### 6th International Workshop on Multi-Carrier Spread-Spectrum MC-SS 2007

**Tentative Program**

**May 07-09, 2007, Herrsching, Germany**

#### Monday, May 07

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First Day, Monday, May 07, 2007

9:00 – 13:30  Registration

9:00 – 12:00  Tutorial on MC-CDMA

13:30 – 15:00 Session 1 (Plenary)

Title: General Issues-I

Chairperson: Armin Dammann, German Aerospace Center (DLR)

1) Opening Remarks

2) OFDM towards Broadband Wireless Access
   Ramjee Prasad (Aalborg University) (invited plenary speech)

3) Frequency-Domain Equalization for Block CDMA Transmission
   F. Adachi, A. Nakajima, K. Takeda, L. Liu, H. Tomoeba, K. Fukuda (Tohoku University)
   (invited paper)

4) OFDMA in Cellular Mobile Communication Systems and its Real-Time Emulation
   Ingo Viering, Eiko Seidel (NOMOR Research)

15:00 - 15:30 Coffee Break

15:30 – 17:10 Session 2 (Parallel Session)

Title: Channel Estimation-I

Chairperson: Peter Hoeher, University of Kiel

1) Combined Time and Frequency Domain OFDM Channel Estimation
   M. Bevermeier, R. Haeb-Umbach (University of Paderborn)

2) Design and Performance Analysis of Low-Complexity Pilot-Aided OFDM Channel Estimators
   E. Golovins, N. Ventura (University of Cape Town)

3) A Study on Channel Estimation for OFDM Systems Using EM Algorithm Based on Multi-Path Doppler Channel Model
   A. Waku (Tokyo University of Science),
   M. Fujii (Utsunomiya University),
   M. Itami, K. Itoh (Tokyo University of Science)

4) Channel Estimation for Block-IFDMA
   A. Sohl, T. Frank, A. Klein (Darmstadt University of Technology)
15:30 – 17:10 Session 3 (Parallel Session)

Title: Multiple Antennas

Chairperson: Fumiyuki Adachi, Tohoku University

1) Performance of Cyclic Delay Diversity in Ricean Channels
A. Dammann, R. Raulefs, S. Plass (German Aerospace Center (DLR))

2) Downlink Performance of MC-CDMA Systems with Spatial Phase Codes in Fading Channels
S. Kaiser (DoCoMo Euro-Labs)

3) Doppler-Compensation for OFDM-Transmission by Sectorized Antenna Reception
P. Klenner, K.-D. Kammeyer (University of Bremen)

F. Keskin, A. Egelhof (University of Kaiserslautern)

Second Day, Tuesday, May 08, 2007

9:00 – 10:40 Session 4 (Parallel Session)

Title: Channel Estimation-II

Chairperson: Li Ping, City University of Hong Kong

1) Robust Time Domain Channel Estimation for MIMO-OFDMA Downlink System
B. Le Saux, M. Helard, R. Legouable (France Telecom)

2) Joint Iterative Channel Estimation and Soft-Chip Combining for a MIMO MC-CDMA Antijam System
G. Asadullah, G.L. Stuber (Georgia Institute of Technology)

3) Pilot Design for MIMO-OFDM with Beamforming
M. Carta (University of Pisa), I. Cosovic, G. Auer (DoCoMo Euro-Labs)

4) Channel Estimation by Exploiting Sublayer Information in OFDM Systems
M. Bevermeier, T. Ebel, R. Haeb-Umbach (University of Paderborn)

9:00 – 10:40 Session 5 (Parallel Session)

Title: Adaptive Transmission

Chairperson: Witold Krzymien, University of Alberta

1) A New Dynamic Partial Precoding Technique for MC-CDMA Systems Employing PSK Modulation
C. Masouros, E. Alsusa (University of Manchester)

2) The Influence of Link Adaptation in Multi-User OFDM
S. Pfletschinger (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC))
3) Adaptive Multi-Carrier Spread-Spectrum with Dynamic Time-Frequency Codes for UWB Applications
   A. Stephan, J.-Y. Baudais, J.-F. Helard (Institute of Electronics and Telecommunications of Rennes (IETR))

4) Radio Resource Allocation in MC-CDMA under QoS Requirements
   I. Gutierrez (Ramon Llull University), F. Bader (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC)), J.L. Pijoan (Ramon Llull University)

10:40 - 11:10 Coffee Break

11:10 – 12:30 Session 6 (Plenary)

Title: General Issues-II

Chairperson: Khaled Fazel, Ericsson GmbH

1) Half-duplex relay networks, network coding and (a little bit of) OFDM
   Ralf Koetter (Technical University of Munich) (invited plenary speech)

2) EXIT-Chart Analysis of Iterative Space-Time-Frequency Coded Multi-Carrier Receivers
   S. Sand, A. Dammann (German Aerospace Center (DLR))

3) Interleaver for High Parallelizable Turbo Decoder
   L. Boher, J.-B. Dore, M. Helard, C. Gallard (France Telecom)

12:30 - 14:00 Lunch Break

14:00 – 15:20 Session 7 (Parallel Session)

Title: Interleave Division Multiple Access (IDMA)

Chairperson: Stephan Pfletschinger, Centre Tecnològic de Telecomunicacions de Catalunya (CTTC)

1) Multi-User Detection Techniques for Potential 3GPP Long Term Evolution (LTE) Schemes
   Q. Guo, X. Yuan, L. Ping (City University of Hong Kong) (invited paper)

2) Analysis and Performance of an Efficient Iterative Detection Strategy for IDMA Systems
   P. Weitkemper, K.-D. Kammeyer (University of Bremen)

