2006 IEEE Seventh Workshop on Signal Processing Advances in Wireless Communications

WORKSHOP PROGRAM

July 2-5, 2006

Hotel Novotel Cannes Montfleury

Cannes, French Riviera
France
2006 IEEE Seventh Workshop on Signal Processing Advances in Wireless Communications

July 2-5, 2006, Cannes, France

SPAWC 2006, the seventh IEEE International Workshop on Signal Processing Advances for Wireless Communications returns to France to celebrate a first decade of SPAWC workshops, with focus on recent advances in signal processing for wireless and mobile communications, as well as for communications in general. SPAWC was initiated in 1997 when some signal processing researchers in Paris, who were heavily involved in blind channel estimation, started to realize that signal processing for communications was becoming identifiable as an area of its own. The introduction of SPAWC also led to a reorganization of some technical committees in the IEEE Signal Processing society and to the creation of the Signal Processing for Communications TC.

The SPAWC workshop brings together members of the signal processing, communications and information theory communities, working in universities, research centers and telecommunications companies.

The meeting features five keynote addresses by leading researchers, as well as contributed poster presentations. For SPAWC 2006, some 250 papers were submitted of which 144 were accepted after expert review. The resulting acceptance ratio of 58% promises a high caliber technical program.
# TABLE OF CONTENTS

- CONFERENCE PROGRAM AT A GLANCE ...........................................4
- WELCOME FROM THE GENERAL CHAIR.....................................6
- SPONSORS OF IEEE SPAWC’06...................................................7
- ORGANIZING COMMITTEE............................................................8
- TECHNICAL PROGRAM COMMITTEE...........................................9
- INFORMATION ON SOCIAL PROGRAM.......................................10
- OVERVIEW OF TECHNICAL PROGRAM.....................................11
- PLENARY PROGRAM.................................................................12
- TECHNICAL SESSIONS..............................................................17
- USEFUL MAPS............................................................................36
- AUTHOR INDEX...........................................................................39
<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>* Social program *</th>
<th>Californie</th>
<th>Oslo</th>
<th>Stockholm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>06:30 PM- 08:30 PM</td>
<td>Welcome Cocktail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mon</td>
<td>09:00 AM- 10:00 AM</td>
<td>Plenary: Single Antenna MIMO Transceivers, A New Challenge for Signal Processing, by Ralf Muller (NTNU)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00 AM- 11:15 AM</td>
<td>Blind estimation</td>
<td></td>
<td></td>
<td>Space-time coding</td>
</tr>
<tr>
<td></td>
<td>11:15 AM- 11:30 AM</td>
<td>Coffee Break II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:30 AM- 12:45 PM</td>
<td>Precoding and decoding for MIMO</td>
<td></td>
<td></td>
<td>Communication theory</td>
</tr>
<tr>
<td></td>
<td>12:45 PM- 02:15 PM</td>
<td>Lunch at conference hotel (included in reg. package)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>02:15 PM- 03:15 PM</td>
<td>Plenary: Cross Layer Optimization in Large Wireless Networks using Stochastic Geometry, by Francois Baccelli (ENS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>03:15 PM- 03:30 PM</td>
<td>Coffee break II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>03:30 PM- 04:45 PM</td>
<td>Multiple-antenna communications systems I</td>
<td></td>
<td></td>
<td>Multicarrier techniques I, Adhoc and sensor networks</td>
</tr>
<tr>
<td></td>
<td>06:00 PM- 11:00 PM</td>
<td>Boat trip and Gala dinner (Boscolo Palace Hotel, Nice)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>09:00 AM- 10:00 AM</td>
<td>Plenary: A Random-Channel Graph-Theoretic Perspective of Wireless Networks, by Bert Hochwald (Beceem)</td>
<td></td>
<td>Resource allocation and cross-layer design</td>
<td>Multicarrier techniques II, Advanced transmitter and</td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
<td>Room</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------</td>
<td>---------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:15 AM-11:30 AM</td>
<td>Coffee break III</td>
<td></td>
<td>receiver design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 AM-12:45 PM</td>
<td>Broadcast channel techniques</td>
<td></td>
<td>Ultra-wideband systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:45 PM-02:15 PM</td>
<td>Lunch at conference hotel (included in reg. package)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02:15 PM-03:15 PM</td>
<td>Plenary: On the Sufficiency of Ignorance, Recent Lessons in Network Architecture, by Gregory Wornell (MIT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03:15 PM-03:30 PM</td>
<td>Coffee break IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03:30 PM-04:45 PM</td>
<td>Equalization</td>
<td></td>
<td>Estimation and detection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:00 AM-10:00 AM</td>
<td>Plenary: Signal processing and spectrum management in multi-user wireline (xDSL) systems, by Marc Moonen (KUL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 AM-11:15 AM</td>
<td>Cooperative wireless (relay) networks</td>
<td></td>
<td>Multi-user MIMO communications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:15 AM-11:30 AM</td>
<td>Coffee break V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 AM-12:45 PM</td>
<td>Multi-user communications</td>
<td></td>
<td>Multiple-antenna communications systems II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WELCOME FROM THE GENERAL CHAIR

On behalf of the Organizing Committee, it is my pleasure to welcome all SPAWC 2006 participants to the Côte d’Azur. As we all have come to expect from SPAWC workshops, this year’s edition again promises an exciting technical program. SPAWC 2006 is held in Cannes, which is famous for its annual film festival. Perhaps lesser known is that Cannes was until last year also famous for the 3GSM World Congress, one of the biggest annual fairs in wireless communications. Cannes is in many ways the glamorous face of Sophia Antipolis. Established 30 years ago in the olive groves located between Nice and Cannes, Sophia Antipolis is Europe's largest and permanently expanding science and technology park, with 1 276 establishments and 26 650 jobs. Information Technologies represent 26% of the companies based in Sophia Antipolis, 49% of the jobs and 29% of the park's premises. Sophia Antipolis is the home of the European Telecommunications Standards Institute (ETSI) which introduced GSM. Telecommunications and Information Technology on the Côte d'Azur and in Sophia Antipolis cover a wide range of industries - from computing and multimedia to telecom, wireless communications, microelectronics, ITS/embedded systems, space, information processing, on-line services and networking.

Within France, the number one tourist attraction in the world, the Côte d’Azur ranks second, after Paris, in hosting visitors to a wide range of attractions: shopping in Cannes, the opera, old town and the museums of Chagall and Matisse in Nice, Marineland in Antibes, the Rothschild villa and gardens in Saint-Jean Cap Ferrat, strolling in Saint-Paul de Vence, Eze, Monaco, Saint-Tropez or just about any historic town, sea-side or other, perfume manufacturing traditions in Grasse, etc. The Côte d’Azur is also the sea front of the Provence region. Provence has some of the most spectacular landscapes (e.g. Gorges du Verdon) in Europe and has been the inspiration of countless writers and artists. If you have time, you can take a tour of Provence’s magnificent lavender fields, which are in full bloom in July. 2006 is also the year of Cezanne, Provence’s most famous painter, with special exhibitions organized in the town of Aix-en-Provence. From there, Arles, the ancient Roman town that inspired some of Van Gogh’s finest works is also close by.

Transportation between coastal towns can be done conveniently by train. Taxis are expensive and taxi drivers may take advantage of tourists. Information on an arranged taxi service to and from the airport can be found on the SPAWC web site, where information on a convenient bus alternative appears also. As in any major tourist spot, attention has to be paid to pickpockets, bag snatchers, valuables in the hotel and elsewhere, car doors need to be kept locked etc. In France, tipping is not compulsory but always appreciated. The first week of July is in plain tourist season but still before the peak in tourist influx.

I would like to extend my warmest thanks to all the other members of the organizing committee, especially David for handling the web site and program, and Pierre and Corinne for handling registrations and other financial tasks; the technical program committee for their reviewing work, and the student team for their help in many small ways.
SPONSORS OF IEEE SPAWC 2006

The 7th IEEE SPAWC workshop is proud to acknowledge support by a number of institutional and industrial partners. We would like to express our warmest thanks to all our sponsors as well as to the IEEE SP Society.

Gold sponsors:

- Texas Instruments, France
- Cote-d'Azur Regional Council

Sponsors:

- France Telecom Research and Development
- Centre National de la Recherche Scientifique (CNRS)
- Institut Eurecom
- Centre pour l'Energie Atomique (CEA)
ORGANIZING COMMITTEE

- Dirk Slock Eurecom, France (General Chair)
- Miguel Lagunas CTTC, Spain (General Co-Chair)
- David Gesbert Eurecom, France (Technical Program Chair)
- Helmut Boelcskei ETHZ, Switzerland (Technical Program Co-Chair)
- Pierre Comon UNSA/CNRS-I3S, France (Finance Chair)
- Merouane Debbah Eurecom, France (Local Arrangements)
- Aawatif Menouni Hayar, Eurecom, France (Publications)
- Corinne Jullien, CNRS-I3S, France (Administration and Registration)
- Jean-Luc Dugelay, Eurecom, France (Publicity)

Warm thanks are due to our team of students from the Eurecom Institute, I3S/CNRS and INRIA for their valuable help before and during the workshop, including:

- Nicolas Bonneau (Eurecom/INRIA)
- Jinhui Chen (Eurecom)
- Ruben De Francisco (Eurecom)
- Raul De Lacerda (Eurecom/GTEL)
- Nadia Fawaz (Eurecom/DGA)
- Majed Haddad (Eurecom)
- Saad Kiani (Eurecom)
- Marios Kountouris (Eurecom/FT)
- Selim Mekrazi (Eurecom)
- Farukh Munir (Eurecom)
- Huu Nghia Nguyen (Eurecom)
- Myriam Rajih (I3S)
- Rachid Saadane (Eurecom)
- Tayeb Sadiki (Eurecom)
- Antony Schutz (Eurecom)
- Issam Toufik (Eurecom)
- Mahdi Triki (Eurecom)
TECHNICAL PROGRAM COMMITTEE

D. Gesbert (TPC Chair) and Helmut Boelcskei (TPC co-Chair)

TPC members:

- K. Abed Meraim ENST Paris, F
- N. Al-Dhahir UT Dallas, USA
- S. Barbarossa U. of Rome, I
- E. Biglieri Politecnico Torino, I
- H. Boche Heinrich-Hertz IT, G
- J.-P. Delmas INT, France
- L. Deneire I3S-UNSA, F
- P. Duhamel Supelec, France
- H. El Gamal Ohio SU, USA
- J.R. Fonollosa UPC, Spain
- M. Ghogho U Leeds, UK
- G. Giannakis U Minnesota, USA
- A. Goldsmith Stanford U., USA
- F. Hlawatsch Vienna UT, AT
- R.W. Heath Jr. UT Austin, USA
- Yingbo Hua UC Riverside, USA
- V. Koirvunen HUT, Finland
- G. Leus TU Delft, NL
- Ph. Loubaton U of Marne-la-Vallee, F
- J.H. Manton U Melbourne, AU
- M. Moonen KUL, Belgium
- B. Ottersten KTH, Sweden
- G. Oien NTNU, Norway
- C. Papadias Lucent Tech., USA
- A. Perez CTTC Spain
- S.-M. Phoong NTU, Taiwan
- V. Poor Princeton, USA
- B. D. Rao UCSD, USA
- P.A. Regalia CUA, USA
- B.M. Sadler ARL, USA
- A.H. Sayed UCLA, USA
- A. Scaglione Cornell U, USA
- P. Schniter Ohio SU, USA
- N. Sidiropoulos TU Crete, Greece
- L. Tong Cornell U, USA
- M.K. Tsatsanis Aktino Inc., USA
- A. Swami ARL, USA
- L. Vandendorpe UCL, Belgium
- A.-J. van der Veen TU Delft, NL
- G. Vazquez UPC, Spain
- X. Wang Columbia U, USA
- G. Wornell, MIT, USA
- X.-G. Xia U Delaware, USA
- Z. (Daniel) Xu UC Riverside, USA
**INFORMATION ON SOCIAL PROGRAM**

**Welcome Cocktail, Coffee Breaks, Lunches**
Full and student rate registrations give access to Sunday's welcome cocktail which is served at the conference hotel (Novotel) from 6.30pm to 8.30pm, as well as all coffee breaks.
Note that lunches (at the conference hotel restaurant) for Monday and Tuesday are included in the registration fees for all attendees.

