

NEWCOM NEWSLETTER

<https://newcom.ismb.it>

Welcome!
Michał Wódczak

Dear Readers!

Welcome to the second issue of the NEWCOM Newsletter!

First of all I would like to thank you for your feedback in response to our previous request for news. This way we received a report including a picture from the joint workshop organized by LNT (28) and TELE (38), as well as the most recent information about the NEWCOM European Wireless Business Idea Competition "Mario Boella" or the details regarding the NEWCOM Session on the Advanced Signal Processing Algorithms for Wireless Communications and the list of joint publications provided by ISIK (07). Therefore I would like to encourage you once again to send us even more information and pictures if possible. This will help us make the NEWCOM newsletter more and more appealing, which is of prime importance as we are going to change the dissemination status to publicly available soon.

Going back to the contents of this issue, apart from the aforementioned information, you can also read some interesting news about the videoconference facilities, NEWCOM - ACoRN cooperation, schools and courses, full-time postdoctoral researcher position opening or work progress in some of the Departments and Projects.

I hope you will find this issue interesting and of course I am looking forward to receiving your feedback!

Michał Wódczak



Sections

- A. NEWCOM LIFE
- B. TECHNICAL SECTIONS
- C. NEWCOM EVENTS
- D. EXCHANGES AND POSITION OPENINGS
- E. PROJECT PROPOSAL INCUBATORS

A. Newcom life

Stephen Sadler

1. [Newcomoffice@ismb.it](mailto:newcomoffice@ismb.it)

The NEWCOM Network Office can now be contacted using the newcomoffice@ismb.it address. This is a reflector which means that all Network Office staff receive the message. Partners are kindly asked to use this reflector in future for contacting the Network Office.

2. Videoconference Facilities

The NEWCOM Videoconference Work Package has identified two software solutions for the Videoconference and Telemeeting needs of the NEWCOM Network. Of course, a webcam and microphone are necessary to use this software.

Work Package Leaders and Executive Board members are strongly encouraged to take the lead in testing the system and using it for their virtual meetings. Should you have any questions do not hesitate to contact Alessandro Buresta, Videoconference WP Leader buresta@ismb.it.

The software from LightComm has been sent to each partner with the invoices from the suppliers. The software from FeedBack ('easymeeting') can be downloaded following the instructions in the document at [\[this link\]](#) (username: boella, password: 12DL065). The LightComm software is more adapted to tutorials and distance teaching, and is expected to be used for the NEWCOM Summer and Winter and Doctoral Schools. This software may be installed on a single machine at each partner's premises. The EasyMeeting software is capable of supporting multicast and is excellent for meetings in high resolution. This software may be installed on as many partner machines as necessary, allowing the participation of multiple partner representatives in NEWCOM meetings. The software functions through attachment to the relative servers. The EasyMeeting server is installed at ISMB whereas

the LightComm server is at the University of Catania (partner 12). Passwords and first level support for the EasyMeeting software are available from Alessandro Buresta buresta@ismb.it. Passwords and first level support for the LightComm software are available from support@lightcomm.it

3. NEWCOM-ACoRN Cooperation

After signing the cooperation agreement, a joint Standing Committee has been formed in order to give legs to the joint activities. It is formed by Sergio Benedetto (NEWCOM), Jamie Evans (ACoRN), Lars Rasmussen (ACoRN), and Roberto Verdone (NEWCOM). The following issues were discussed during the first teleconference meeting:

a. Joint Workshop: Tentatively, to be confirmed by the end of September, the joint NEWCOM-ACoRN Workshop will take place in a major European city on September 20-22, 2006. It will consist of a tutorial day (the first day), followed by five half-day Technical Sessions presenting the main scientific achievements of the two networks members, and one half-day session devoted to a panel discussion on topics of common interest. The members of the Advisory Boards of NEWCOM and ACoRN will be invited to actively participate in the event.

