FOOD ALLERGY

The problem, the solutions and the SRP Food Allergy

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THE PROBLEM OF FOOD ALLERGY

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- A potentially lethal condition
- Among the most prevalent diseases in the western world, affecting patients and at least an estimated 4-fold of people in their environment
- Health impact is higher than that posed by all known chemicals and microbes in food
- Health impact exceeds, for example, that of skin cancer, Parkinson's disease or cardiac arrest, or is approximately the same as, for example, that of prostate cancer, asthma or rheumatoid arthritis
- Loss of Quality of Life contributes strongly to the loss of health

THE PROBLEM OF FOOD ALLERGY

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No prevention or cure available, medication only to suppress effects

Ability by allergic consumers to avoid allergenic foods is of life importance…but this is hardly or not possible

- **An enormous economic impact**
  - **Public:**
    - TNO-UMCU study:
      - 4 hospital visits per 100 food allergic individuals per year
      - 0.6 hospitalizations per 100 food allergic individuals per year

(Michelsen et. al., submitted)

N.b.: < 100 hospitalizations due to food infections/year in NLD (RIVM, 2013)

  - **Private**
    - Preventive measures/risk management
    - Several studies: 30 to almost 50 % of food product recalls allergen related

TOWARD A FOOD-ALLERGY-FREE WORLD

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SRP food allergy

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www.srpfoodallergy.com

FOOD-ALLERGY-FREE WORLD

WHAT

Protect food-allergy sufferers

Prevent allergies to new foods

Cure & prevention of all food allergies

WHAT IS NEEDED?

HOW

IMPROVED RISK ASSESSMENT, MANAGEMENT AND COMMUNICATION

TOPIC 1

METHODS FOR PREDICTION OF THE HEALTH IMPACT OF NEW FOODS

TOPIC 2

METHODS FOR MONITORING AND EFFECT ASSESSMENT OF INTERVENTIONS

TOPIC 3

THE TNO SHARED RESEARCH PROGRAM FOOD ALLERGY

TOPIC 1: RISK ASSESSMENT, MANAGEMENT, COMMUNICATION

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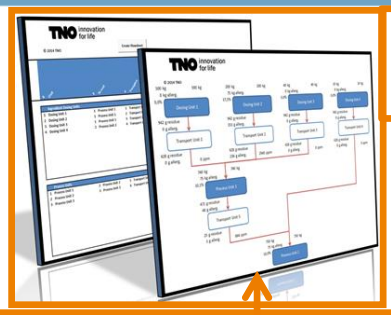
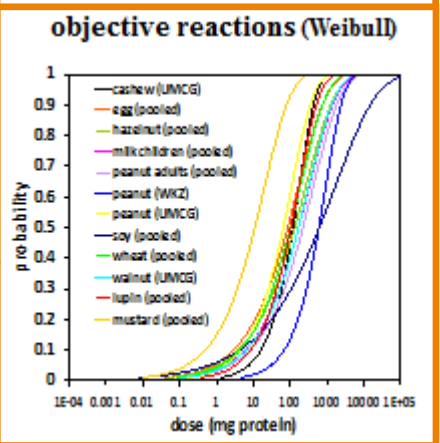
TNO Food Intake Database for Food Allergy Risk Assessment

1	Alcoholic drinks (excl beer)	22	Meal replacements
2	Beer	23	Meat products
3	Binders (starch)	24	Meats
4	Bread and rolls	25	Milk (products), yogurt (products), desserts
5	Breakfast products	26	Milk powder / cocoa powder
6	Butter / margarine / margarine type of products	27	Non-alcoholic beverages (excl. syrup)
7	Cheese	28	Oils and fats
8	Chewing gum	29	Pancakes and crepes
9	Chocolate, chocolates and candy bars	30	Peanut butter, nut spreads
10	Crackers, biscuits	31	Peanuts, nuts and dried fruits
11	Cream and evaporated milk	32	Potato products (excl powder)
12	Dough for pie / pizza	33	Pretzels and chips
13	Fish products	34	Rice and pasta
14	Fish, fresh	35	Sauces
15	Fried / hot snacks	36	Small cakes
16	Fruits and vegetables, pot / canned / frozen	37	Small candy / sweets
17	Herbs / Spices	38	Soups
18	Ice cream	39	Sugar
19	Large cookies and cake	40	Sweet spreads
20	Legumes	41	Sweeteners
21	Mashed potato powder	42	Syrups