**Boat trip and gala dinner**
A cruise boat trip and gala dinner are organized on Monday 3rd July, evening.
The boat trip (1 hour) from Cannes to Nice (and return by bus) is included in full and student rate registration fees.
The gala dinner is included in the full registration only. The dinner will be served at 8.30 pm at the Roof Terrace of the Boscolo Plaza Hotel in Nice (see map shown on page 38). The dinner will be preceded with refreshments served from 8pm to 8.30pm.
Availability to both the boat trip and the gala dinner is limited. Extra tickets may be available for purchase if room is available (upon request).
The boat trip will leave participants in the Port of Nice. A gentle stroll around the castle hill and along the beachwalk will take you about 25 minutes to reach the banquet restaurant located at 12, avenue de Verdun.
For those not attending the banquet dinner, there are numerous restaurants located downtown Nice, particularly in the charming “Old Nice” (Vieux Nice) area, shown in the map on page 38, 5 minutes walk from the port. The port itself provides excellent, less touristy, fish restaurant opportunities.

*A boat trip? Thanks but no thanks..*  
For those who prefer a bus transfer from Cannes to Nice (and return) rather than the boat, a special bus will be chartered. Please signal your preference if need arises to Corinne Jullien on Sunday or Monday.
The chartered bus will leave the conference hotel at 6.30pm.

**Meeting time and place for the boat trip**
Two boats will leave Cannes between 6.15 pm and 6.30pm on Monday 3rd July. The departure point is located as per the map shown in the end of this booklet. If you decide to walk from the Conference Hotel, please allow enough time, say 30-40 min, to avoid missing the boat.
A group departure will be organized from the conference hotel, to walk down to the port. The group departure is at 5.30pm. For those who miss the boat, they can use taxi (very expensive) or preferably the train to reach Nice (about 40 train ride).

**Return to Cannes (by bus)**
A bus ride back to Cannes is organized for all attendees (student rate and full registrants) after dinner. Busses will leave around 11pm - 11.30pm from the Boscolo Plaza Hotel.
## TECHNICAL PROGRAM AT A GLANCE

All sessions take place in rooms located in the lower level of the conference hotel, pool side.

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Room: Californie</th>
<th>Room: Oslo</th>
<th>Room: Stockholm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>09:00AM-</td>
<td>**Plenary: Single Antenna MIMO Transceivers, A New Challenge for Signal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00AM</td>
<td>Processing, by Ralf Muller (NTNU, Norway)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00AM-</td>
<td></td>
<td><strong>Blind estimation</strong></td>
<td><strong>Space-time coding</strong></td>
</tr>
<tr>
<td></td>
<td>11:15AM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:30AM-</td>
<td></td>
<td><strong>Precoding and decoding for MIMO</strong></td>
<td><strong>Communication theory</strong></td>
</tr>
<tr>
<td></td>
<td>12:45PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>02:15PM-</td>
<td>**Plenary: Cross Layer Optimization in Large Wireless Networks using Stochastic</td>
<td></td>
<td>**Multicarrier techniques II, Advanced</td>
</tr>
<tr>
<td></td>
<td>03:15PM</td>
<td>Geometry, by Francois Baccelli (ENS, France)</td>
<td></td>
<td>transmitter and receiver design**</td>
</tr>
<tr>
<td></td>
<td>03:30PM-</td>
<td><strong>Multiple-antenna communications systems I</strong></td>
<td>**Multicarrier techniques I, Adhoc and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>04:45PM</td>
<td></td>
<td>sensor networks**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09:00AM-</td>
<td>**Plenary: A Random-Channel Graph-Theoretic Perspective of Wireless Networks,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00AM</td>
<td>by Bert Hochwald (Beceem, US)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00AM-</td>
<td><strong>Resource allocation and cross-layer design</strong></td>
<td>**Multicarrier techniques II, Advanced</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:15AM</td>
<td></td>
<td>transmitter and receiver design**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:30AM-</td>
<td><strong>Broadcast channel techniques</strong></td>
<td><strong>Ultra-wideband systems</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:45PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>02:15PM-</td>
<td>**Plenary: On the Sufficiency of Ignorance, Recent Lessons in Network Architecture, by Gregory Wornell (MIT, US)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>03:30PM-</td>
<td><strong>Equalization</strong></td>
<td><strong>Estimation and detection</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>04:45PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>09:00AM-</td>
<td>**Plenary: Signal processing and spectrum management in multi-user wireline (xDSL) systems, by Marc Moonen (KUL, Belgium)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00AM-</td>
<td></td>
<td><strong>Cooperative wireless (relay) networks</strong></td>
<td><strong>Multi-user MIMO communications</strong></td>
</tr>
<tr>
<td></td>
<td>11:15AM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:30AM-</td>
<td><strong>Multi-user communications</strong></td>
<td><strong>Multiple-antenna communications systems II</strong></td>
<td><strong>Communication theory</strong></td>
</tr>
<tr>
<td></td>
<td>12:45PM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PLENARY PROGRAM

PLENARY I: Single Antenna MIMO Transceivers: A New Challenge for Signal Processing

Monday July 3, 9-10am, Californie

Prof. Ralf Mueller
Norwegian University of Technology - NTNU (Trondheim, Norway)

Abstract:

New kinds of MIMO transceivers are explored which are composed of only a single dipole antenna surrounded by parasitic elements in close vicinity (can be much closer than a wavelength). Steering the conductivity of these parasitic elements within fractions of a symbol duration and oversampling the received signal at the dipole at an appropriate rate, a similar effect as with a multi-element MIMO antenna can be achieved. This reduction in physical size is achieved at the expense of some drawbacks with respect to complexity of the required signal processing, power efficiency and resistance to adjacent channel interference.

Bio of the speaker:

Ralf R. Müller was born in Schwabach, Germany, 1970. He received the Dipl.-Ing. and Dr.Ing. degree with distinction from University of Erlangen-Nuremberg in 1996 and 1999, respectively. From 2000 to 2004, he was with Forschungszentrum Telekommunikation Wien (Vienna Telecommunications Research Center) in Vienna, Austria. Since 2005 he has been a full professor at the Department of Electronics and Telecommunications at the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway. He held visiting appointments at Princeton University, U.S.A., Institute Eurecom, France, The University of Melbourne, Australia, and The National University of Singapore and was an adjunct professor at Vienna University of Technology. Dr. Müller received the Leonard G. Abraham Prize (jointly with Sergio Verdú) from the IEEE Communications Society and the Johann-Philipp-Reis Prize (jointly with Robert Fischer). He was also presented an award by the Vodafone Foundation for Mobile Communications and two more awards from the German Information Technology Society (ITG). Dr. Müller is currently serving as an associate editor for the IEEE Transactions on Information Theory.
PLENARY II: Cross Layer Optimization in Large Wireless Networks using Stochastic Geometry

Monday July 3, 2.15-3.15pm, Californie

Prof. Francois Baccelli
Ecole Normale Superieure (Paris, France)

Abstract:

The geometry of the location of mobiles and/or base stations plays a key role in several classes of wireless communication networks where it determines the signal to interference ratio for each potential channel and hence the possibility of establishing simultaneously some set of communications at a given bit rate. Stochastic geometry provides a natural way of defining and computing macroscopic properties of such networks, by some averaging over all potential geometrical patterns for e.g. the mobiles. The talk will survey recent results obtained by this approach for analyzing key properties of wireless networks such as coverage or connectivity, and for evaluating the performance of a variety of protocols used in this context such as medium access control or routing.

Bio of the speaker:

Francois Baccelli got his "doctorat d'etat" from Universite Paris-Sud in 1983. He then held research positions with INRIA Rocquencourt until 1987 and with INRIA Sophia Antipolis until 1998. He was also a part time professor at Ecole Polytechnique, from 1991 until 2003. He is currently INRIA "directeur de recherche" in the computer science department of Ecole Normale Superieure in Paris, where he started a new research group on communication networks in 1999. F. Baccelli is a specialist of the stochastic modeling and the design of networks. His current research interests are focused on two topics: the analysis and control of large IP networks and the development of new tools for assessing and exploiting the capacity of wireless access networks. He coauthored two books: one on queuing theory with P. Bremaud and one on discrete event networks with G. Cohen, G.J. Olsder and J.P. Quadrat. He was a partner in several European projects, like IMSE, ALAPEDES and EURONGI, and he was the coordinator of the QMIPS Basic Research Action. F. Baccelli is a member of the French Academy of Sciences.
PLENARY III: A Random-Channel Graph-Theoretic Perspective of Wireless Networks

Tuesday July 4, 9-10am, Californie

Dr. Bertrand Hochwald
Chief Scientist, Beceem Communications, USA

Abstract:

There are many parameters that govern data flows in wireless networks, among them: mobility, usage, service, and connectivity. The connectivity between nodes clearly has a strong influence on the way data passes between nodes and the total data traffic possible in the entire network. Unlike wireline networks, where increased connectivity generally leads to increased flow, in wireless networks increased connectivity can also lead to increased interference and therefore possibly reduced flow. I discuss a model where connectivity is driven by a purely random event, such as the existence of an obstacle, and show how the choice of random event can have a large influence on traffic flows in a wireless network. Using graph-theoretic tools, I give some implications for an "optimal" amount of connectivity.

