



**November 2013**

## **Guidelines for NRP 66 dialogue platforms**

Large attendance is welcome!

### **1. Fields of dialogue and essential questions of NRP 66**

NRP 66 «Resource Wood» is a research programme with a very broad scope. It gives attention to a better availability and use of wood, focusing foremost on multiple and material use of wood and less on a mainly energetic exploitation.

Thirty research teams are currently at work dealing with a wide range of topics (overview of research projects on [www.nfp66.ch](http://www.nfp66.ch)). First results are expected in early 2015, the last projects will close at the end of 2016.

Already in the phase of ongoing research, the Steering Committee of NRP 66 intends to initiate discussions about cross-project topics related to the motto of „intelligent use of wood“ and to launch the exchange between research, economy/industry and administration/politics.

At its meeting in November 2013, the Steering Committee defined **four essential issues (fields of dialogue)** to be intensively discussed on moderated dialogue platforms (DP):

#### **DP 1: Advancements in timber construction**

Innovative materials and joining technologies in timber constructions, industrial processes

#### **DP 2: Novel ways in bio-refining of wood**

Integral and high-grade use of wooden biomass by industrial degradation into materials/fibres, chemicals, fuels and energy

#### **DP 3: Innovative wood-based materials for new applications**

Modification and conversion of wood (as recycled or waste wood) into reliable industrial products for new purposes of use

#### **DP 4: Provisioning and sustainable use of wood**

Wood use, market forces and market regulation, forest ownership strategies

The four dialogue platforms cover important parts of the overall topic of NRP 66. They are less aligned to the internal structure of NRP 66 (six modules) but rather guided by the major challenges in the future handling of the resource wood.

The dialogue platforms shall work on resp. give some answers to the following **crucial questions** (focused on Switzerland):

- How can we trigger technological innovation and enable added value?
- How to enhance the competitiveness of the forestry & timber trade and wood-based industry?
- By what means should boundary conditions be improved?
- How should research and educational capacities be expanded?

## **2. Objectives of dialogue platforms**

The Steering Committee of NRP 66 sees the dialogue platforms as an important instrument for knowledge and technology transfer across projects and for the elaboration of the programme synthesis step by step.

In a first phase, the four dialogue platforms shall contribute to the following objectives:

- Exchange between research, economy/industry and administration/politics
- Identification of potentials for innovation and technology transfer, enabling of new business relationships
- Working out of ideas and stimuli for relevant target groups („rethinking“)
- Description of important findings and conclusions for the programme synthesis

The dialogue platforms are to be active between 2014 and 2016 according to a concerted plan, but will be able to proceed in a self-determined way while respecting the general specifications.

Later on, for a 2nd period (spring 2016 until spring 2017), the dialogue platforms will serve as sounding boards while the programme synthesis is being drafted. The latter will be elaborated in four specific volumes, each substantially related to one of the four fields of dialogue.

## **3. Organisation of dialogue platforms**

### **Core team**

The Steering Committee will appoint a core team for every dialogue platform. This team is responsible for

- planning of the platform activities 2014-2016 (according to these guidelines)
- search/selection of platform participants and guests to be invited
- preparation of the workshops
- moderation and reporting

Each core team ideally pools the following executives:

- 2 senior leaders of a NRP 66 project
- 2 members of the Steering Committee
- 1 member of the Knowledge and Technology Transfer team (process management, administration)
- 1 reporter (external scientific editor)
- 1 additional specialist (if necessary)

### **Representatives of Steering Committee in dialogue platforms**

DP 1 Advancements in timber construction: Charlotte Bengtsson, Alfred Teischinger

DP 2 Novel ways in bio-refining of wood: Jakob Rhyner, Birgit Kamm

DP 3 Innovative wood-based materials for new applications: Alain Dufresne, Alfred Teischinger, Martin Riediker

DP 4 Provisioning and sustainable use of wood: Philippe Thalmann, Liselotte Schebek

### **Participants of dialogue platforms**

A number of personalities with a high affinity to the specific issues will be invited to participate in a certain dialogue platform. The relevant persons are (as required):

- senior research project leaders of NRP 66
- representatives of forestry/timber industry, other industries, trade, financial sector
- representatives of trade/professional organisations, NGOs
- representatives of the public administration, politics

The goal for each of the four platforms is to gather 15-25 qualified personalities out of relevant stakeholder groups (even only for particular workshops if required). The senior leaders of NRP 66 projects are expected to participate in at least one dialogue platform (proposed allocation see Annex II).

### **Reporting**

Treated issues and results of the platform events are to be reported in paper form (task of external scientific editor). Each dialogue platform works on an input paper for the attention of the Steering Committee (presentation at the 4<sup>th</sup> Progress Report Meeting, spring 2016). These four input papers together with the final scientific reports of the 30 research projects in NRP 66 will provide the basis for the final programme synthesis.

## **4. Schedule for dialogue platforms**

The following work schedule (Annex I) describes how the dialogue platforms are expected to proceed in general and which deadlines are to be respected. Each platform will organise a maximum of 4 workshops within two years, with at least one meeting of the core team before resp. after each platform event.

The goal of the work schedule is to progressively collect the main elements of the proposed input paper, considering the questions crucial to all dialogue platforms (see chapter 1).