b. Researchers/students exchange program: Open research positions in the institutions belonging to the networks will be posted on their respective websites. Candidates belonging to NEWCOM and ACoRN will be invited to fill those positions. Please note that NEWCOM positions are available on the NEWCOM website [\[link\]](#)

c. Coursework exchange: Residential courses taught by NEWCOM or ACoRN members (hopefully, joint initiatives will be organized) will

be coordinated in their location and dates, and advertised on the networks' websites. Participation will be open to both consortia. As to the PhD courses taught by NEWCOM members, NEWCOM will inform ACoRN partners on the HW/SW tools needed to participate in the courses, and attendees from ACoRN will be admitted if suitably equipped.

d. Joint editing of the special journal issues: A survey of the journal special issues presently in preparation, or for which there is an intention of preparing, will be conducted among the two networks. Based on the outcomes, possible merging of the editorial effort will be attempted when appropriate. New joint proposal will be solicited.

e. Smaller joint workshops: The planning of small (either inter or intradepartmental for NEWCOM) workshops will be as much as possible coordinated among the networks in order to avoid time conflicts and thus permit the attendance to those interested. Planning in advance and letting the other network know will also permit in some cases a joint organization.

B. Technical sections

[Michal Wodczak](#)

WPR.1 Analysis and Design of Algorithms for Signal Processing at Large in Wireless Systems, led by Philip Regalia

1. PUBLICATIONS

ISIK University (07) reported participation in preparation of the following papers, being the result of the joint research activities in NEWCOM:

- H.Senol, H.A.Çirpan, E.Panayirci, M.Çevik, "KL-Expansion Based Channel Estimator for Space-time/frequency Coded OFDM Systems with Transmitter Diversity" , COST 289, 8th 2nd Workshop on Spectrum and Power Efficient Broadband Communications, 6–8 July 2005, Kemer, Antalya, Turkey, [\[link\]](#).
- E. Panayirci, H. A. Cirpan, M. Moeneclaey, and N. Noels, "Blind Phase Noise Estimation in OFDM systems by sequential Monte Carlo method", 5th Int. Workshop on Multi-Carrier Spread Spectrum (MC-SS 2005), Sept. 14–16 2005, Oberpfaffenhofen, Germany.
- E. Panayirci, H. A. Cirpan, M. Moeneclaey, " A sequential Monte Carlo method for blind phase noise estimation and data detection", EUSIPCO 2005 NEWCOM Special Session on Advanced Signal Processing Algorithms for Wireless Communications, Sept.5–8, 2005, Antalya, Turkey.
- H. Senol, H. A. Cirpan, E. Panayirci, "Frequency selective fading channel estimation in OFDM systems using KL expansion", EUSIPCO 2005 , Special Session : OFDM and MC-CDMA Systems, Sept.5–8, 2005, Antalya, Turkey.
- O. Oguz, U. Aygolu, E. Panayirci., " Design and Performance Analysis of a Novel Trellis Coded Space-Time-Frequency Transmission Scheme", submitted to European Transaction on Telecommunications(ETT), August 2005. (submitted for publication)

WPR.3 Design, Modelling and Experimental Characterisation of RF and Microwave Devices and Subsystems, led by Abdullah Atalar

1. TECHNICAL REPORT

The latest WPR3 meeting took place in Torino on 29th of April with participation of 12 researchers from 7 institutions. The meeting aimed at increasing the cooperation and student exchange between the partners. This summer one student from POLITO and three students from Bilkent visited Chalmers University for a period of at least two months. During this period students developed new models and classes for use in the it++ package. Under the supervision of Prof. Thomas Eriksson the students have developed software tools to analyse the effect of power amplifier nonlinearities in an OFDM system. Nonlinearities produce inband and out of band distortions in the transmitted signal. Using it++ the students simulated the effect of nonlinearities on the BER performance with the presence of other OFDM systems in the adjacent channels. A publication is expected to come out of this cooperative effort.

The next WPR3 meeting will take place in Uppsala on the 22nd of September.

WPR.6 Protocols and Architectures, and Traffic Modeling for (Reconfigurable/Adaptive) Wireless Networks, led by Anna Brunstrom

1. TECHNICAL REPORT

The third WPR.6 meeting was held in Barcelona on the 15th and 16th of September. There were sixteen participants representing eight different partners. During the meeting the upcoming deliverables were discussed, the integrating activities were reviewed and the further work plan was settled. There was also an invited presentation from WPR. 7 to foster collaboration within the networking cluster.