Bio of the speaker:

Bertrand Hochwald was born in New York, NY. He received his undergraduate education from Swarthmore College, Swarthmore, PA and the M.S. in electrical engineering from Duke University, Durham, NC. From 1986 to 1989 he worked for the Department of Defense at Fort Meade, MD. In 1989 he enrolled at Yale University, New Haven, CT, where he received the M.A. in statistics and the Ph.D. in electrical engineering. In 1995-1996 he was a research associate at the Coordinated Science Laboratory, University of Illinois, Urbana-Champaign. He joined the Mathematics of Communications Research Department at Lucent Technologies Bell Laboratories in September 1996, where he became a Distinguished Member of the Technical Staff in 2002. He is now with Beceem Communications as their Chief Scientist. He is the recipient of several achievement awards while employed at the Department of Defense and the Prize Teaching Fellowship at Yale. He has served as an editor for several IEEE journals and given plenary and invited talks on various aspects of signal processing and communications. He has several patents in the field of wireless communication, and was a co-recipient of this year's Stephen O. Rice paper award from the IEEE Transactions on Communications.
PLENARY IV: On the Sufficiency of Ignorance: Recent Lessons in Network Architecture

Tuesday July 4, 2.15-3.15pm, Californie

Prof. Gregory Wornell
Massachusetts Institute of Technology -MIT (USA)

Abstract:
With its emphasis on fundamental limits, information theoretic analysis has a long history of providing important architectural insights into the design of efficient communication systems. Frequently, these insights have arisen from uncovering when certain kinds of system constraints do *not* incur a cost in the performance metric of interest. This tradition is alive and well, with many such insights from the community over the past decade or more now influencing the design of several emerging systems. Today, there continues to be much work seeking to uncover additional instances of such phenomena that may prove important in tomorrow's systems. In this talk, I will describe three diverse but representative examples from our own efforts. In particular, I will discuss the problems of parasitic communication, MIMO scheduling, and rateless coding. Based on a variety of joint works in recent years with subsets of Richard Barron, Brian Chen, Aaron Cohen, Stark Draper, Uri Erez, Emin Martinian, Urs Niesen, Devavrat Shah, Charles Swannack, Elif Uysal-Biyikoglu, and Mitchell Trott.

Bio of the speaker:
Gregory W. Wornell received the B.A.Sc. degree from the University of British Columbia, Canada, and the S.M. and Ph.D. degrees from the Massachusetts Institute of Technology, all in electrical engineering and computer science, in 1985, 1987 and 1991, respectively. Since 1991 he has been on the faculty at MIT, where he is Professor of Electrical Engineering and Computer Science and leads the Signals, Information, and Algorithms Laboratory. He is also co-director of the Center for Wireless Networking, and Chair of Graduate Area I (Systems, Communication, Control, and Signal Processing) within the department's doctoral program. He has held visiting appointments at the former AT&T Bell Laboratories, Murray Hill, NJ, the University of California, Berkeley, CA, and Hewlett-Packard Laboratories, Palo Alto, CA. His research interests and publications span the areas of signal processing, digital communication, and information theory, and include algorithms and architectures for wireless and sensor networks, broadband systems, and multimedia environments. He has been involved in the Signal Processing and Information Theory societies of the IEEE in a variety of capacities, and maintains a number of close industrial relationships and activities. He has won a number of awards for both his research and teaching, and is a Fellow of the IEEE.
PLENARY V: Signal processing and spectrum management in multi-user wireline (xDSL) systems

Wednesday July 5, 9-10am, Californie

Prof. Marc Moonen
Catholic University of Leuven - KUL (Leuven, Belgium)

Abstract:
In modern Digital Subscriber Line (DSL) systems, multi-user crosstalk is the major source of performance degradation. Multi-user techniques for mitigating crosstalk are based on the coordination of the different users in the network, and this can be done on either a spectral or signal level. We will focus on spectra coordination ('dynamic spectrum management', DSM) as well as multi-user signal coordination (crosstalk cancellation and precoding), as well as on the combination of DSM with partial cancellation, and present optimization procedure as well as simulation results for practical scenarios.

Bio of the speaker:
Marc Moonen received the electrical engineering degree (186) and the PhD degree in applied sciences (1990) from Katholieke Universiteit Leuven, Leuven, Belgium. Since 2004 he is a Full Professor at the Electrical Engineering Department of Katholieke Universiteit Leuven, where he is currently heading a research team of 16 PhD candidates and postdocs, working in the area of numerical algorithms and signal processing for digital communications, wireless communications, DSL and audio signal processing.

He received the 1994 K.U. Leuven Research Council Award, the 1997 Alcatel Bell (Belgium) Award (with Piet Vandaele), the 2004 Alcatel Bell (Belgium) Award (with Raphael Cendrillon), and was a 1997 'Laureate of the Belgium Royal Academy of Science'. He received a journal best paper award from the IEEE Transactions on Signal Processing (with Geert Leus) and from Elsevier Signal Processing (with Simon Doclo), and 3 conference best paper awards. He was chairman of the IEEE Benelux Signal Processing Chapter (1998-2002), and is currently a EURASIP AdCom Member (European Association for Signal Processing, 2000-) and a member of the IEEE Signal Processing Society Technical Committee on Signal Processing for Communications. He has served as Editor-in-Chief for the 'EURASIP Journal on Applied Signal Processing' (2003-2005), and has been a member of the editorial board of 'IEEE Transactions on Circuits and Systems II' (2002-2003) and 'IEEE Signal Processing Magazine' (2003-2005). He is currently, and a member of the editorial board of 'Integration, the VLSI Journal', 'EURASIP Journal on Applied Signal Processing' and 'EURASIP Journal on Wireless Communications and Networking' and 'Signal Processing'.

16
TECHNICAL POSTER SESSIONS

Monday, July 3

10:00 AM - 11:15 AM

Blind estimation
ROOM: Oslo

1-Blind carrier phase estimation for non-equiprobable constellations
   Roberto López Valcarce (Universidad de Vigo, Spain); Carlos Mosquera
   (Universidad de Vigo, Spain)

2- Adaptive asynchronous CCI cancellation: Selection of the regularization
   parameter for regularized semi-blind technique
   Alex Kuzminskiy (Bell Laboratories, Lucent Technologies, United Kingdom); Yuri
   ABRAMOVICH (Cooperative Research Centre for Sensor Signal and Information
   Processing, Australia)

3-Identifiability of BPSK, MSK and QPSK FIR SISO channels from modified
   second-order statistics
   Jean-Pierre Delmas (INT, France); Pierre Comon (CNRS, France); Yann
   Meurisse (Institut National des Télécommunications, France)

4-A blind feedforward frequency offset estimator for OFDM systems in multipath
   channels
   Tilde Fusco (University of Naples, Italy); Mario Tanda (Università di Napoli
   Federico II, Italy)

5-Convolutive Separation of i.i.d. signals based on Simultaneous Tensors
   Diagonalization
   Saloua Rhioui (ISITV, France); Eric Moreau (ISITV, France)

6-Second-Order Blind Source Separation: a new Expression of Instantaneous
   Separating Matrix for Mixtures of Delayed Sources
   Gilles Chabriel, Jean Barrere (Université du Sud - Toulon Var, France)

7-Subspace-Based Blind Channel Identification for Orthogonal Modulation
   Andrew Klein (Supélec/LSS, France); Pierre Duhamel (LSS SUPELEC, France)

8-Blind Channel Equalization in Downlink MC-CDMA Systems Exploiting Guard
   Interval Redundancy and Excess Codes
   Djebbar Ahmed Bouzidi (University of UVHC, France)

9-Blind Linearization of Nonlinear Channels using a Repetition/modulation
   Precoder
   Alain Kibangou (Laboratoire I3S/CNRS/UNSA, France); Favier Gérard
   (Université de Nice, France)
Space-time coding

ROOM: Stockholm

1-New Diversity-Embedding STBC Constructions
   Naofal Al-Dhahir (University of Texas at Dallas, USA); Sushanta Das (University of Texas at Dallas, USA)

2-Performance of Low-Density Parity Check with Space-Time Block coded MC-CDMA systems and Soft-Interference Cancellation
   Luis Paredes (Polytechnical University of Madrid, Spain)

3-Two stage Bit-interleaved coded modulation for multiple-input multiple-output channels
   Hadi Sawaya (Saint Joseph University, Lebanon)

4-Choice of appropriate space-time coding scheme for MIMO systems employing channel coding under BICM
   Mohammad Khalighi (Ecole Centrale de Marseille, France)

5-Design of Serially-Concatenated LDGM coded MIMO systems
   Francisco Vázquez-Araújo (University of A Coruña, Spain); Miguel González-López (Universidad de A Coruña, Spain); Luis Castedo (Universidad de A Coruña, Spain); Javier Garcia-Frias (University of Delaware, USA)

6-Reconfigurable Low Density Parity Check (LDPC) Code Interleaving for SISO and MIMO OFDM Systems
   Markus Mueck (Motorola Labs, France); Stephanie Rouquette-Leveil (Motorola Labs, France); Marc de Courville (Motorola, France)

7-Codebook design for the non-coherent GLRT receiver and low SNR MIMO block fading channel
   Marko Beko (ISR-IST, Portugal); João Xavier (I.S.T. - Technical U. Lisbon / I.S.R. Lisbon, Portugal); Victor Barroso (Instituto Superior Técnico, Portugal)

8-Information Lossless Full-Rate Full-Diversity Trace-Orthogonal Space-Time Codes
   Antonio Fasano (University of Roma "La Sapienza", Italy); Sergio Barbarossa (University of Rome, Italy)

9-Space-Time Multiplexing Codes: A Tensor Modeling Approach
   André de Almeida (University of Nice - Sophia Antipolis, France); Favier Gérard (Université de Nice, France); Joao Mota (UFC, Brazil)

10-Capacity approaching layered MIMO schemes for quasi-static fading channels
   Meritxell Lamarca (Technical University of Catalonia, Spain); Hanqing Lou (University of Delaware, USA); Javier Garcia-Frias (University of Delaware, USA)
11:30 AM - 12:45 PM

Precoding and decoding for MIMO

ROOM: Oslo

1-Spatial Precoder Design for Differential Space-Time Coded Systems: Based on fixed parameters of MIMO channels
Tharaka Lamahewa (The Australian National University, Australia); Van Khanh Nguyen (Deakin University, Australia); Thushara Abhayapala (Australian National University, Australia); Rodney Kennedy (Australian National University, Australia)

2-Tree-based reparameterization for symbol detection in spatially multiplexed MIMO systems in frequency flat fading
Cheran Vithanage (University of Bristol, United Kingdom); Christophe Andrieu (University of Bristol, United Kingdom); Robert Piechocki (University of Bristol, United Kingdom); Justin Coon (Toshiba TRL, United Kingdom)

