Advance Program

2002 Interim International Symposium on Antennas and Propagation

November 26-28, 2002
Yokosuka Research Park, Kanagawa, Japan
ISAP i-02 is
Sponsored by the
Institute of Electronics, Information and Communication Engineers (IEICE),
the co-sponsorship of the
Korea Electromagnetic Engineering Society (KEES)
in cooperation with the
International Union of Radio Science (URSI),
Antennas and Propagation Society of the Institute of Electrical and Electronics
Engineers (IEEE/AP-S), and
Antennas and Propagation Professional Network of the Institution of Electrical Engineers (IEE),
and supported by YRP R&D Committee.

SYMPOSIUM LOCATION

The conference will be held in the Yokosuka Research Park (YRP) from November 26 to 28, 2002. YRP, located in the middle of Japan, has developed into a mobile telecommunications research park such as cannot be found anywhere else in the world with over 40 advanced research institutions from all over the world. Train access to pass through Tokyo and Yokohama from Narita airport is available.

SYMPOSIUM SCHEDULE

November, 2002

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<tr>
<td>26 (Tus)</td>
<td>9:00- 9:40</td>
<td>Opening Ceremony</td>
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<td>10:00-18:10</td>
<td>Technical Sessions</td>
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<td>27 (Wed)</td>
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<td>Buffet Party</td>
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<td>28 (Thu)</td>
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The registration desk will be provided during the symposium as follows.

November 25 (Mon.)         3:00pm - 9:00pm at Yokosuka Prince Hotel
November 26 (Tue.)-28 (Thu.)     8:00am – 5:00pm at YRP (symposium site)
Greetings to people worldwide working on antennas, propagation, and electromagnetics.

On behalf of the organizing committee of the 2002 Interim International Symposium on antennas and propagation (ISAP I-02), I’d like to welcome participants from all over the world to the ISAP i-02 at the Yokosuka Research Park (YRP) from November 26 to November 28. Previously, the ISAP was held approximately every four years, but it has been only two years since the last ISAP in Fukuoka. The reason why ISAP is being held in 2002 is to respond to the request of people that wish to present and discuss the hot and emerging topics on antennas, propagation, electromagnetics, and systems.

The focus of the symposium will be on (1) Wireless communication (2) Biological effects and medical applications, and (3) Computational electromagnetics. More than one hundred fifty papers were submitted on these subjects from all over the world and three outstanding invited speakers will present fascinating talks in each category. We planned ISAP i-02 with an informal atmosphere to allow the participants to discuss topics easily and to foster the exchange of ideas among participants. Up to three sessions will be held in parallel, and extra time for discussion in a relaxed atmosphere with wine and cheese is planned after the regular sessions.

YRP is located one and a half hours southwest of Tokyo by train. It was developed in 1997 and is now world famous center for the research and development division of international mobile and wireless companies that are engaged in future mobile and wireless system and services. On the way to YRP from Tokyo or Narita, please feel free to visit the historical city Kamakura where about eight hundred years ago the samurai government was established. Visitors will find many Zen temples and will be able to experience a true sense of the Japanese traditional spirit. In addition to a sightseeing tour, a “Technical tour” will be available on November 27, the second day of the ISAP i-02. There are three courses available: (1) NTT DoCoMo R&D center, (2) Yokosuka ITS Research Center of TAO (Telecommunications Advancement Organization of Japan) and (3) Communication Research Laboratory Yokosuka. Detail of the technical tours described on the registration form of ISAP i-02. Each institution will present attractive technologies and their recent activities, and we hope that you will find valuable ideas for future research.

I hope that the symposium is fruitful and enjoyable for all participants, and I’m sure that all participants will make new friends and find new research subjects through the ISAP i-02. Finally, I’d like to express my sincere appreciation to the Korea Electromagnetics Engineering Society (KEES) which is co-sponsoring this symposium with the IEICE. I’d also like to thank the URSI, IEEE Antennas and Propagation Society, and the IEE Antennas and Propagation Professional Networks for their technical support to the ISAP i-02.

I’m looking forward to seeing you at the “Wireless Hill” in November.

Kenichi Kagoshima, Chairperson
Organizing Committee
ISAP I-02
# TIME TABLE OF THE SYMPOSIUM

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<th>Panasonic Hall</th>
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<td><strong>Nov. 26</strong></td>
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<td>Adaptive and Smart Antennas I</td>
<td>Antennas and Human Body</td>
<td>Computational Electromagnetics I</td>
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<td>Adaptive and Smart Antennas II</td>
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<td>Antennas for Wireless Systems</td>
<td>Millimeter Wave Antennas</td>
<td>Scattering and Diffraction II</td>
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<td><strong>Nov. 27</strong></td>
<td><strong>Wednesday</strong></td>
<td>2A2 Antennas for Wireless Terminals</td>
<td>2B2 Rainfall Attenuation</td>
<td>2C2 Last Minute Session on Bio-EM</td>
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<td>15:30</td>
<td>Broadband Antennas</td>
<td>Recent Advances of Antennas and Propagation in Korea</td>
<td>Medical Applications and EMC</td>
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<td>Last Minute Session on Antennas and Propagation in Wireless Communications</td>
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<td>Computational Electromagnetics II</td>
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<td>Closing Ceremony</td>
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## TECHNICAL PROGRAM

### Oral Sessions

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<td>Adaptive and Smart Antennas I</td>
<td>10:00 to 12:00, Tue, 26 November</td>
<td>YRP Hall</td>
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1. **ON IMPROVING THE RECURSIVE UNITARY ESPRIT FOR ITERATIVE DOA ESTIMATION**  
   Nobuyoshi Kikuma, Tomoyuki Sasaki and Naoki Inagaki, *Nagoya Institute of Technology*

