# ACADEMY OF FINLAND

## RESEARCH FUNDING AND EXPERTISE

Saila Karvinen

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# A research programme is composed of a number of research projects that

- are focused on a defined subject area or set of problems
- are financed for a fixed period of time and
- have a co-coordinated management

**Important**

- novelty value
- added value


**Academy of Finland 7.5 million euros,**

**Programme Manager Dr. Saila Karvinen**

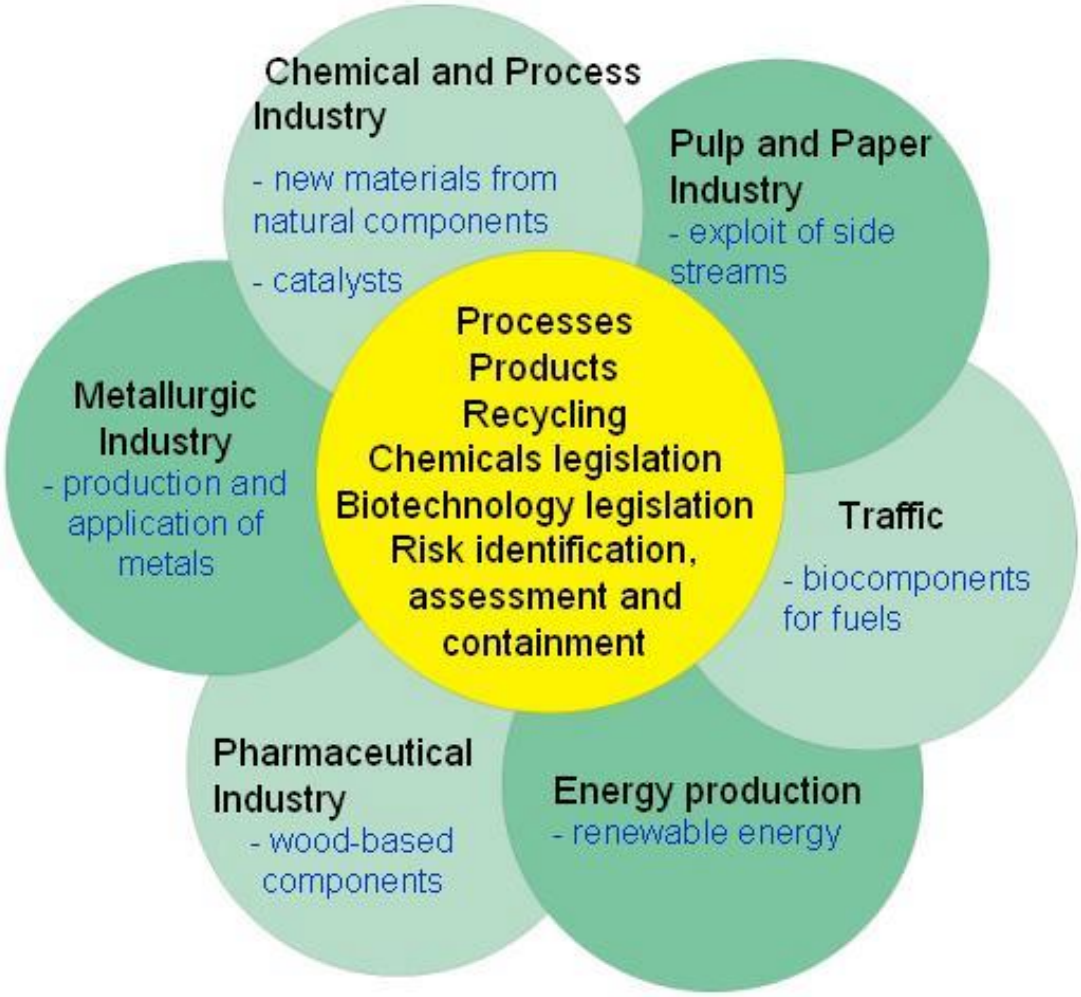
The aim of the Sustainable Production and Products Research Programme is to strengthen basic research in process engineering and chemistry, to produce new and innovative scientific knowledge in optimal recycling, minimising waste production and new products and production concepts

## Research themes:

- industrial ecology
- green chemistry and engineering
- chemicals in industrial production; testing and regulation

ACADEMY OF FINLAND
RESEARCH FUNDING AND EXPERTISE

# Sustainable production and products



# KETJU decisions

- January 2006 we got 126 letters of intent from which 102 ……..
- 40 research plans were evaluated scientifically
- 15 projects were funded

- Chemistry, process, pulp and paper industry
- Fuels, energy, metallurgy, pharmaceutical industry

# KETJU CONSORTIA

- **Modular biocatalyst platform for chiral synthesis of chemical compounds by structure-based directed evolution (BIOCAT)**
- **Towards utilization of Carbon Dioxide as a green and versatile commodity chemical: Clean synthesis of Methanol and Dimethyl Carbonate (DMC) (CO2UTIL)**
- **Fast, selective and ecological ion-exchange materials for hydrometallurgy (FSE_IX)**
- **Indicator Framework for Eco-Efficiency (IFEE)**
- **Industrial Symbiosis System Boundaries (ISSB)**
- **Enhanced Organocatalyzed Redox Processes for Sustainable Chemical Synthesis (NADREDOX)**

# KETJU CONSORTIA

- **Paper, bioenergy and green chemicals from nonwood residues by a novel biorefinery (PEGRES)**
- **Pro-environmental Product Planning in a Dynamic Operational Environment Now and in the Future- Methods and Tools (ProDOE)**
- **Sustainable Innovative Materials in High Tech Applications. An Interdisciplinary Approach to Design, Engineering Technology, and Chemistry of Environmentally Sound Products and Production (SUMAC)**
- **Sustainable processing of natural resources (SusProc)**
- **Targeted functionalization of spruce galactoglucomannans with aid of galactose oxidase (FunMan)**
- **Sustainable and eco-friendly wood material for future industrial needs (SUSWOOD)**

# KETJU INDIVIDUAL PROJECTS

- Improvement of xylose utilisation for bioprocesses
- Chemical testing by molecular biological methods
- Design of novel non-halogenated flame retardants

# Coordination timetable

Year 2006
- application process,  selecting projects for funding

Year 2007
-visiting projects, collaboration between projects

Year 2008
- communications with industry

Year 2009
-UNESCO/TWAS common seminar

Year 2010
-Publicity of records

Year 2011
-Final evaluation of the programme

KETJU
SUSTAINABLE PRODUCTION AND PRODUCTS
2006-2010