The Second NEWCOM Department 6 Technical Workshop was also organized in conjunction with the Barcelona meeting. The workshop program provided a good overview of the ongoing research integration activities within the department and contained the following presentations (involving partners indicated in parenthesis):

- Implementation and validation of Westwood SCTP: a transport protocol for traffic balancing on multihomed hosts (ISMB, PoliTO).
- Transport mobility with SCTP (UPC).
- Transport protocol optimisation in adhoc networks (CNRS, UPF).
- Wireless networks emulation (CNRS, KaU).
- An analytical model of a rate-controlled MPEG-4 video source capturing both intra-frame and inter-frame correlation (UoS, UoC).
- An Analytical Model of Rate-Controlled MPEG Video Sources in a UMTS Network (UoC, UPC, Bilkent).

Work on joint publications covering most of the topics discussed during the workshop is in progress. Other recent important integrating activities include the research visits from CNRS to KaU, from CNRS to UPF and from KaU to UPF.

2. PUBLICATIONS

- Emmanuel Conchon, Johan Garcia, "Increasing the Determinism of Network Emulation to Evaluate Communication Protocols," CoNEXT 2005 Student workshop, Toulouse, October 2005.
- L. Galluccio, G. Morabito, G. Schembra, "Transmission of Adaptive MPEG Video over Time-Varying Wireless Channels: Modeling and Performance Evaluation," to appear in IEEE Transactions on Wireless.
- Mario Barbera, Salvatore Incardona, Giovanni Schembra, "Energy Evolution of Wireless Sensor Networks: An Analytical Approach," Proceedings of the 10th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA2005), Catania, Italy, September 19-22, 2005.
- Mario Barbera, Salvatore Incardona, Francesco Licandro, Giovanni Schembra, "Derivation of the Transmission Power Optimizing the Lifetime of a Sensor Network: an Analytical Approach," Proceedings of the 2nd International Symposium on Wireless Communication Systems 2005

(ISWCS2005), Siena, Italy, September 5–7, 2005.

- C. H. Liew, C. K. Kodikara, A. M. Kondo, "A Generalized Video Traffic Model for MPEG4 Encoded Video", IEEE Vehicular Technology Conference, Sept 2005, Dallas Texas USA.

WPR.A Ad Hoc and Sensor Networks, *led by Sergio Palazzo*

1. TECHNICAL REPORT

The main goal of Project A inside NEWCOM is to reinforce and integrate the European research in the area of Ad Hoc and Sensor Networks. The Project A partners have produced the third Project A deliverable (DRA.3), and they are currently working on the fourth deliverable which is expected by the end of October, 2005.

DRA.3 "First report on software libraries", released at the end of July 2005, is the natural consequence of one of the WPR.A activities, and in particular the one focused on the design and implementation of the models and architectures for the purposes of the ad hoc and sensor networks simulation, in order to overcome the limits of the currently available software tools. These tools in fact are often not adequate to capture the sharing of vertical information, which typically occurs in cross-layered designed ad hoc and sensor networks. In particular this document gives a general description, a formal description and a discussion of the open issues and proposed solutions for each software module implemented within the Project A. Since not all the reported modules are designed and implemented keeping into consideration a cross layer approach, the main goal of the present report is to identify the open issues of each software module, in particular with regard to a cross-layer approach, in order to upgrade and integrate them in the reference cross-layer architecture.

Regarding the joint research activities, according to the potential research results and priority of exploitation, the following integrated research activities have been selected by the partners during the first 12 months of activity:

- Fundamentals and theoretical bounds for ad hoc and sensor networks.
- Cross-layer design of sensor networks.
- Protocols and techniques for inter-vehicular networks and automotive applications.
- Simulation models and architectures for cross-layered ad hoc and sensor networks.

The partners participating in the integrated research activities have correspondingly activated appropriate task forces (TF); meetings between partners involved in the same TF will occur through both videoconference sessions and joint meetings. Exchange of student/faculty members will also be encouraged to finalize the research integration.