3-A Fixed-Complexity MIMO Detector Based on the Complex Sphere Decoder
Luis Barbero (University of Edinburgh, United Kingdom); John Thompson (University of Edinburgh, United Kingdom)

4-On the average rate of precoded QSTBC in MIMO Channels with Non-zero Mean
Aydin Sezgin (Fraunhofer Institute for Telecommunications, HHI, Germany); Eduard Jorswieck (Royal Institute of Technology (KTH), Sweden); Holger Boche (Heinrich-Hertz-Institut für Nachrichtentechnik Berlin GmbH, Germany)

5-EIRP-restricted downlink beamforming in WLAN OFDM systems
Alex Kuzminskiy (Bell Laboratories, Lucent Technologies, United Kingdom)

6-On the SNR and Diversity of Quantized Precoded MIMO Systems
Bishwarup Mondal (The University of Texas at Austin, USA); Robert Heath (The University of Texas at Austin, USA)
Communication theory

ROOM: Stockholm

1-Capacity-Achieving Input Phase Distributions for Noncoherent Rayleigh-Fading Channels with Memory
   Sebastien de la Kethulle de Ryhove (Norwegian Univ. of Science and Technology, Norway); Geir Oien (NTNU, Norway)

2-On the Limits of Communication Performance with One-Bit Analog-to-Digital Conversion
   Onkar Dabeer (Tata Institute of Fundamental Research, India); Jaspreet Singh (University of California, Santa Barbara, USA); Upamanyu Madhow (University of California, Santa Barbara, USA)

3-Optimal Rate-Constrained Transcoding for a 2:1 Bandwidth Reducing Shannon Mapping
   Fredrik Hekland (Norwegian University of Science and Technology, Norway); Tor A. Ramstad (Norwegian University of Science and Technology, Norway)

4-Noise analysis for dimension expanding mappings in source-channel coding
   Pål Anders Floor (Norwegian University of Science and Technology (NTNU), Norway); Tor A. Ramstad (Norwegian University of Science and Technology, Norway)

5-On joint source-channel coding for the non-white Gaussian
   Tor A. Ramstad (Norwegian University of Science and Technology, Norway)

6-Estimation-Induced Outage Capacity of Ricean Channels
   Pablo Piantanida (LSS-CNRS Supelec, France); Gerald Matz (Vienna University of Technology, Austria); Pierre Duhamel (LSS SUPELEC, France)

7-Linear Approximation of the Exponential Map with Application to Simplified Detection of Noncoherent Systems
   Antonio Cipriano (France Telecom, France); Inès Kammoun (ENST Paris, France)

8-A Wyner Ziv Codec for Correlated Vector Sources
   Azadeh Vosoughi (Cornell University, USA); Anna Scaglione (Cornell University, USA)

9-Dual Optimality Frameworks for Expectation Propagation
   John Walsh (Cornell University, USA)
3:30 PM - 4:45 PM

Multiple-antenna communications systems I

ROOM: Oslo

1-Maximising the Average Spectral Efficiency of Dual-Branch MIMO Systems with Discrete Rate Adaptation
Sebastien de la Kethulle de Ryhove (Norwegian Univ. of Science and Technology, Norway); Geir Oien (NTNU, Norway)

2-Closed-form Outage Probability and BER of MIMO ZF receiver in the presence of imperfect CSI
Cheng Wang (HKUST, Hong Kong); Edward K. S. Au (Hong Kong University of Science and Technology, Hong Kong); Ross Murch (HKUST, Hong Kong); Vincent Lau (the Hong Kong University of Science and Technology)

3-Performance of MIMO systems with antenna selection over nonlinear fading channels
Mohamed Ibnkahla (Queen's University, Canada); Ahmed Iyanda Sulyman (Queens University, Canada)

4-Exploiting the Spatial Information Provided by Channel Statistics and SNR Feedback
David Hammarwall (Royal Institute of Technology, Sweden); Bjorn Ottersten (Royal Institute of Technology (KTH), Sweden)

5-Impact of a Line of Sight Component on the Performance of a MIMO System Designed under Statistical Channel Knowledge
Antonio Pascual (Polytechnic University of Catalonia, Spain); Miquel Payaro (CTTC, Spain); Ana I. Pérez-Neira (Polytechnic University of Catalonia, Spain); Miguel Angel Lagunas (Telecommunications Technological Center of Catalonia, Spain)

6-Iterative Design of MIMO ARQ Transceiver for Decision Feedback Detection
Haitong Sun (University of California, Davis, USA); Zhi Ding (University of California at Davis, USA); Chunming Zhao (National Mobile Communications Research Laboratory, Dept. of Radio Engineering, Southeast University, P.R. China)

7-Effect of imperfect channel knowledge on the MIMO channel outage capacity
Lamia Berriche (Ecole Nationale Supérieure des Télécommunications de Paris, France); Karim Abed-Meraim (Dept TSI, Télécom Paris, France); Jean-Claude Belfiore (Ecole Nationale Supérieure des Télécommunications, France)
Adhoc and sensor networks

ROOM: Stockholm

1-Lifetime Optimization for Multi-hop Wireless Sensor Networks with rate distortion constraints
Subhrakanti Dey (University of Melbourne, Australia); James Li (University of Melbourne, Australia)

2-Wireless Relay Communications using an Unmanned Aerial Vehicle
Pengcheng Zhan (Brigham Young University, USA); Kai Yu (BYU, USA); Lee Swindlehurst (Brigham Young University, USA)

3-Robust Sensor Network Positioning Based on Projections onto Circular and Hyperbolic Convex Sets (POCS)
Mats Rydström (Chalmers University of Technology, Sweden); Erik Ström (Chalmers University of Technology, Sweden); Arne Svensson (Chalmers University of Technology, Sweden)

4-Secrecy in Cooperative SENMA with Unauthorized Intrusions
Stefano Marano (University of Salerno, Italy); Vincenzo Matta (University of Salerno, Italy); Lang Tong (Cornell University, USA)

5-Optimal decentralized estimation through self-synchronizing networks in the presence of propagation delays
Gesualdo Scutari (University of Rome "La Sapienza", Italy); Sergio Barbarossa (University of Rome, Italy); Loreto Pescosolido (University of Rome "La Sapienza", Italy)
Multicarrier techniques I

ROOM: Stockholm

1-Pilot-Assisted Time-Varying OFDM Channel Estimation Based on Multiple OFDM Symbols
   Zijian Tang (Delft University of Technology, The Netherlands); Geert Leus (Delft University of Technology, The Netherlands); Paolo Banelli (University of Perugia, Italy)

2-Baseband compensation of Transmitter and Receiver IQ imbalance for OFDM in Frequency Selective Fading Channels
   Job Oostveen (Philips Research, The Netherlands); Admar Schoonen (Eindhoven University of Technology, The Netherlands); Frans Willems (Technical University Eindhoven, The Netherlands)

3-Sensitivity of Multi Carrier 2 Dimensional Spreading Systems to Carrier Phase Noise
   Youssef Nasser (Commissariat à l’Energie Atomique, France); Mathieu Des Noes (CEA / LETI, France); Laurent Ros (Laboratoire des Images et des Signaux, France); Genevieve Jourdain (Laboratoire des Images et des Signaux, France)

4-Optimal Superimposed Pilot Selection for OFDM Channel Estimation
   Angiras Varma (University of Melbourne, Australia)

5-New methods for blind fine estimation of carrier frequency offset in OFDM/OQAM systems
   Gang Lin (Norwegian Univ. of Science and Technology, Norway); Lars Lundheim (NTNU, Norway); Nils Holte (NTNU, Norway)

6-Efficient Sequence Detection of Multi-Carrier Transmissions Over Doubly Dispersive Channels
   Philip Schniter (The Ohio State University, USA); Sung-Jun Hwang (The Ohio State University, USA)

7-Analysis of the Peak-to-Average Power Ratio for OFDM/OQAM
   Alexandre Skrzypczak (France Telecom Research and Development Division, France); Pierre Siohan (France Telecom, France); Jean-Philippe Javaudin (France Telecom R&D, France)
Tuesday, July 4

10:00 AM - 11:15 AM

Resource allocation and cross-layer design

ROOM: Oslo

1-Performance of a Resource Allocation Strategy for an FH-OFDMA based System in a Multi-cell Environment
   Sophie Gault (Motorola Labs, France); Walid Hachem (Supélec, France); Philippe Ciblat (ENST, France)

2-Delay-aware Scheduling in Heterogeneous Multiuser Systems
   Pooya Shariatpanahi (Sharif University of Technology, Iran); Babak Hossein Khalaj (Sharif University of Technology, Iran)

3-Adaptive Medium Access Control with CSMA/CA and TDMA for Overly Networks
   Yawgeng Chau (Yuan Ze University, Taiwan)

4-Packet scheduling in the presence of channel estimation error in multi-user OFDM wireless systems
   Jeon Jae Hoon (School of Electrical Engineering and INMC, Seoul National University, Korea); Yong-Hwan Lee (Seoul National University, Korea); Junghwan Kim (Seoul National niversity, Korea)

5-Joint Adaptive Transmission and Combining with Optimized Rate and Power Allocation
   Anders Gjendemsjo (Norwegian Univ. of Science and Technology, Norway); Hong-Chuan Yang (University of Victoria, Canada); Mohamed-Slim Alouini (University of Minnesota, USA); Geir Oien (NTNU, Norway)

6-Proportional Fair Power Allocation for OFDM-CDM Systems in Frequency-selective Rayleigh Fading Channels
   Brah Felix (Université catholique de Louvain, Belgium); Luc Vandendorpe (Universit catholique de Louvain, Belgium); JÅ©rÅ™me Louveaux (UniversitÄ© Catholique de Louvain, Belgium)

7-Maximizing the Capacity of Wireless Networks using Multi-Cell Access Schemes
   Jan Kirkebo (University of Oslo, Norway); David Gesbert (Eurecom Institute, France); Saad Kiani (Eurecom Institute, France)

8-Resources allocation optimization for scalable multimedia data subject to quality of service contraints
   Heykel Houas (University of Cergy-Pontoise, France); Cléo Baras (ENSEA - ETIS, France); Inbar FIJALKOW (Universite de Cergy-Pontoise, France)

9-p-PERSISTENT STABILISATION FOR WIRELESS NETWORK DIVERSITY MULTIPLE ACCESS PROTOCOLS
   Ramiro Samano-Robles (University of Leeds, United Kingdom); Mounir Ghogho (University of Leeds, United Kingdom); Des McLernon (The University of Leeds, United Kingdom)
Advanced transmitter and receiver design

