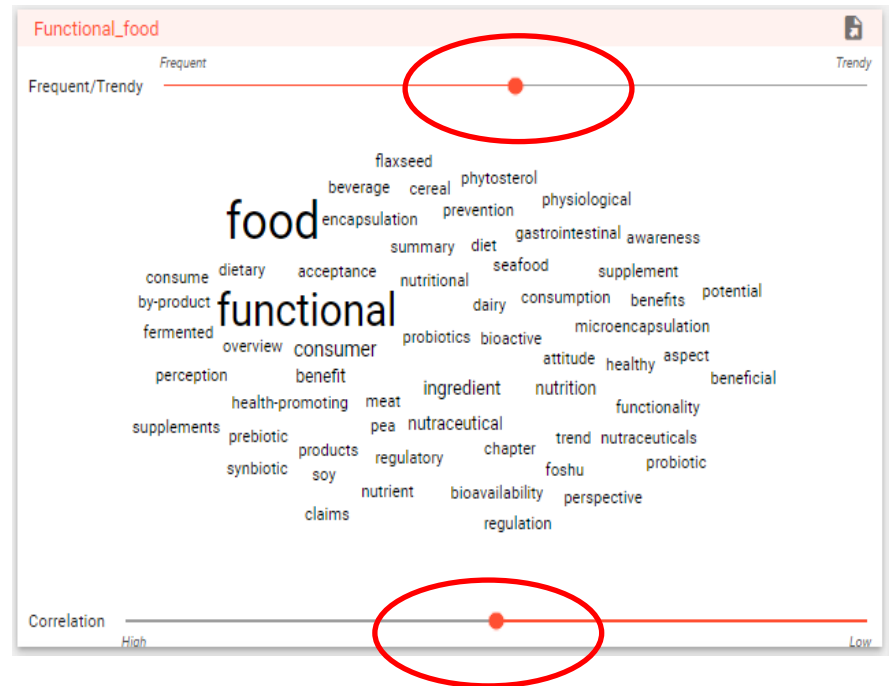
- Slider "Frequent/Trendy = 0 (most frequent words of the search are displayed)
- Slider "Correlation" = 100 (highly correlated words are displayed)

- Slider "Frequent/Trendy = 50 (words with moderate frequency are displayed)
- Slider "Correlation" = 50 (words with a somewhat less correlation are displayed)

Example 3: Add New Words

Term "food"

Terms "food" & "production"

Step 3: Finalization

- Having created a satisfactory number of ideas, stop the session and have a look at your results.

- Discuss the items on your list and dig into abstracts of specific patents and/or scientific papers by using **percipio**<BigData>. Try to prioritize the results according their contribution to answering the research question.

- An in-depth analysis by scrutinizing whole patents and research papers, geographical analysis or further narrowing down of results may be conducted by utilizing a variety of **percipio**<BigData> functionalities.

- **percipio**<BigData> specialists are glad to support you any time (info@percipio-big-data.com)

Example 4: Results

"functional food" & "product" & "production"

FOOD PRODUCT PROCESSING DEVICE AND FOOD PRODUCT PRODUCTION METHOD

TAKAHASHI TAKAYUKI - WO2020129221, 2020

[Problem] To provide: a food product processing device for quickly making cuts having a desired shape (e.g., marks) on the surfaces of cylindrical food products at a mass production scale; and a food product production method. [Solution] The food product ......

METHOD FOR THE PRODUCTION OF PROTEIN ANF FIBER RICH AIRY FOOD PRODUCT

OSMANOGLOU ERAL, FRANKEN WOUTER MATTHIJS - AU2018290182, 2020

The invention relates to a baked food product comprising a protein, a dietary fiber, water, a stabilizer, and optionally a digestible carbohydrate, wherein the baked food product comprises at least 30 wt% of the protein based on a dry matter weight, wherein ......

Hybrid Artificial Intelligence System for the Design of Highly-Automated Production Systems

Simon Hagemann, Atakan Sünnetcioglu, Rainer Stark - 2019

The automated design of production systems is a young field of research which has not been widely explored by industry nor research in recent decades. Currently, the effort spent in production system design is increasing significantly in industry ......

Novel process for the coproduction of xylo-oligosaccharide and glucose from reed scraps of reed pulp mill

Meixia Chen, Jie Lu, Yi Cheng, Qiang Li, Haisong Wang - 2019

Current utilization of reed scraps (RS) from reed pulping mills is just burning and burying, remaining the unused RS a major industry waste. The aim of this study was to valorize RS by utilizing it as feedstock for xylo-oligosaccharide (XOS) ......

DAIRY PRODUCTS, KETOGENIC PRODUCTS, AND PRODUCTION METHODS

RANKIN BROOKS - WO2020051527, 2020

Described herein are methods of making a gas-containing food product. Described herein are methods of making a dairy product over multiple seasons when the supply of fresh milk varies 40% over the course of the seasons. Producing the dairy product ....

......and many more ......

Recommended Links

- **Accomplish Learning 40 Brainstorming Methods To Propel Your Business**
  https://www.techtravelhub.com/brainstorming-methods/

- **Brainstorming, Brainstorming Rules and Decision Making**
  https://onlinelibrary.wiley.com/doi/abs/10.1002/j.2162-6057.2009.tb01304.x

- **Percipio Instruction Manual**
  https://percipio-big-data.com/files/percipio_user_manual.pdf

- **Percipio Cases**
  https://percipio-big-data.com/files/percipio_sign_up_and_choose_plan.pdf

That's by far not all ….

Based on your private **percipio**<BigData> database you may expand your research by further built-in functionalities.

- Evaluation of technology maturity
- Identification and location of experts in technologies of interest
- Performing dynamic searches based on pre-defined technologies
- Exploring of "unknown unknowns" by using the "frequency versus correlation" algorithm
- A "news button" provides you with the latest news about and around your technology of interest
- Classic search of patents and scientific articles
- and many more ….

Don't hesitate and go for a trial …

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