Contamination Models

TNO-FARRP Threshold Database



Data — Surveys, Analyses, Clinical studies

Consumption, Levels

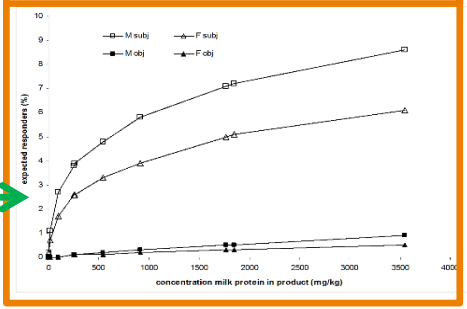
Chance distributions

Allergen intake, Thresholds

Probabilistic model

Outcome — Chance on allergic reaction

Risk Quantification



Probabilistic risk assessment in food allergy, developed by TNO

- **risk quantification**
- **elaboration and validation of reference doses and action levels for precautionary allergen labelling**
- **development of guidance & tools for application and implementation (incl. models to predict levels of contamination,, and guidance on food consumption figures to use)**
- **support and training of authorities and companies in application and implementation**

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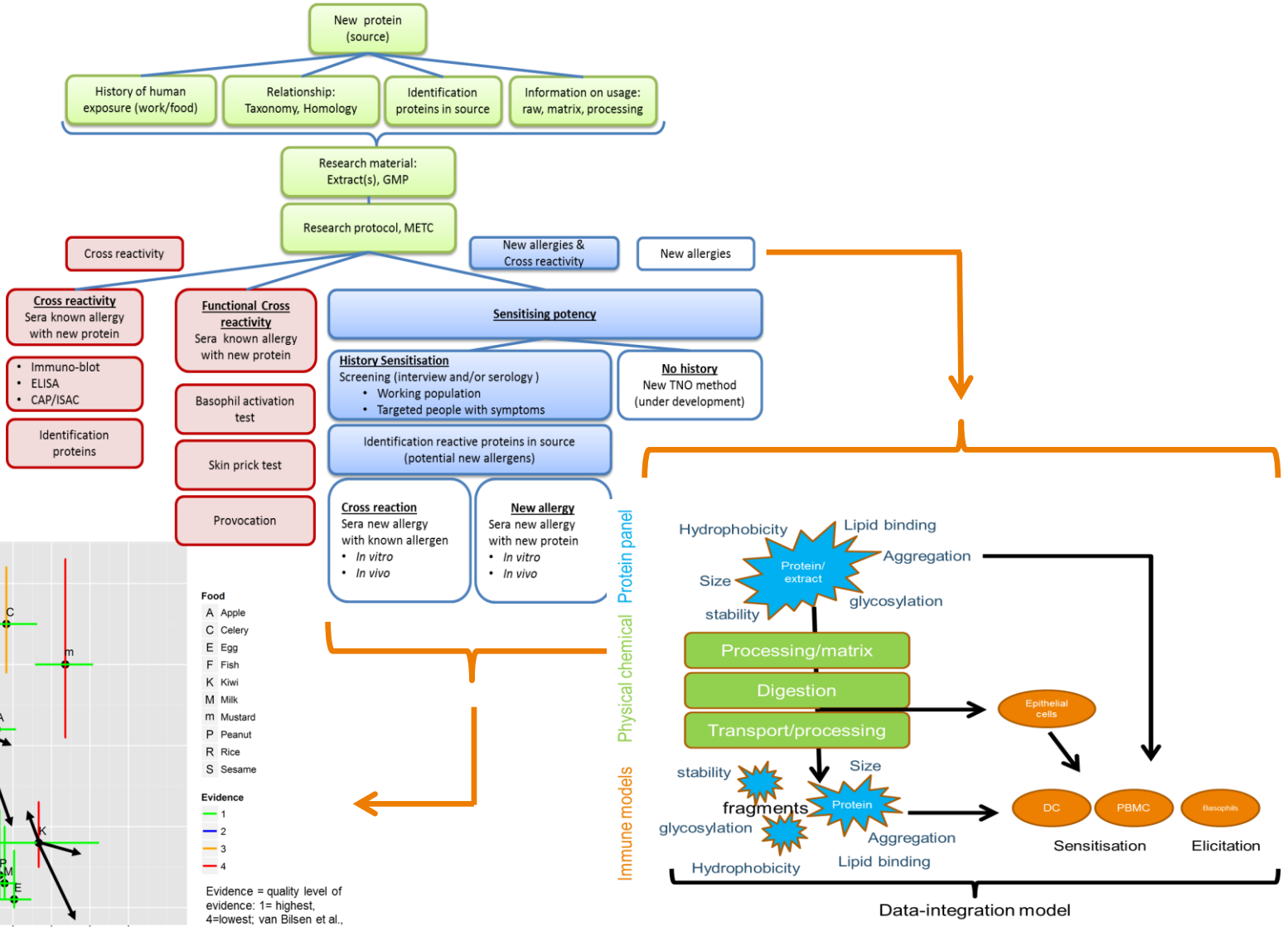
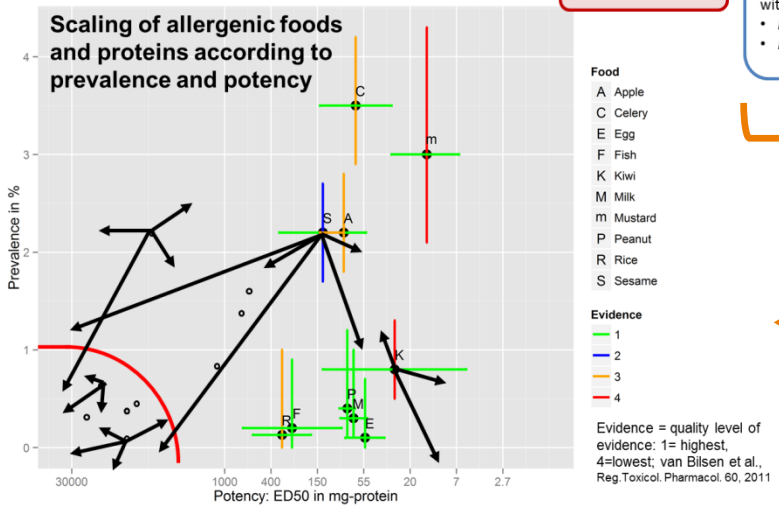
TOPIC 2: PREDICTION OF THE HEALTH IMPACT OF NEW FOODS