ROOM: Stockholm

1- Wireless Quantum-Key Distribution in RF and Microwave Frequencies
   Naser Jam (Tehran Polytechnic university, Iran)

2- An all digital implementation of M-VSB modem using advanced digital signal processing techniques
   Arjun Ramamurthy (San Diego State University, USA); Fred Harris (San Diego State Univ, USA)

3- A Linear Complexity Turbo Equalizer Based on a Modified Soft Interference Canceller
   Dimitris Ampeliotis (University of Patras, Greece); Kostas Berberidis (Dept. of Computer Engineering and Informatics, University of Patras, 26500, Rio, Greece)

4- Performance of Serial Concatenated Codes under Iterative Decoding and Different Update Modes
   Anne Wolf (Dresden University of Technology, Germany); Jochen Ertel (Dresden University of Technology, Germany); Adolf Finger (TU Dresden, Germany)

5- Exploiting cyclic prefix for performance improvement in single carrier systems
   Bertrand Devillers (Université catholique de Louvain, Belgium); Jérôme Louveaux (Université Catholique de Louvain, Belgium); Luc Vandendorpe (Université catholique de Louvain, Belgium)

6- Packet Combining Over Rayleigh Channels Using Signal-to-Noise Ration Information and Detection by the Maximum A-Posteriori Criterion
   Angel Bravo-Santos (Universidad Carlos III de Madrid, Spain); Antonio Artés-Rodríguez (Universidad Carlos III de Madrid, Spain); Petar Djuric (State University of New York at Stony Brook, USA)
Multicarrier techniques II

ROOM: Stockholm

1-Window Design for Non-Orthogonal Interference Reduction in OFDM Receivers
Patrick Nickel (University of Erlangen-Nuremberg, Germany); Wolfgang Gerstacker (University of Erlangen-Nuernberg, Germany); Gerd Kilian (Fraunhofer IIS, Germany); Albert Heuberger (Fraunhofer IIS, Germany); Wolfgang Koch (University, Germany); Christof Jonietz (University of Erlangen-Nürnberg, Germany)

2-PAR Reduction in the Uplink for OFDMA Systems
Brian Krongold (University of Melbourne, Australia)

3-A New Data-Aided Carrier Frequency Offset Estimation Algorithm for OFDM Systems
Amine Laourine (INRS, Canada); Alex Stephenne (Ericsson, Canada); Sofiene Affes (INRS - Centre Energie, Materiaux et Telecommunications, Canada)

4-Approaching the delay-limited OFDM broadcast capacity with OFDMA
Gerhard Wunder (Heinrich-Hertz-Institut, Germany); Thomas Michel (German-Sino Mobile Communications Institute (MCI), Germany)

5-Filtered Delay-Subspace Approach For Pilot Assisted Channel Estimation in OFDM Systems
Rui Vigelis (Universidade Federal do Ceará, Brazil); Darlan Cavalcante Moreira (Federal University of Ceará, Brazil); João Cesar Mota (Wireless Telecom Research Group - Federal University of Ceará, Brazil); Charles Cavalcante (Wireless Telecommunications Research Group - Federal University of Ceará, Brazil)

6-An Efficient Approximation of the OFDMA Outage Probability Region
Johannes Brehmer (Munich University of Technology, Germany); Christian Guthy (Munich University of Technology, Germany); Wolfgang Utschick (Munich University of Technology, Germany)

7-Adaptive Channel Estimation for OFDM Systems with Doppler spread
Rocco Claudio Cannizzaro (DIEI - University of Perugia, Italy); Paolo Banelli (University of Perugia, Italy); Geert Leus (Delft University of Technology, The Netherlands)
11:30 AM - 12:45 PM

Broadcast channel techniques

ROOM: Oslo

1-MC-CDMA as a Broadcast Channel: Performance Practical Upper Bound Using DPC and Beamforming Principles
Santiago Zazo (Universidad Politecnica Madrid, Spain); Ivana Raos (UPM, Spain); Milos Jakovljevic (Universidad Politécnica de Madrid, Spain)

2-Zero-forcing precoding for the MIMO broadcast channel under per-antenna power constraints
Federico Boccardi (University of Padova, Italy); Howard Huang (Bell Labs, USA)

3-Min-Max MSE Precoding for Broadcast Channels based on Statistical Channel State Information
Rachid El Assir (Munich University of Technology, Germany); Frank Dietrich (Technische Universität München, Germany); Michael Joham (Technische Universität München, Germany); Wolfgang Utschick (Munich University of Technology, Germany)

4-Iterative THP Transceiver Optimization for Multi-User MIMO Systems Based on Weighted Sum-MSE Minimization
Amine Mezghani (TU Munich, Germany); Raphael Hunger (TU Munich, Germany); Michael Joham (Technische Universität München, Germany); Wolfgang Utschick (Munich University of Technology, Germany)

5-About the performance of practical dirty paper coding schemes in Gaussian MIMO broadcast channels
Reza Mohammad Khani (Supelec, France); Samson Lasaulce (CNRS - Supelec, France); Julien Dumont (France Telecom R&D, France)

6-On the throughput of broadcast channels with imperfect CSI
Ali Vakili (California Institute of Technology, USA); Babak Hassibi (California Institute of Technology, USA)
Ultra-wideband systems

ROOM: Stockholm

1-A Novel Decision-Feedback Receiver for MBOK Direct Sequence Ultra-Wideband Radio
Jeng-Kuang Hwang (Yuan-Ze University, Taiwan); Yu-Lun Chiu (Yuan-Ze University, Taiwan); Rih-Lung Chung (Yuan-Ze University, Taiwan)

2-Multiband OFDM UWB channel estimation via a wavelet based EM-MAP algorithm
Sajad Sadough (Ecole Nationale Supérieure de Techniques Avancées, France); Mahieddine Ichir (University of Paris-sud, Orsay, France); Emmanuel Jaffrot (Ecole Nationale Supérieure de Techniques Avancées, France); Pierre Duhamel (LSS SUPELEC, France)

3-UWB search strategies for minimal-length preamble and a low-complexity analog receiver
Claude Desset (IMEC, Belgium); Mustafa Badaroglu (AMI Semiconductor Belgium, Belgium); Julien Ryckaert (IMEC, Belgium); Bart Van Poucke (IMEC, Belgium)

4-Timing Acquisition for UWB Multiple Access
Lin Wu (Michigan Technological University, USA); Vincenzo Lottici (University of Pisa, Italy); Zhi Tian (Michigan Technological University, USA)

5-Frame-Timing Acquisition for UWB Signals Via the Multifamily Likelihood Ratio Test
Jose A. Lopez-Salcedo (Technical University of Catalonia (UPC), Spain); Gregori Vazquez (Polytechnic University of Catalonia, Spain)

6-On the Performance of UWB Geo-Regioning
Christoph Steiner (ETH Zurich, Switzerland); Frank Althaus (Swiss Federal Institut of Technology Zurich, Switzerland); Armin Wittneben (ETH, Switzerland)

7-Detection of Delay-Hopped Transmitted-Reference UWB Signals Under Narrowband Interference
Yohannes D. Alemseged (Graz University of Technology, Austria); Klaus Witrisal (Graz University of Technology, Austria)

8-On Optimal Signaling and Jamming Strategies in Wideband Fading Channels
Siddharth Ray (Massachusetts Institute of Technology, USA); Pierre Moulin (University of Illinois at Urbana-Champaign, USA); Muriel Medard (MIT, USA)

9-Optimal Bandwidth for UWB PPM in Poisson arriving multipath channel and jitter context
Mohamed Kamoun (Motorola Labs, France); Laurent Mazet (Motorola Centre de Recherche, France)
3:30 PM - 4:45 PM

Equalization

ROOM: Oslo

1-Bit Error Rate Minimizing Channel Shortening Equalizers for Multicarrier Systems
Richard Martin (Air Force Institute of Technology, USA); Koen Vanbleu (Katholieke Universiteit Leuven, Belgium); Geert Ysebaert (Alcatel Bell Antwerpen, Belgium); Andrew Klein (Supélec/LSS, France)

2-Fast Reduced Rank Equalizer for HSDPA Systems Based on Lanczos Algorithm
Pekka Jänis (Helsinki University of Technology, Finland); Maarit Melvasalo (Helsinki University of Technology, Finland); Visa Koivunen (HUT, Finland)

3-An Adaptive Decision Feedback Equalizer for Time-Varying Frequency Selective MIMO Channels
Athanasios Rontogiannis (National Observatory of Athens, Greece); Vassilis Kekatos (University of Patras, C.T.I.-R&D, Greece); Kostas Berberidis (Dept. of Computer Engineering and Informatics, University of Patras, Greece)

4-Low-Complexity Equalizers-Rank Versus Order Reduction
Guido Dietl (Munich University of Technology, Germany); Wolfgang Utschick (Munich University of Technology, Germany)

5-A New Iterative Equalizer based on a Deterministic Annealing Process
Mithridad Pourmir (Ecole Supérieure d'Electricité, France); Antoine Berthet (Ecole Superieure d'Electricité (SUPELEC), France)

6-Frequency Domain Turbo Equalization for Vestigial Sideband Modulation with Punctured Trellis Coding
Philip Schniter (The Ohio State University, USA); Hong Liu (The Ohio State University, USA)

7-Toward a Theory of Multirate Nonlinear Systems
Roberto López Valcarce (Universidad de Vigo, Spain); Soura Dasgupta (The University of Iowa, USA)

8-Optimization of Combined Chip and Symbol Level Equalization for Downlink WCDMA Reception
Ahmet Bastug (Eurecom Institute, France); Dirk Slock (Eurecom Institute, France)
Estimation and detection

ROOM: Stockholm

1-Estimators for Time-Variant Channels Applied to UMTS-HSDPA
   Joachim Wehinger (Forschungszentrum Telekommunikation Wien (ftw.),
   Austria); Thomas Zemen (ftw. Forschungszentrum Telekommunikation Wien,
   Austria); Klemens Freudenthaler (Inst. f. Communications and Information
   Engineering, University of Linz, Austria)

2-Particle Filter with Hybrid Importance Function for Joint Symbol Detection and
   Phase Tracking
   François Septier (University of Valenciennes, France); Yves Delignon (ENIC,
   France); Atika Rivenq (University, France); Christelle Garnier (GET/INT/ENIC -
   IEMN, France)

3-New Nonlinear Detector for Interference Cancellation in Spread Spectrum
   Overlay Systems
   Sayyed Mohammad Saberali (Amirkabir University of Technology, Iran)

4-Noncoherent and Coherent Sequence Detection on Rayleigh Fading Channels
   Gordon Stuber (Georgia Institute of Technology, USA); Qing Zhao (Georgia
   Institute of Technology, USA)

5-Comparison of Different Iterative Frequency Offset Estimation Schemes
   Ivan Perisa (University of Ulm, Germany); Juergen Lindner (University of Ulm,
   Germany)