The deliverable DRA.3 is expected to be refined according to the comments from the Advisory Board. Also DRA.5 "Recommendations for the reference scenarios to be defined in E-MORANS and for the Knowledge Networking DB" is expected to be prepared, discussed and finalized by T0+20. Finally, the work inside each JPA will continue through the cooperation among the partners.

WPR.B Ultra-wide Band Communication Systems, led by Giorgio M. Vitetta**1. TECHNICAL REPORT**

All the ongoing technical work in WPR.B is organized according to 4 distinct work packages (WPRB.1–WPRB.4), each covering different areas of UWB research. Some details about the work in progress are given below.

WPRB.1 (channel modelling) – A joint research activity involving Eurecom, Aalborg University and Thales has investigated the main propagation mechanisms in UWB channels and the problem of physical modeling of these channels. This activity is resulting in a new proposal for UWB channel modelling. Eurecom will co-operate with Supelec in the next months to implement the new UWB channel model using the IT++ package. Other joint activities in this area concern the problem of including the distortion effect in the UWB channel models (due to the real world antennas) and that of mixed deterministic/statistical modeling of UWB channels. Finally, a joint paper entitled "The eigen-mode/singular-mode characteristics and capacity of the propagation channel", concerning the use of the so-called maximum entropy approach in UWB channel modelling, is currently being prepared by the UWB research groups working at Eurecom and Aalborg University.

WPRB.2 (physical layer algorithms) – At the moment the research work going on in this activity concerns the following topics: (1) the use of multilevel signalling and channel equalization algorithms in both time and frequency domains; (2) coexistence/interference problems in UWB systems. The former topic is being investigated by CNIT and Supelec, whereas the latter one is involving the universities of Ilmenau and Aachen. Technical papers about both topics are expected in the near future.

WPRB.4 (algorithms for synchronization and localization) – The research work in this activity is focusing on some technical problems in the area of synchronization in UWB systems. More specifically, the following problems are being considered: (a) performance analysis of parallel block acquisition in UWB low data rate communications; (b) analytical prediction of acquisition performance in UWB systems. These activities involve the following partners: Supelec, Chalmers University, CNIT, ISMB and ENST.

In July the deliverable DRB1.1 "Software platforms implementing UWB channel models" was uploaded to the NEWCOM server. This document is available in the WPR.B area of the NEWCOM web site (a personal user id and a password are needed for access).

WPR.C Functional Design Aspects of Future Generation Wireless Systems, led by Andrea Conti**1. TECHNICAL REPORT**

The WPR.C "Functional Design Aspects of Future Generation Wireless Systems" is a transversal project with the aim of investigating different aspects of the future wireless systems. The work package has been recently restructured and four partners (CNIT, NKUA-IASA, UoY, UU) are carrying the activity

towards the *Advanced Radio Resource Management (RRM) Techniques for future B3G wireless communication systems* with particular focus on the interaction of RRM techniques with the adaptive physical layer procedures (i.e., adaptive modulation and coding, partial equalization, etc.).

As decided in the recent meeting in Bologna, Italy, July 11, 2005, the main focus will be to investigate the adaptive cross-layer techniques and algorithms and extract some general universal conclusions that might be applicable to a number of wireless systems (e.g., WCDMA, MC-CDMA, UMTS-HSDPA, FH OFDMA, IEEE 802.20, etc.). As an example the performance of the adaptive scheduling implemented together with the adaptive modulation and coding or adaptive equalization techniques are studied for different wireless systems in a common scenario and taking into account common metrics. Consequently, the efficiency of different adaptive techniques at the physical layer, when adaptive scheduling is adopted, is a possible result, in particular if given as a general statement and not only for a particular system. To do this, each partner will run their available tool on a particular system but in a common scenario and carrying out the common metrics in the presence of joint cross-layer adaptive techniques. The inter-relations among adaptive techniques at different levels will be *relatively compared* to obtain some general results and rules. In order to avoid possible overlaps and achieve an seamless integration with other projects and departments, the project partners will maintain a close collaboration with other related activities that they also participate in (e.g. WPR.7 and WPR.E).