THE TNO SRP IMMUNE HEALTH THEME

INTERACTIVE BIG DATA RESOURCE

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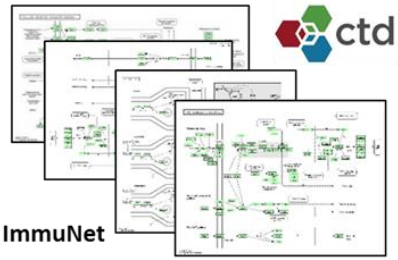
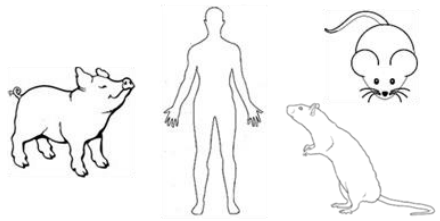
APPROACH

Existing immune pathway knowledge



Microbes and microbe-host interactions

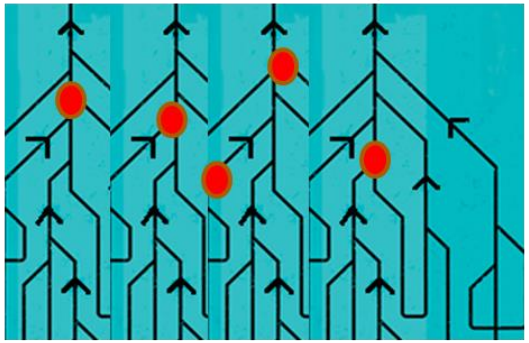
Experimental data Cross-species



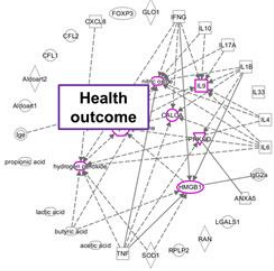
AIM

Functional relationships

Infection susceptibility
Cancer susceptibility
Hypersensitivity
Autoimmunity



Inflammatory state & non-immune-organ functions



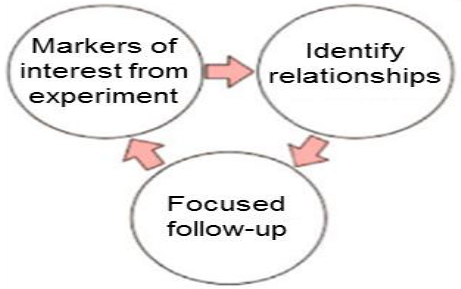
Identification of key pathways and key pathway connections

Interactive tool

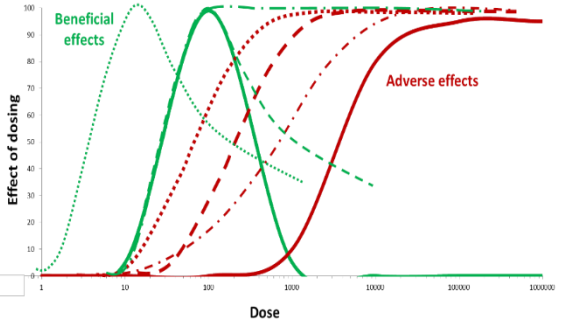
BENEFITS

- Biomarker discovery and selection for efficient diagnosis, prognosis and monitoring
- Target discovery for prevention and therapy

Efficient study design



Effect and risk-benefit assessment



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www.srpfoodallergy.com

- **Key characteristics of SRP**
  - **Participation per program line**
  - **3-year contracts**
  - **Annual fee (fixed per program line)**
  - **Open for entrance of new participants (entrance fee)**

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- **Sponsors per 1/1/2017**

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