3) Joint Navigation & Communication Based on Interleave-Division Multiple Access
   P.A. Hoeher, K. Schmeink (University of Kiel)
14:00 – 15:20 **Session 8 (Parallel Session)**

**Title**: Spectrum and Interference

**Chairperson**: Ralf Koetter, Technical University of Munich

1) **Out-of-band Radiation in Multicarrier Systems: A Comparison**  
   L.G. Baltar, D.S. Waldhauser, J.A. Nossek (Munich University of Technology)

2) **Mitigation of Dynamically Changing Narrow-Band Interferers in OFDM Based Overlay Systems**  
   S. Brandes, M. Schnell (German Aerospace Center (DLR))

3) **Cancellation of Digital Narrowband Interference for Multi-Carrier Systems**  
   M. Marey, H. Steendam (University of Ghent)

15:20 - 15:45 **Coffee Break**

15:45 – 17:00 **Session 9 (Parallel Session)**

**Title**: Synchronization and Tracking

**Chairperson**: Heidi Steendam, University of Ghent

1) **Positioning with Generalized Multi-Carrier Communications Signals**  
   C. Mensing, S. Plass, A. Dammann (German Aerospace Center (DLR))

2) **Joint Channel Tracking and Phase Noise Compensation for OFDM in Fast Fading Multipath Channels**  
   R. Corvaja (University of Padova),  
   A. Garcia Armada (University Carlos III of Madrid)

3) **Estimation of Sampling Time Misalignments in IFDMA Uplinks**  
   A. Arkhipov, M. Schnell (German Aerospace Center (DLR))

15:45 – 17:00 **Session 10 (Parallel Session)**

**Title**: Multi-Cell and Multi-Link

**Chairperson**: Josef A. Nossek, Technical University of Munich

1) **DOA Estimation for MC-CDMA Uplink Transmissions**  
   A. A. D’Amico, M. Morelli, L. Sanguinetti (University of Pisa)

2) **The Cellular Alamouti Technique**  
   S. Plass, R. Raulefs (German Aerospace Center (DLR))

3) **Iterative Intercell Interference Cancellation for DL MC-CDMA Systems**  
   M. Chacun, M. Helard, R. Legouable (France Telecom)

18:15 – 22:00 **Social Event on the historical paddle wheel steamer ‘RMS Diessen’; meeting point at the quay in Herrsching (5min walk from the conference venue); Dinner Speech by Joachim Hagenauer**
Third Day, Wednesday, May 09, 2007

9:00 – 10:40 Session 11 (Parallel Session)

Title: Channel Estimation-III

Chairperson: Gordon L. Stuber, Georgia Institute of Technology

1) Joint Data Detection and Channel Estimation for Uplink MC-CDMA Systems over Frequency Selective Channels
E. Panayirci (Kadir Has University), H. Dogan, H.A. Cirpan, (Istanbul University)
B.H. Fleury (Aalborg University)

2) On the Performance of MC-CDMA Systems with Partial Equalization in the Presence of Channel Estimation Errors
F. Zabini, B.M. Masini, (University of Bologna)
A. Conti (University of Ferrara)

3) Kalman vs $H_\infty$ Algorithms for MC-DS-CDMA Channel Estimation With or Without A Priori AR Modeling
A. Jamoos, J. Grolleau, E. Grivel (University of Bordeaux 1),
H. Abdel-Nour (Al-Quds University)

4) Cross-Coupled Rao-Blackwellized Particle and Kalman Filters for the Joint Symbol-Channel Estimation in MC-DS-CDMA Systems
J. Grolleau, A. Giremus, E. Grivel (University of Bordeaux 1)

9:00 – 10:40 Session 12 (Parallel Session)

Title: Data Transmission

Chairperson: Stephan Sand, German Aerospace Center (DLR)

1) RAKE Reception for Signature-Interleaved DS CDMA in Rayleigh Multipath Channel
A. Dudkov (University of Turku)

2) Accurate BER of MC-DS-CDMA over Rayleigh Fading Channels
B. Smida (Harvard University), L. Hanzo (University of Southampton),
S. Affes (Université du Québec)

3) OFDM/OQAM for Spread-Spectrum Transmission
C. Lele, P. Siohan, R. Legouable, M. Bellanger (France Telecom)

4) A Multi-Carrier Downlink Transmitter for LEO Satellite
R.M. Vitenberg (Wavetone Technologies Ltd.)

10:40 - 11:10 Coffee Break
11:10 – 13:15 Session 13 (Plenary)

Title: General Issues-III

Chairperson: Stefan Kaiser, DoCoMo Euro-Labs

1) Different Guard Interval Techniques for OFDM: Performance Comparison  
   H. Steendam, M. Moeneclaey (University of Ghent) (invited paper)

2) An Analysis of OFDMA, Precoded OFDMA and SC-FDMA for the Uplink in Cellular Systems  
   C. Ciochina (Mitsubishi Electric ITE-TCL, Supélec),  
   D. Mottier (Mitsubishi Electric ITE-TCL),  
   H. Sari (Supélec)  
   (invited paper)

3) Influence of a Cyclic Prefix on the Spectral Power Density of Cyclo-Stationary Random Sequences  
   M.T. Ivrlac, J.A. Nossek (Technical University of Munich)

4) Downlink Scheduling for Multiple Antenna Multi-Carrier Systems with Dirty Paper Coding via Genetic Algorithms  
   R.C. Elliott, W.A. Krzymien (University of Alberta)

5) Closing Remarks