WPR.D Reconfigurable Radio for Interoperable Transceivers, led by Frederik Petré

1. PUBLICATIONS

Special issue of the EURASIP Journal on Wireless Communications and Networking (JWCN) on "Reconfigurable Radio for Future Generation Wireless Systems" was published on the 1st of August 2005, [\[link\]](#).

C. Newcom events

Philippe Ciblat

1. SEMINARS, DOCTORAL SCHOOLS AND COURSES

Tutorial School : **the design, the development, and the experimental validation of base stations and user terminals for wideband wireless communications in Bressanone (Italy) from October 10th to 14th, 2005.**

PRIMO research project deals with the design, the development, and the experimental validation of base stations and user terminals for wideband wireless communications systems, able to cope with those reconfigurability and interoperability characteristics required by the next generation mobile communication systems.

The main focus of the research is on the physical layer with the emphasis on the algorithms and architectures yielding bandwidth efficiency, low power, high capacity and reconfigurability to both mobile terminal and base station.

Besides the scientific objectives of the project, there is a plan to develop a national multi-pole centre for advanced studies on wireless systems, offering a broad range of research opportunities to young researchers and internationally renowned scholars. Moreover, a continuous and constructive cooperation among universities and industries will be pursued, so as to enrich the long-term innovative vision of the academy with the experience, assessment of relevance, sensibility to cost-effectiveness, and attention to the final product of the industry... [\[link\]](#)

NEWCOM Autumn School : **Estimation theory for wireless communications in Paris (France) from October 24th to 28th, 2005.**

This 5-day summer school will focus on new trends in estimation theory for wireless communications. More precisely, the purpose of this school is to provide the standard and new tools of the estimation theory used in practical estimation issues encountered in wireless

communications. It will be focused on the propagation channel estimation as well as on the synchronization issues. As for applications, it will be concentrated on the OFDM based systems and on the UWB system. [\[link\]](#)

2. NEWCOM MEETINGS / DEPARTMENT LIFE

2.1 ANNOUNCEMENT

NEWCOM Dept. 1 : plenary meeting for Work package 2 in November 3-4 in Castelldefels (Barcelona, Spain).

NEWCOM Dept. 2 Workshop : September 29-30 at FTW in Vienna (Austria) [\[link\]](#)

2.2 MINUTES

LNT (partner 28) held a joint workshop together with Prof. Vandendorpe's group (partner 38) to discuss the joint papers and cooperation.

Following NEWCOM's idea of cooperation among European research groups in the field of mobile and wireless communications, this common workshop was held at the deep space ground station of the German Aerospace Center (DLR) in Weilheim, Germany for the first time. Members of the Communications and Remote Sensing Laboratory (TELE) met with colleagues from the Institute for Communications Engineering (LNT) to discuss current research topics and cooperation. During this informal workshop each Ph.D. student of the above mentioned institutes had the possibility to present his latest results in a talk followed by discussions among the participants.

Besides technical discussions, this seminar provided the opportunity to get to know each other, especially for the participants who are not organized within a common department of NEWCOM. Furthermore it was also a great

opportunity to get the insight into the deep space communications during a tour held by Mr. Kolbeck, the leader of the ground station. At the end of the day there was a visit to the ancient Benedictiner monastery of Andechs, including the typical Bavarian food and beverages.

The picture presents the participants of the joint workshop in front of the 30 meter dish of the deep space ground station. From left to right: Pavol Hanus, Timo Mayer, Harold Sneessens, Nicolas Dütsch, Xavier Jaspar, Cédric Herzet, Luc Vandendorpe and Joachim Hagenauer.



The program of the workshop:

10.00: Compression of binary i.i.d. Sources based on FEC Codes by Nicolas Dütsch

10.30: Iterative Parameter Estimation and Associated Lower Bounds by Cédric Herzet

11.15: Performance Analysis of Variable Length Codes in Joint Source-Channel Turbo Schemes by Xavier Jaspar

11.45: Fountain Coding by Timo Mayer

14.00: Visit to DLR – Deep Space Ground Station by Ludwig Kolbeck

15.00: Soft Decode and Forward for Cooperative Communications by Harold Sneessens

15.30: Applications of Information and Coding Theory in Genetics by Pavol Hanus

3.WORKSHOP

Two Oral NEWCOM Special Sessions have been organized in the EURASIPCO 2005 held in Antalya, Turkey on 5-8 September 2005. The details of this Special Session are as follows.