6-Identification of Time-Varying Frequency-Flat Rayleigh Fading Channels Based
   on Errors-In-Variables Approach
   Ali Jamoos (Université Bordeaux1, France); William Bobillet (Equipe Signal &
   Image, UMR 5131 LAPS, France); Eric Grivel (Equipe Signal & Image, UMR
   5131 LAPS, France); Hanna Abdel Nour (Department of Electronics Engineering,
   Al-Quds University, Poland); Mohamed Najim (Equipe Signal & Image, UMR
   5131 LAPS, France)

7-An Algorithm for Estimation and Tracking of Distributed Diffuse Scattering in
   Mobile Radio Channels
   Andreas Richter (Helsinki University of Technology, Finland); Jussi Salmi
   (Helsinki University of Technology, Finland); Visa Koivunen (Helsinki University
   of Technology, Finland)

8-Space-Time Block Coding : Joint Detection and Channel Estimation using
   Multiple Model Theory
   Harini Kulatunga (Imperial College London, United Kingdom); Visakan
   Kadirkamanathan (University of Sheffield, United Kingdom)
9-Sequential Monte-Carlo approximation to the ML Time-delay Estimator in a Multipath Channel
  Pau Closas (Technical University of Catalonia (UPC), Spain); Carlos Fernandez Prades (Technical University of Catalonia (UPC), Spain); Juan Fernandez-Rubio (Universitat Politècnica de Catalunya, Spain)

10-LOS-NLOS Situation Tracking for Positioning Systems
  Jose Huerta (Technical University of Catalonia, Spain); Josep Vidal (UPC, Spain)

11-Optimizing Eigenvector-Based Frequency Estimation in the Presence of Identical Frequencies in Multiple Dimensions
  Jun Liu (University of Louisville, USA); Xiangqian Liu (University of Louisville, USA)

12-Parametric Characterization and Estimation of Bi-Azimuth Dispersion of Path Components
  Xuefen Yin (Aalborg Univ, Denmark), Troels Pedersen (Aalborg Univ, Denmark), Nicolai Czink (FTW, Austria) Bernard Fleury (Aalborg Univ, Denmark)
Wednesday, July 5

10:00 AM - 11:15 AM

Cooperative wireless (relay) networks

ROOM: Oslo

1-Performance Analysis of Collaborative Hybrid-ARQ Incremental Redundancy Protocols over Fading Channels
Igor Stanojev (New Jersey Institute of Technology, USA); Osvaldo Simeone (Politecnico di Milano, Italy); Yeheskel Bar-Ness (New Jersey Institute of Technology, USA)

2-Multicast Relay Strategies with Local and Global power constraints For Wireless Networks
Nima Khajehnouri (University of California, Los Angeles, USA); Ali Sayed (University of California, Los Angeles, USA)

3-A Full-Diversity Distributed Space-Time Coding System with Regenerative Relays
Paul Anghel (University of Minnesota, USA); Geert Leus (Delft University of Technology, The Netherlands); Mostafa Kaveh (University of Minnesota, USA)

4-Compress-and-Forward cooperative relaying in MIMO-OFDM systems
Sebastien Simoens (Motorola Centre de Recherche, France); Josep Vidal (UPC, Spain); Olga Munoz (UPC, Spain)

5-Upper Bound on Outage Capacity of Orthogonal Relay Networks
Jesús Gómez Vilardebó (Centre Tecnològic de Telecomunicacions de Catalunya, Spain); Ana I. Perez-Neira (Universitat Politecnica de Catalunya, Spain)

6-Multi-Source Cooperation with Full-Diversity Spectral-Efficiency and Controllable-Complexity
Alejandro Ribeiro (University of Minnesota, USA); Rengiu Wang (University of Minnesota, Ukraine); Georgios B. Giannakis (University of Minnesota, USA)

7-Achievable rates of multi-hop and cooperative MIMO Amplify-and-Forward relay systems with full CSI
Nicola Varanese (New Jersey Institute of Technology, USA); Osvaldo Simeone (Politecnico di Milano, Italy); Yeheskel Bar-Ness (New Jersey Institute of Technology, USA); Umberto Spagnolini (Politecnico di Milano, Italy)

8-Tomlinson-Harashima Precoding with Adaptive Modulation for Fixed Relay Networks
Taiwen Tang (The University of Texas, Austin, USA); Chan-Byoung Chae (The University of Texas, Austin, USA); Robert Heath (The University of Texas at Austin, USA); Sunghyun Cho (Samsung Advanced Institute of Technology, Korea)
Multi-user MIMO communications

ROOM: Stockholm

1-Nonlinear Predistortion for OFDM SDMA Systems
   Rene Habendorf (Technische Universität Dresden, Germany); Gerhard Fettweis
   (Technische Universitaet Dresden, Germany)

2-Iterative Waterfilling for Weighted Rate Sum Maximization in MIMO-MAC
   Kobayashi Mari (Centre Tecnològic de Telecomunicacions (CTTC), Spain)

3-On convergence properties of joint optimal power control and transmit-receive
   beamforming in multi-user MIMO systems
   Peter Wrycza (Royal Institute of Technology, Sweden); Mats Bengtsson (Royal
   Institute of Technology (KTH), Sweden); Björn Ottersten (Royal Institute of
   Technology, Sweden)

4-Optimized Multi-User Beamforming with Channel Tracking based on a Low Rate
   Feedback
   Abdelkader Medles (Bell Labs, Lucent Technologies, United Kingdom); Angeliki
   Alexiou (Bell Labs, Lucent Technologies, United Kingdom)

5-BER analysis of SDMA-OFDM Systems in The Presence of Power Amplifier
   Nonlinearities
   Fernando Gregorio (Helsinki University of Technology, Finland); Stefan Werner
   (Helsinki University of Teehcnology, Finland); Juan Cousseau (Universidad
   Nacional del Sur, Argentina); Timo Laakso (Helsinki University of Technology,
   Finland)

6-A Convex Optimization Approach for the Robust Design of Multiuser and
   Multiantenna Downlink Communication Systems
   Miquel Payaro (CTTC, Spain); Antonio Pascual (Polytechnic University of
   Catalonia, Spain); Jinhong Yuan (University of New South Wales, Australia);
   Miguel Angel Lagunas (Telecommunications Technological Center of Catalonia,
   Spain)

7-Convergence Behavior of Matrix-Based Iterative Transceiver Optimization
   Holger Boche (Fraunhofer Institute for Telecommunications HHI, Germany);
   Martin Schubert (Fraunhofer German-Sino Lab for Mobile Communications MCI,
   Germany)

8-A Downlink Beamforming with SINR Balance in Frequency Selective Fading
   Environment
   Byungjin Chun (University College Cork, Ireland)

9-Low Complexity Scheduling and Beamforming for Multiuser MIMO Systems
   Marios Kountouris (France Telecom R&D, France); Ruben de Francisco
   (Eurecom Institute, France); David Gesbert (Eurecom Institute, France); Dirk
   Slock (Eurecom Institute, France); Thomas Sälzer (France Telecom, France)

10-Spreading sequence assignment in WCDMA for distributed antenna arrays
    based on interference model
   Carmen Botella (Institute of Telecommunications and Multimedia Applications
   (ITEAM) - Technical University of Valen, Spain); Gema Piñero (Universidad
   Politecnica de Valencia, Spain); Alberto Gonzalez (Universidad Politecnica de
   Valencia, Spain); María De Diego (Universidad Politécnica de Valencia, Spain)
11:30 AM - 12:45 PM

Multi-user communications

ROOM: Oslo

1-Minimising Complexity in Iterative Multiuser Detection using Dynamic Decoding Schedules
   David Shepherd (Australian National University, National ICT Australia, Australia); Fredrik Brännström (Chalmers University of Technology, Sweden); Zhenning Shi (National ICT Australia, Australia); Mark Reed (National ICT Australia, ANU, Australia)

2-On the Design of Group Orthogonal MC-CDMA systems
   Felip Riera-Palou (University of the Balearic Islands, Spain); Guillem Femenias (Universitat de les Illes Balears, Spain); Jaume Ramis (University of the Balearic Islands, Spain)

3-Iterative multiuser detection and channel estimation in a multibeam satellite communication system
   Jean-Pierre MILLERIOUX (TeSA-ENST, France); Marie-laure Boucheret (ENST, France); Caroline Bazile (CNES, France); Alain DUCASSE (Alcatel Space, France)

4-A Cautionary View of the Use of Cyclic Prefix on CDMA Systems
   Cristiano Panazio (University of Campinas, Brazil); Maurice Bellanger (CNAM, France)

5-Noise variance estimation in DS-CDMA and its effects on the individually optimum receiver
   Romaric Gaudel (ENS Cachan, France); François Bonnet (ENS Cachan, France); Jean-Baka Domelevo-Entfellner (ENS Cachan, France); Aline Roumy (IRISA-INRIA, Campus de Beaulieu, Rennes, France)

6-Line Search Computation of the Block Factor Model for Blind Multi-user Access in Wireless Communications
   Dimitri Nion (ETIS, UMR 8051 (CNRS, ENSEA, UCP), France); Lieven de LATHAŬER de LATHAŬER (E.E. Dept. (ESAT) - SCD-SISTA, Belgium)

7-Asynchronous Iterative Water-Filling for Gaussian Frequency-Selective Interference Channels: A Unified Framework
   Gesualdo Scutari (University of Rome "La Sapienza", Italy); Daniel Palomar (Princeton University, USA); Sergio Barbarossa (University of Rome, Italy)
Multiple-antenna communications systems II

ROOM: Stockholm

1-Blind Channel Identification for MIMO Single Carrier Zero Padding Block Transmission Systems
   Yi-Sheng Chen (National Chiao-Tung University, Taiwan); Ching-An Lin (National Chiao-Tung University, Taiwan)

2-Blind Channel Estimation for Single-Carrier Space-Time Block Coded Transmission with Frequency-Domain Equalization: A Diagonal Precoding Based Approach
   Jwo-Yuh Wu (National Chiao Tung University, Taiwan); Ta-Sung Lee (National Chiao Tung University, Taiwan)

3-A Sufficient Condition for Blind Identifiability of MIMO-OSTBC Channels Based on Second Order Statistics
   Javier Vía (University of Cantabria, Spain); Ignacio Santamaria (University of Cantabria, Spain); Jesus Perez (University of Cantabria, Spain)

4-Analysis of A MIMO Relay System with HARQ
   Insoo Hwang (Samsung Electronics, Korea); Sungjin Kim (Seoul National University, Korea)

5-Turbo Blind and Semi-blind Intracell Interference Cancellation for MIMO Downlink CDMA
   Raphael Visoz (France Telecom R&D, Issy-Les-Moulineaux, France); Antoine Berthet (Ecole Superieure d'Electricite (SUPELEC), France)

6-Optimal Design of Uniform Planar Antenna Arrays for Strong Line-of-Sight MIMO Channels
   Frode Bøhagen (Nera Research, Norway); Pål Orten (NERA, Norway); Geir Oien (NTNU, Norway)

7-Rotated MC-Cyclic Antenna Frequency Spread: Effect of Rotations in Correlated MIMO-OFDM Systems
   Doris Yacoub (University of Ulm, Germany); Werner Teich (University of Ulm, Germany); Juergen Lindner (University of Ulm, Germany)

8-Semi-Blind Maximum Likelihood Joint Channel Estimation / Data Detection for MIMO fading channels
   Constantinos Rizogiannis (University of Athens, Greece); Eleftherios Kofidis (University of Piraeus, Greece); Constantinos Papadias (Athens Information Technology, Greece); Sergios Theodoridis (University of Athenes, Greece)

9-A Deterministic Blind receiver for MIMO OFDM Systems
   Myriam Rajih (University of Nice Sophia Antipolis, France); Pierre Comon (CNRS, France); Dirk Slock (Eurecom Institute, France)
Useful Maps

Map of Cannes, with Conference Hotel and boat departure point for banquet

Conference Hotel -> Port: approx 35-40 min (foot)
Detailed map for Port of Cannes and meeting point for the boat:
A gentle stroll around the castle and along the beachwalk will take you about 25 minutes to reach the banquet restaurant located at the Boscolo Plaza Hotel (12, avenue de Verdun, NICE).