## Work schedule for dialogue platforms (DP)

Annex I

Time frame	Stage	Results	General Milestones NRP 66
End 2013/ Beginning 2014	<b>Board NRP 66:</b> Planning DP process, preliminary talks, commissioning scientific editor etc.	DP schedule (guidelines), search/appointment of core teams, intro scientific editor, planning kick-offs core teams	30.11.2013: Letter to senior project leaders (Mailing of DP guidelines)
1st Quarter 2014	<b>Kick-off DFP-Core teams</b> Self-constitution, detailed planning, preparation DP Workshop 1	Schedule for 4 Workshops (incl. guests + participants), “work orders” for summer school, possibly planning working paper for DP Workshop 1	31.1.14: Submission „Letter of intent“ (indication of interest in DP issues)
2nd/3rd Quarter 2014	<b>DP Workshop 1:</b> General outlay, leading questions, scientific challenges, possible contributions of research projects to major issues of NFP 66	Chapter 1 input paper, esp. about leading questions, major challenges etc.	9-11.4.14: 2nd Progress R. Meeting (Work orders for Summer School) 31.7.14 Deadline Follow-up proposals (indications about expected contributions to DP issues) 1-3.9.14 Summer School (Prepared inputs to 4 DP)
4th Quarter 2014/ 1st Quarter 2015	<b>DP Workshop 2:</b> Technological challenges, potential/ possible steps for innovation, competitiveness etc.	Chapter 2 input paper, esp. about innovation and competitiveness	After 31.1.15: First final reports Spring 15: 3rd Progress R. Meeting (DP issues can be scheduled)
2nd/3rd Quarter 2015	<b>DP Workshop 3:</b> Boundary conditions (economical, commercial, political etc.)	Chapter 3 input paper, esp. about necessary change of boundary conditions	
1st Quarter 2016	<b>DP Workshop 4:</b> Feedback to input paper chapters 1-3, last conclusions and recommendations for chapter 4	Chapter 4 input paper, esp. about research capacities, adopted input paper	Spring 2016: 4th Progress Report Meeting (Presentation of 4 DP input papers)
<b>Start of programme synthesis</b>			
Until Spring 2017	<b>DP as Sounding Boards for 4 partial programme syntheses</b>	4 partial programme syntheses (for professional audience) related to 4 fields of dialogue	January 2017 Final scientific reports
Until Summer 2017	Translations, layout, production	Additional programme survey (for interested public)	
Summer 2017	Closing event	Publication synthesis NRP 66	End of NRP 66

## Allocation of research projects to dialogue platforms (DP)

### DP1: **Advancements in timber construction**

**SC members: Charlotte Bengtsson and Alfred Teischinger**

Innovative and reliable structures made of beech wood

**Frangi Andrea**, ETHZ

Robot-assisted assembly of complex timber structures

**Kohler Matthias**, ETHZ

Acoustically optimised floor system made of hardwood

**Krajčí Lubos**, K+I Ingenieurbüro für Akustik und Bauphysik GmbH

Adhesive bonding in structural elements made of hardwood

**Niemz Peter**, ETHZ

Earthquake resistant wood structures for multi-storey buildings

**Steiger René**, EMPA

Dimensioning adhesively bonded timber joints

**Vasilopoulos Anastasios**, EPFL

Wood and wood-based concrete: The building material of the future?

**Zwicky Daia**, HES-SO

### DP2: **Novel ways in bio-refining of wood**

**SC members: Birgit Kamm and Jakob Rhyner**

Hot gas cleaning for highly efficient and economical energy production from wood

**Biollaz Serge**, PSI

Breakdown of lignin for the production of aromatic compounds

**Corvini Philippe**, FHNW

Concurrent transformation of wood into commodity chemicals

**Dyson Paul**, EPFL

Wood2Chem: A computer-aided platform for developing bio-refinery concepts

**Maréchal François**, EPFL

Production of ultra-pure hydrogen from wood

**Müller Christoph**, ETHZ

Optimised grate furnaces for wood fuels

**Nussbaumer Thomas**, HS LU

Combined production of fuels and chemicals from wood

**Rudolf von Rohr Philipp**, ETHZ

Synthetic natural gas from wood — How can the synthesis be optimised?

**Schildhauer Tilman**, PSI

Development of artificial proteins for a better chemical use of wood  
**Seebeck Florian**, University of Basel

One-stage fermentation of wood into ethanol in a membrane biofilm reactor  
**Studer Michael**, BFH

Free radicals in lignin as the key to "green" chemicals  
**Vogel Frédéric**, PSI

### **DP3: Innovative wood-based materials for new applications**

**SC members: Alain Dufresne, Alfred Teischinger, Martin Riediker**

Wood and engineered wood with improved properties for structures  
**Burgert Ingo**, ETHZ

Nanotechnology in the service of wood preservation  
**Fink-Petri Alke Susanne**, Uni FR

Wood surface functionalisation using photoinitiators  
**Grützmacher Hansjörg**, ETHZ

Extraction of tannins from the bark of local conifers  
**Pichelin Frédéric**, BFH

Ultra-light bio-based particleboard with a foam core  
**Thoemen Heiko**, BFH

Natural UV protection of wood surfaces through cellulose fibres  
**Volkmer Thomas**, BFH

New processing methods for cellulose nanocomposites  
**Weder Christoph**, Uni FR

Cellulose nanofibrils in wood coatings  
**Zimmermann Tanja**, EMPA

### **DP4: Provisioning and sustainable use of wood**

**SC members: Philippe Thalmann and Liselotte Schebek**

MOBSTRAT: Timber mobilisation strategies for Swiss forests  
**Brang Peter**, WSL

Ecological use of wood resources in Switzerland  
**Hellweg Stefanie**, ETHZ

An economic analysis of Swiss wood markets  
**Olschewski Roland**, WSL

Understanding the wood market: between provisioning and multi-functionality  
**Zarin-Nejadan Milad**, University of Neuchâtel