NEWCOM Session on the Advanced Signal Processing Algorithms for Wireless Communications (I) ORAL

SESSION ORGANIZERS AND CHAIRS: Erdal Panayirci, Isik University, Turkey; Hakan Ali Cirpan, Istanbul University, Turkey.

08:30 SYNCHRONIZATION OF ENERGY CAPTURE RECEIVERS FOR UWB APPLICATIONS, Cecilia Carbonelli, Umberto Mengali, University of Pisa, Italy.

08:50 A FACTOR GRAPH APPROACH TO DESIGN CLOSE-TO-OPTIMAL RECEIVERS IN THE PRESENCE OF A TIMING UNCERTAINTY, Cédric Herzet, Luc Vandendorpe, Valéry Ramon, Université catholique de Louvain, Belgium.

09:10 CODE-AIDED JOINT CHANNEL AND FREQUENCY ESTIMATION FOR A ST-BICM MULTI-USER DS-CDMA SYSTEM, Mamoun Guenach, Frederik Simoens, Henk Wymeersch,

Marc Moeneclaey, Ghent University, Belgium

09:30 PEAK POWER REDUCTION IN OFDM SYSTEMS USING DYNAMIC CONSTELLATION SHAPING, Serdar Sezginer, Hikmet Sari, Supélec, France

09:50 OPTIMAL DESIGN OF NONCOHERENT CAYLEY UNITARY SPACE-TIME CODES, Jibing Wang, Qualcomm Inc., United States; Xiaodong Wang, Columbia University, United States; Mohammad Madihian, NEC Labs, United States

10:10 A SEQUENTIAL MONTE CARLO METHOD FOR BLIND PHASE NOISE ESTIMATION AND DATA DETECTION

NEWCOM Session on the Advanced Signal Processing Algorithms for Wireless Communications (II) ORAL

SESSION ORGANIZERS AND CHAIRS: Erdal Panayirci, Isik University, Turkey; Hakan Ali Cirpan, Istanbul University, Turkey

10:50 MULTI-RELAY STRATEGY FOR IMPERFECT CHANNEL INFORMATION IN SENSOR NETWORKS, Nima Khajehnouri, Ali H. Sayed, UCLA, United States

11:10 EVOLUTIONARY WIENER-MASK RECEIVER FOR MULTIUSER DIRECT SEQUENCE SPREAD SPECTRUM, Abdullah A. Alshehri, Jeddah College of Technology, Saudi Arabia; Luis F. Chaparro, University of Pittsburgh, United States; Aydin Akan, Istanbul University, Turkey

11:30 A SUBSPACE METHOD FOR CHANNEL ESTIMATION IN SOFT-ITERATIVE RECEIVERS, Monica Barbara Nicoli, Umberto Spagnolini, Politecnico di Milano, Italy

11:50 APPROXIMATE BEST LINEAR UNBIASED CHANNEL ESTIMATION WITH CFAR THRESHOLDING

FOR FREQUENCY SELECTIVE SPARSE MULTIPATH CHANNELS WITH LONG DELAY SPREADS, Serdar Özen, Izmir Institute of Technology, Turkey

12:10 HMM-BASED TRACKING OF MOVING TERMINALS IN DENSE MULTIPATH INDOOR ENVIRONMENTS, Monica Barbara Nicoli, Carlo Morelli, DEI - Politecnico di Milano, Italy; Vittorio Rampa, CNR - Politecnico di Milano, Italy; Umberto Spagnolini, DEI - Politecnico di Milano, Italy

Moreover the hard copy of the NEWCOM Special Issue on "Advance Signal Processing Algorithms for Wireless Communications", in the EURASIP Journal on Wireless Communications and Networking, vol 2005, no.2, 2005 was distributed in public during this conference.