For those not attending the banquet dinner, there are numerous restaurants located downtown Nice, particularly in the charming “Old Nice” (Vieux Nice) area, shown on the map below.
AUTHOR INDEX

Abdel Nour, Hanna 30
Abed-Meraim, Karim 21
Abhayapala, Thushara 19
Abramovich, Yuri 17
Affes, Sofiene 26
Al-Dhahir, Naofal 18
Alemseged, Yohannes D. 28
Alexiou, Angeliki 33
Alouini, Mohamed-Slim 24
Althaus, Frank 28
Ampeliotis, Dimitris 25
Andrieu, Christophe 19
Anghel, Paul 32
Artés-Rodríguez, Antonio 25
Au, Edward K. S. 21
Badaroglu, Mustafa 28
Banelli, Paolo 23, 26
Bar-Ness, Yeheskel 32, 32
Baras, Cléo 24
Barbarossa, Sergio 18, 22, 34
Barbero, Luis 19
Barrere, Jean 17
Barroso, Victor 18
Bastug, Ahmet 29
Bazile, Caroline 34
Bøhagen, Frode 35
Beko, Marko 18
Belfiore, Jean-Claude 21
Bellanger, Maurice 34
Bengtsson, Mats 33
Berberidis, Kostas 25, 29
Berriche, Lamia 21
Berthet, Antoine 29, 35
Bobillet, William 30
Boccardi, Federico 27
Boche, Holger 19, 33
Bonnet, François 34
Botella, Carmen 33
Boucheret, Marie-laure 34
Bouzidi, Djebbar Ahmed 17
Bravo-Santos, Angel 25
Brännström, Fredrik 34
Brehmer, Johannes 26
Cannizzaro, Rocco Claudio 26
Castedo, Luis 18
Cavalcante, Charles 26
Cavalcante Moreira, Darlan 26
Chabriel, Gilles 17
Chae, Chan-Byoung 32
Chau, Yawqenq 24
Chen, Yi-Sheng 35
Chiu, Yu-Lun 28
Cho, Sunghyun 32
Chun, Byungjin 33
Chung, Rih-Lung 28
Ciblat, Philippe 24
Cipriano, Antonio 20
Closas, Pau 31
Comon, Pierre 17, 35
Coon, Justin 19
Cousseau, Juan 33
Czink, Nicolai 31
Dabeer, Onkar 20
Das, Sushanta 18
Dasqupta, Soura 29
de Almeida, André 18
de Courville, Marc 18
De Diego, María 33
de Francisco, Ruben 33
de la Kethulle de Ryhove, Sebastien 20, 21
de LATHAUWER, Lieven 34
Delignon, Yves 30
Delmas, Jean-Pierre 17
Des Noes, Mathieu 23
Desset, Claude 28
Devillers, Bertrand 25
Dey, Subhrakanti 22
Dietl, Guido 29
Dietrich, Frank 27
Ding, Zhi 21
Djuric, Petar 25
Domelevo-Entfellner, Jean-Baka 34
Ducasse, Alain 34
Duhamel, Pierre 17, 20, 28
Dumont, Julien 27
El Assir, Rachid 27
Ertel, Jochen 25
Fasano, Antonio 18
Favier, Gérard 17, 18
Felix, Brah 24
Femenias, Guillem 34
Fernandez Prades, Carlos 31
Fernandez-Rubio, Juan 31
Fettweis, Gerhard 33
Fijalkow, Inbar 24
Finger, Adolf 25
Fleury, Bernard 31
Floor, Pål Anders 20
Freudenthaler, Klemens 30
Fusco, Tilde 17
Garcia-Frias, Javier 18, 18
Garnier, Christelle 30
Gaudel, Romaric 34
Gault, Sophie 24
Gómez Vilardebó, Jesús 32
Gerstacker, Wolfgang 26
Gesbert, David 24, 33
<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghogho, Mounir</td>
<td>24</td>
</tr>
<tr>
<td>Giannakis, Georgios B.</td>
<td>32</td>
</tr>
<tr>
<td>Gjendemsjo, Anders</td>
<td>24</td>
</tr>
<tr>
<td>Gonzalez, Alberto</td>
<td>33</td>
</tr>
<tr>
<td>González-López, Miquel</td>
<td>18</td>
</tr>
<tr>
<td>Gregorio, Fernando</td>
<td>33</td>
</tr>
<tr>
<td>Grivel, Eric</td>
<td>30</td>
</tr>
<tr>
<td>Guthy, Christian</td>
<td>26</td>
</tr>
<tr>
<td>Habendorf, Rene</td>
<td>33</td>
</tr>
<tr>
<td>Hachem, Walid</td>
<td>24</td>
</tr>
<tr>
<td>Hammarwall, David</td>
<td>21</td>
</tr>
<tr>
<td>Harris, Fred</td>
<td>25</td>
</tr>
<tr>
<td>Hassibi, Babak</td>
<td>27</td>
</tr>
<tr>
<td>Heath, Robert</td>
<td>19, 32</td>
</tr>
<tr>
<td>Hekland, Fredrik</td>
<td>20</td>
</tr>
<tr>
<td>Heuberger, Albert</td>
<td>26</td>
</tr>
<tr>
<td>Holte, Nils</td>
<td>23</td>
</tr>
<tr>
<td>Houas, Heykel</td>
<td>24</td>
</tr>
<tr>
<td>Huang, Howard</td>
<td>27</td>
</tr>
<tr>
<td>Huerta, Jose</td>
<td>31</td>
</tr>
<tr>
<td>Hunger, Raphael</td>
<td>27</td>
</tr>
<tr>
<td>Hwang, Insoo</td>
<td>35</td>
</tr>
<tr>
<td>Hwang, Jeng-Kuang</td>
<td>28</td>
</tr>
<tr>
<td>Hwang, Sung-Jun</td>
<td>23</td>
</tr>
<tr>
<td>Ibnkahla, Mohamed</td>
<td>21</td>
</tr>
<tr>
<td>Ichir, Mahieddine</td>
<td>28</td>
</tr>
<tr>
<td>Jae Hoon, Jeon</td>
<td>24</td>
</tr>
<tr>
<td>Jaffrot, Emmanuel</td>
<td>28</td>
</tr>
<tr>
<td>Jakovljevic, Milos</td>
<td>27</td>
</tr>
<tr>
<td>Jam, Naser</td>
<td>25</td>
</tr>
<tr>
<td>Jamoos, Ali</td>
<td>30</td>
</tr>
<tr>
<td>Javaudin, Jean-Philippe</td>
<td>23</td>
</tr>
<tr>
<td>Jänis, Pekka</td>
<td>29</td>
</tr>
<tr>
<td>Joham, Michael</td>
<td>27, 27</td>
</tr>
<tr>
<td>Jonietz, Christof</td>
<td>26</td>
</tr>
<tr>
<td>Jorswieck, Eduard</td>
<td>19</td>
</tr>
<tr>
<td>Jourdain, Genevieve</td>
<td>23</td>
</tr>
<tr>
<td>Name</td>
<td>Age</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Kadiirkumanathan, Visakan</td>
<td>30</td>
</tr>
<tr>
<td>Kammoun, Inès</td>
<td>20</td>
</tr>
<tr>
<td>Kamoun, Mohamed</td>
<td>28</td>
</tr>
<tr>
<td>Kaveh, Mostafa</td>
<td>32</td>
</tr>
<tr>
<td>Kekatos, Vassilis</td>
<td>29</td>
</tr>
<tr>
<td>Kennedy, Rodney</td>
<td>19</td>
</tr>
<tr>
<td>Khajehnouri, Nima</td>
<td>32</td>
</tr>
<tr>
<td>Khalaj, Babak Hossein</td>
<td>24</td>
</tr>
<tr>
<td>Khalighi, Mohammad</td>
<td>18</td>
</tr>
<tr>
<td>Kiani, Saad</td>
<td>24</td>
</tr>
<tr>
<td>Kibangou, Alain</td>
<td>17</td>
</tr>
<tr>
<td>Kilian, Gerd</td>
<td>26</td>
</tr>
<tr>
<td>Kim, Junghwan</td>
<td>24</td>
</tr>
<tr>
<td>Kim, Sungjin</td>
<td>35</td>
</tr>
<tr>
<td>Kirkebø, Jan</td>
<td>24</td>
</tr>
<tr>
<td>Klein, Andrew</td>
<td>17, 29</td>
</tr>
<tr>
<td>Kobayashi, Mari</td>
<td>33</td>
</tr>
<tr>
<td>Koch, Wolfgang</td>
<td>26</td>
</tr>
<tr>
<td>Kofidis, Elefetherios</td>
<td>35</td>
</tr>
<tr>
<td>Koivunen, Visa</td>
<td>29, 30</td>
</tr>
<tr>
<td>Kountouris, Marios</td>
<td>33</td>
</tr>
<tr>
<td>Krongold, Brian</td>
<td>26</td>
</tr>
<tr>
<td>Kulatunga, Harini</td>
<td>30</td>
</tr>
<tr>
<td>Kuzminskiy, Alex</td>
<td>17, 19</td>
</tr>
<tr>
<td>Laakso, Timo</td>
<td>33</td>
</tr>
<tr>
<td>Lagunas, Miguel Angel</td>
<td>21, 33</td>
</tr>
<tr>
<td>Lamahewa, Tharaka</td>
<td>19</td>
</tr>
<tr>
<td>Lamarca,Meritxell</td>
<td>18</td>
</tr>
<tr>
<td>Laourine, Amine</td>
<td>26</td>
</tr>
<tr>
<td>Lasaulce, Samson</td>
<td>27</td>
</tr>
<tr>
<td>Lau, Vincent</td>
<td>21</td>
</tr>
<tr>
<td>López Valcarce, Roberto</td>
<td>17, 29</td>
</tr>
<tr>
<td>Lee, Ta-Sung</td>
