BONE

Building the Future Optical Network in Europe

FP7-Call 1 – NoE

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BONE Consortium

49 partners
17 countries
523 researchers
BONE Objectives

• Build Virtual Centres of Excellence that cover specific issues in the field of Optical Networking that can serve European industry with education & training, research tools & testlabs and pave the way to development of new technologies & architectures.
• Reach out, include and link to research activities in national programmes, or programmes outside Europe.
• Stimulate an intensified collaboration, exchange of researchers between the research groups involved and active in the field
• Disseminate the expertise and know-how of these European Research groups to a broader audience, both R&D oriented as well as industry- and decision maker oriented.
BONE Structure

Dissemination – Teaching – Electronic Tools

TP

WP1a  WP1b  WP1c  ....

TP2x
TP2y
TP2z

Management

EAB  GA  MB

Prof. Dr. Admela Jukan (Techni. Univ.Carolo-Wilhelmina zu Braunschweig)
Prof. Kenichi Kitayama (Osaka University)
Dr. Bill St Arnaud (CANARIE Inc., Canada)
Dr. Eric Tsang (Communications Research Centre, Canada)
• The number of joint papers and presentations (01/01/08 – 31/12/08)

  Total number of publications:  188
  Including joint papers:        62

  Total number of A1-publications:  40
  Total number of C1-publications:  145

  Total number of papers with
  “BONE only acknowledgement”     93
  “BONE + EU-project acknowledgement”  33
  “BONE + national-project acknowledgement”  48
BONE Y1:
29 Mobility actions
70 PM
50 k€
Workshops

Workshops @ OFC2008 (1) & ECOC 2008 (1+2)
Booths at exhibitions

The ICT BONE booth 320 at ECOC 2008 exhibition

The ICT BONE booth J09 at ICT 2008 exhibition
Public event

- focus on 14/15 yr female students (120 children) for a full day visit
- The programme would involve the core lecture [Telecommunications using Light] together with lab visits and a chance to talk to researchers.
- The core lecture will last about 90 minutes and focus on Telecommunications and the increasing role of optics
- The objective is to get over concepts using simple hands-on experiments and to back this up with glimpses of modern technology realisations through video, photos and microscopes.
- During the event there will be video links to researchers at other partner institutes in Europe and have some questions and answer opportunities.
- Involved partners: UEssex, UoP, AIT, IBBT, Polito, KTH, Telfer
FPMs, Mons, Belgium, October 15-17

- Master School dedicated to Common Master course 1
  
  Optical Fibre Technology and Propagation

- 2 days of tutorials
- 3 days of practical classes for guest students
- 2 weeks of practical classes for local students in Mons and Brest
- End of January 2009 on-line exam
1st BONE Summer School

- FPMs Mons, Belgium, October 15-17

- Collocated traditional Summer School with the topic Electronics and Signal Processing for Optical Transmission
  3 days (Wed-Fri): Tutorials of experts, oral presentations and poster session of PhD students
• BONE Master study in Optical Communications and Networks is based on curricula and teaching materials inherited from e-Photon/ONe.

• Task Force of WP02 is continuing collaborative work to improve quality of existing materials.

• Trying to prepare materials for open access on BONE website according to Creative Commons Public License.

• Renovation of courses in order to keep up with advances in photonic technology and architectures.

• New Master courses are proposed
BONE teaching
Existing Master Courses

• Introduction to optical networks - Light propagation
  Coordinators: Michel Morvan and Marc Wuilpart

• Optical Technologies and Components
  Coordinators: Antonio Teixeira and Kevin Heggarty

• Optical Core Networks
  Coordinators: Piero Castoldi and Josep Solé Pareta

• Optical Access and Metro Networks
  Coordinators: Achille Pattavina and Guido Maier

• Photonics in Switching
  Coordinators: Lena Wosinska and Carla Rafaeli

• Optical Network Resilience
  Coordinators: Luca Valcarenghi and Branko Mikac

• Optical transmission
  Coordinators: Véronique Moeyaert and Michel Morvan

• Spin-off applications of optical telecommunications technology
  Coordinators: Kevin Heggarty and Carmen Vazquez

ICT Mobile Summit 2009
One of the activities within WP01 has an objective to:
To extend the roadmap [commenced in e-Photon/ONe] into a focused view (roadmap) of the evolution of photonic networks [within Europe] for telecom and non-telecom applications; and benchmark European research activities against international programmes.

People involved

T. Politi (University of Peloponnese)
M. O’Mahony (UEssex)
A. Tzanakaki (AIT)
J. Mitchell (UCL)
D. Simeonidou (UEssex)
Roadshow

• Links to industry … difficult and mostly with R&D

• Lesson learned from “NEMO NoE”:
  - Workshop programme based on “tutorial”-type of lectures + highlights
  - Travel to Industry
  - 1 or 2 times / year

• Open to other projects
• Programme to be defined
• The main EU channel for dissemination of results from research groups in the field of Optical Networks:
  - Over 190 publications
  - Major involvement with BONE ack. at major events

• Major effort regarding education of young researcher:
  - About 30 mobility actions of researchers
  - Summer School and Master School incl. ECTS certification
• Integration of activities in research related to optical networks is realized through:
  - Through the mobility grants
    (align research work, PhD work and experiments)
  - Through alignment of national projects with European research.
    (25% of BONE-publications carry ackn. of National project)
  - Through cooperation across European funded projects
    (BONE has joint publications with 15 other EU-funded projects.

**Key message: avoid conflicts by realistic aligning**
What is BONE?

• BONE is a **Network**
  - 523 researchers / 49 partners / 17 countries
  - 60+ joint publications
  - 30+ mobility actions

• of **Excellence**
  - 50+ papers submitted to OFC 2009 (San Diego, USA),
  - with an acceptance rate of over 80%,
  - significantly higher than the average acceptance rate
  - Involved in workshops / major events
  - BONE people are international key players

**Key message: integration through awareness**