D. Exchanges and position openings

[Charlotte Langlais](#)

In this section, any NEWCOM member and partner has the possibility to advertise for exchanges and position openings. This is the right place to exhibit:

1. Postdoc, PhD and Master position
2. Faculty and engineering openings,
3. Visiting researchers opportunities and exchanges,

The contributions should be send in ASCII (text) to charlotte.langlais@enst-bretagne.fr according to the format proposed below. The authors should provide a detailed version of the proposal on their own laboratory website. The NEWCOM forum web site is also an efficient tool to post such a message.

1. POSTDOC, PHD AND MASTER POSITIONS

Position: Post-doc

Date: 08/07/2005

Deadline: 15/10/2005

Field: wireless communications, information theory, channel modelling, antenna theory

Title: PostDoctoral Research Position in MIMO Channel Modeling

Author: Prof. Merouane Debbah

Partner: Eurecom Institute

Location: Sophia-Antipolis

Description: The Mobile Communication Group of Institut Eurecom located in Sophia-Antipolis (South of France near Nice) has an immediate opening for a full-time postdoctoral researcher in the area of MIMO channel modelling. Candidates with strong background/experience in one or more of the following areas are sought: channel-propagation modeling, MIMO, Probability Theory, Information theory, Antenna Theory and Design. To be considered, candidates must have published in at least one of the aforementioned areas, must have a PhD degree in Electrical Engineering/Physics by the time of appointment, and must have a strong command of English. The initial appointment is for nine months, with the possibility of extending it for 1 additional year depending on the candidate's performance and the availability of funds. Currently, the postdoctoral position is funded by a France Telecom grant. The core interest of the group is on wireless communication and more specifically on digital signal processing for mobile communications, information theory, experimental radio platforms, propagation and system level analysis, wireless network protocols and cross layer design. For more information, go to: [\[link\]](#).

Applicants should submit a CV, a research statement, and the names of at least two references to: debbah@eurecom.fr

Contact: : debbah@eurecom.fr

2. FACULTY AND ENGINEERING OPENINGS

NEWCOM partners and members are highly encouraged to submit their proposals for faculty and engineering openings.

3. VISITING RESEARCHERS OPPORTUNITIES AND EXCHANGES

NEWCOM partners and members are highly encouraged to submit their proposals for visiting researchers opportunities and exchanges.

E. Project proposal incubators

[Michal Wodczak](#)

NEWCOM European Wireless Business Idea Competition “Mario Boella”, Torino, September 2005.

The ongoing NEW Business Idea Competition “Mario Boella” is the second task included in the NEWCOM WPM.6 work package on the topic of the IPR management and exploitation, managed by I3P Torino.

The contest has the objective to foster and stimulate the entrepreneurial attitude of researchers and it offers to participants the opportunity to be confronted with ideas and people involved in the wireless technologies field.

The 14 participant business ideas, coming from 7 European countries, will be evaluated by the international Evaluating Committee made up of entrepreneurs, technology experts and venture capitalists.

- **Sergio Benedetto** *Politecnico di Torino, Italy* (Chairman)
- **Colin Alexander** *Oxford Innovation Ltd, UK*
- **Yigal Erlich** *Yozma, Israel*
- **Erik Furu** *Technopolis Ventures Ltd, Finland*
- **Claudio Giuliano** *Torino Wireless, Italy*
- **Heinrich Meyr** *RWTH Aachen, Germany*
- **Jean-Claude Sabonnadiere** *INPG, France*

Thanks to the sponsorship of the Torino Wireless Foundation, I3P will award the following cash prizes to the best three business ideas:

1st PRIZE 10.000 euro

2nd PRIZE 5.000 euro

SPECIAL PRIZE NEWCOM 7.500 euro (for Newcom members only)

The awarding ceremony will be hosted in Turin, December 2nd 2005

More info on [\[link\]](#). Contacts: Federico Sarti (sarti@i3p.it)

SUBSCRIPTION AND ADVERTISEMENTS

SUBSCRIPTION

To subscribe to or unsubscribe from the NEWCOM Newsletter please contact with Mario Chiesa (ISMB), the Publication Editor, at chiesa@ismb.it

ADVERTISEMENTS

To advertise any special news please contact with the editor of the most relevant section or with the EIC (mwodczak@et.put.poznan.pl)