<td>35</td>
</tr>
<tr>
<td>Lee, Yong-Hwan</td>
<td>24</td>
</tr>
<tr>
<td>Leus, Geert</td>
<td>23, 26, 32</td>
</tr>
<tr>
<td>Li, James</td>
<td>22</td>
</tr>
<tr>
<td>Lin, Ching-An</td>
<td>35</td>
</tr>
</tbody>
</table>
Lin, Gang 23
Lindner, Juergen 30, 35
Liu, Hong 29
Liu, Jun 31
Liu, Xiangqian 31
Lopez-Salcedo, Jose A. 28
Lottici, Vincenzo 28
Lou, Hanqing 18
Louveaux, Jerome 24, 25
Lundheim, Lars 23
Madhow, Upamanyu 20
Marano, Stefano 22
Martin, Richard 29
Matta, Vincenzo 22
Matz, Gerald 20
Mazet, Laurent 28
McLernon, Des 24
Medard, Muriel 28
Medles, Abdelkader 33
Melvasalo, Maarit 29
Meurisse, Yann 17
Mezghani, Amine 27
Michel, Thomas 26
Millerioux, Jean-Pierre 34
Mohammad Khani, Reza 27
Mondal, Bishwarup 19
Moreau, Eric 17
Mosquera, Carlos 17
Mota, Joao 18
Mota, Joao Cesar 26
Moulin, Pierre 28
Mueck, Markus 18
Munoz, Olga 32
Murch, Ross 21
Najim, Mohamed 30
Nasser, Youssef 23
Nguyen, Van Khanh 19
<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel, Patrick</td>
<td>26</td>
</tr>
<tr>
<td>Nion, Dimitri</td>
<td>34</td>
</tr>
<tr>
<td>Oien, Geir</td>
<td>20, 21, 24, 35</td>
</tr>
<tr>
<td>Oostveen, Job</td>
<td>23</td>
</tr>
<tr>
<td>Orten, Pål</td>
<td>35</td>
</tr>
<tr>
<td>Ottersten, Björn</td>
<td>21, 33</td>
</tr>
<tr>
<td>Palomar, Daniel</td>
<td>34</td>
</tr>
<tr>
<td>Panazio, Cristiano</td>
<td>34</td>
</tr>
<tr>
<td>Papadias, Constantinos</td>
<td>35</td>
</tr>
<tr>
<td>Paredes, Luis</td>
<td>18</td>
</tr>
<tr>
<td>Pascual, Antonio</td>
<td>21, 33</td>
</tr>
<tr>
<td>Payaro, Miquel</td>
<td>21, 33</td>
</tr>
<tr>
<td>Pérez-Neira, Ana I.</td>
<td>12</td>
</tr>
<tr>
<td>Pedersen, Troels</td>
<td>31</td>
</tr>
<tr>
<td>Perez, Jesus</td>
<td>35</td>
</tr>
<tr>
<td>Perisa, Ivan</td>
<td>30</td>
</tr>
<tr>
<td>Pecosolido, Loreto</td>
<td>22</td>
</tr>
<tr>
<td>Piantanida, Pablo</td>
<td>20</td>
</tr>
<tr>
<td>Piñero, Gema</td>
<td>33</td>
</tr>
<tr>
<td>Piechocki, Robert</td>
<td>19</td>
</tr>
<tr>
<td>Pourmir, Mithridad</td>
<td>29</td>
</tr>
<tr>
<td>Rajih, Myriam</td>
<td>35</td>
</tr>
<tr>
<td>Ramamurthy, Arjun</td>
<td>25</td>
</tr>
<tr>
<td>Ramis, Jaume</td>
<td>34</td>
</tr>
<tr>
<td>Ramstad, Tor A.</td>
<td>20, 20, 20</td>
</tr>
<tr>
<td>Raos, Ivana</td>
<td>27</td>
</tr>
<tr>
<td>Ray, Siddharth</td>
<td>28</td>
</tr>
<tr>
<td>Reed, Mark</td>
<td>34</td>
</tr>
<tr>
<td>Rhioui, Saloua</td>
<td>17</td>
</tr>
<tr>
<td>Ribeiro, Alejandro</td>
<td>32</td>
</tr>
<tr>
<td>Richter, Andreas</td>
<td>30</td>
</tr>
<tr>
<td>Riera-Palou, Felip</td>
<td>34</td>
</tr>
<tr>
<td>Rivenq, Atika</td>
<td>30</td>
</tr>
<tr>
<td>Rizogiannis, Constantinos</td>
<td>35</td>
</tr>
<tr>
<td>Rontogiannis, Athanasios</td>
<td>29</td>
</tr>
<tr>
<td>Ros, Laurent</td>
<td>23</td>
</tr>
<tr>
<td>Roumy, Aline</td>
<td>34</td>
</tr>
</tbody>
</table>
Rouquette-Leveil, Stephanie 18
Ryckaert, Julien 28
Rydström, Mats 22
Saberali, Sayyed Mohammad 30
Sadough, Sajad 28
Salmi, Jussi 30
Samano-Robles, Ramiro 24
Santamaria, Ignacio 35
Sawaya, Hadi 18
Sayed, Ali 32
Sälzer, Thomas 33
Scaqlione, Anna 20
Schniter, Philip 23, 29
Schoonen, Admar 23
Schubert, Martin 33
Scutari, Gesualdo 22, 34
Septier, François 30
Sezgin, Aydin 19
Shariatpanahi, Pooya 24
Shepherd, David 34
Shi, Zhenning 34
Simeone, Osvaldo 32, 32
Simoens, Sebastien 32
Singh, Jaspreet 20
Siohan, Pierre 23
Skrzypczak, Alexandre 23
Slock, Dirk 29, 33, 35
Spagnolini, Umberto 32
Stanojev, Igor 32
Steiner, Christoph 28
Stephenne, Alex 26
Ström, Erik 22
Stuber, Gordon 30
Sulyman, Ahmed Iyanda 21
Sun, Haitong 21
Svensson, Arne 22
Swindlehurst, Lee 22
<table>
<thead>
<tr>
<th>Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanda, Mario</td>
<td>17</td>
</tr>
<tr>
<td>Tang, Taiwen</td>
<td>32</td>
</tr>
<tr>
<td>Tang, Zijian</td>
<td>23</td>
</tr>
<tr>
<td>Teich, Werner</td>
<td>35</td>
</tr>
<tr>
<td>Theodoridis, Sergios</td>
<td>35</td>
</tr>
<tr>
<td>Thompson, John</td>
<td>19</td>
</tr>
<tr>
<td>Tian, Zhi</td>
<td>28</td>
</tr>
<tr>
<td>Tong, Lang</td>
<td>22</td>
</tr>
<tr>
<td>Utschick, Wolfgang</td>
<td>26, 27, 27, 29</td>
</tr>
<tr>
<td>Vakili, Ali</td>
<td>27</td>
</tr>
<tr>
<td>Van Poucke, Bart</td>
<td>28</td>
</tr>
<tr>
<td>Vanbleu, Koen</td>
<td>29</td>
</tr>
<tr>
<td>Vandendorpe, Luc</td>
<td>24, 25</td>
</tr>
<tr>
<td>Varanese, Nicola</td>
<td>32</td>
</tr>
<tr>
<td>Varma, Angiras</td>
<td>23</td>
</tr>
<tr>
<td>Vazquez, Gregori</td>
<td>28</td>
</tr>
<tr>
<td>Vázquez-Araújo, Francisco</td>
<td>18</td>
</tr>
<tr>
<td>Vía, Javier</td>
<td>35</td>
</tr>
<tr>
<td>Vidal, Josep</td>
<td>31, 32</td>
</tr>
<tr>
<td>Vigelis, Rui</td>
<td>26</td>
</tr>
<tr>
<td>Visoz, Raphael</td>
<td>35</td>
</tr>
<tr>
<td>Vithanaqe, Cheran</td>
<td>19</td>
</tr>
<tr>
<td>Vosoughi, Azadeh</td>
<td>20</td>
</tr>
<tr>
<td>Walsh, John</td>
<td>20</td>
</tr>
<tr>
<td>Wang, Cheng</td>
<td>21</td>
</tr>
<tr>
<td>Wang, Renqiu</td>
<td>32</td>
</tr>
<tr>
<td>Wehinger, Joachim</td>
<td>30</td>
</tr>
<tr>
<td>Werner, Stefan</td>
<td>33</td>
</tr>
<tr>
<td>Willems, Frans</td>
<td>23</td>
</tr>
<tr>
<td>Witrisal, Klaus</td>
<td>28</td>
</tr>
<tr>
<td>Wittneben, Armin</td>
<td>28</td>
</tr>
<tr>
<td>Wolf, Anne</td>
<td>25</td>
</tr>
<tr>
<td>Wrycza, Peter</td>
<td>33</td>
</tr>
<tr>
<td>Wu, Jwo-Yuh</td>
<td>35</td>
</tr>
<tr>
<td>Wu, Lin</td>
<td>28</td>
</tr>
<tr>
<td>Wunder, Gerhard</td>
<td>26</td>
</tr>
<tr>
<td>Xavier, João</td>
<td>18</td>
</tr>
<tr>
<td>Name</td>
<td>Age</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Yacoub, Doris</td>
<td>35</td>
</tr>
<tr>
<td>Yang, Hong-Chuan</td>
<td>24</td>
</tr>
<tr>
<td>Yin, Xuefeng</td>
<td>31</td>
</tr>
<tr>
<td>Ysebaert, Geert</td>
<td>29</td>
</tr>
<tr>
<td>Yu, Kai</td>
<td>22</td>
</tr>
<tr>
<td>Yuan, Jinhong</td>
<td>33</td>
</tr>
<tr>
<td>Zazo, Santiago</td>
<td>27</td>
</tr>
<tr>
<td>Zemen, Thomas</td>
<td>30</td>
</tr>
<tr>
<td>Zhan, Pengcheng</td>
<td>22</td>
</tr>
<tr>
<td>Zhao, Chunming</td>
<td>21</td>
</tr>
<tr>
<td>Zhao, Qing</td>
<td>30</td>
</tr>
</tbody>
</table>