2. **ON ANTENNA ARRAY CALIBRATION WITH MINIMUM KNOWN SOURCES**  
   Hara Rakuzou, Hiroyoshi Yamada and Yoshio Yamaguchi, *Niigata University*

3. **DIGITAL BEAMFORMING EQUIPMENT BY TIME DIVISION MULTIPLEX RECEIVING FOR THE DIRECTION FINDER**  
   Takashi Maruyama and Yoshihiko Kuwahara, *Shizuoka University*

4. **AN ADAPTIVE SIDELOBE CANCELLATION ALGORITHM FOR HIGH-GAIN ANTENNA ARRAYS**  
   Kazunori Kamio, and Toru Sato, *Kyoto University*

5. **USER DISCRIMINATION CHARACTERISTICS BY TERMINAL POLARIZATION IN SDMA SYSTEM ADOPTING SPATIAL AND POLARIZATION CONTROL**  
   Kentaro Nishimori, Kazuhiro Komiya and Keizo Cho, *NTT Corporation*

6. **SUBBAND ADAPTIVE ARRAY FOR DS-CDMA MOBILE RADIO**  
   Nam X Tran, Takanori Omata, Tetsuki Taniguchi and Yoshio Karasawa, *The University of Electro-Communications*

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<td>Adaptive and Smart Antennas II</td>
<td>13:30 to 15:30, Tue, 26 November</td>
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1. **SMART ANTENNA TESTBED SYSTEM FOR 3G CELLULAR SYSTEMS: AN OVERVIEW OF FIELD TRIALS**  
   Yoshiaki Amano and Takashi Inoue, *KDDI R&D Inc.*

2. **MMSE ADAPTIVE ARRAY ANTENNA WITH DUAL-MODE SPACE-TEMPORAL SIMULTANEOUS PROCESSING EQUALIZER**  
   Yoshihiro Ichikawa, Shigeki Obote and Kenichi Kagoshima, *Ibaraki University*

3. **DOWNLINK BEAM FORMING METHOD FOR MIMO-SDMA USING STBC FOR MULTIPATH FADING ENVIRONMENTS**  
   Yasushi Takatori and Keizo Cho, *NTT*

4. **BEAM-SPACE ADAPTIVE ARRAY ANTENNA FOR SUPPRESSING THE DOPPLER SPREAD IN OFDM MOBILE RECEPTION**  
   Pubudu S Wijesena, and Yoshio Karasawa, *The University of Electro-Communication*

5. **MMSE ADAPTIVE ANTENNA FOR OMC-CDMA MOBILE COMMUNICATION**  
   Yosuke Fujino and Yoshihiko Kuwahara, *Shizuoka University*

6. **OPTIMIZING THE ADAPTIVE ARRAY ANTENNA CONFIGURATION FOR INTERFERENCE REDUCTION CHARACTERISTICS IN W-CDMA**  
   Manabu Mikami and Teruya Fujii, *IEICE*
1A4 Antennas for Wireless Systems

**Time:** 15:50 to 18:10, Tue, 26 November

**Place:** YRP Hall

1. PORTABLE AND DEPLOYABLE ANTENNA FOR ETS-VIII
   Jae-hyeuk Jang, Masato Tanaka and Naokazu Hamamoto, CRL

2. STUDY OF SIMPLE SINGLE LAYER PATCH ARRAY ANTENNAS FOR ETS-VIII APPLICATION
   David Delaune, Toshimitsu Tanaka, Teruo Onishi, Hiroyuki Yoshimura and Koichi Ito, Faculty of Engineering, Chiba University

3. WEARABLE PATCH ANTENNA
   Masato Tanaka and Jae-hyeuk Jang, CRL

4. HORIZONTALLY POLARIZED OMNI-DIRECTIONAL ANTENNAS
   Haruo Kawakami (1), Gentei Sato (1) and Toshikazu Hori (2), (1) Antenna Giken Co., Ltd., (2) Fukui University

5. A SPACE DIVERSITY BIDIRECTIONAL ANTENNA USING PROBE EXCITED RECTANGULAR RING
   Chuwong Phongcharoenpanich (1), Suthasinee Lamultree (1), Sompol Kosulvit (1), Monai Krairiksh (1) and Jun-ichi Takada (2), (1) King Mongkut’s Institute of Technology Ladkrabang, (2) Tokyo Institute of Technology

6. PERFORMANCE OF TC 8PSK WITH COMBINATION OF TRANSMIT-SC AND RECEIVE-MRC ON NAKAGAMI FADING CHANNEL
   Gunawan Wibisono (1), Sofia Pinardi (1) and Iwao Sasase (2), (1) University of Indonesia, (2) Keio University

7. MULTI-BAND ADAPTIVE ARRAY ANTENNA USING THE SIERPINSKI MONOPOLE
   Takahiro Noguchi, Yosuke Tsuji, Daisuke Sakai and Yoshihiko Kuwahara, Shizuoka University

1B2 Antennas and Human Body

**Time:** 10:00 to 12:00, Tue, 26 November

**Place:** YRP Meeting Room 1

1. A PROPOSAL FOR A TRANSMISSION DIVERSITY FOR MITIGATION OF THE HUMAN BODY EFFECT OF HANDSET ANTENNAS AND ITS PERFORMANCE EVALUATION
   Hiroshi Iwai, Koichi Ogawa and Yoshio Koyanagi, Matsushita Communication Industrial Co., LTD.

2. STUDY ON THE CHARACTERISTICS OF ARRAY ANTENNAS CLOSE TO LOSSY OBJECTS
   Teruo Onishi and Koichi Ito, Chiba University

3. ANALYSIS OF BUILT-IN ANTENNAS FOR HANDSET USING HUMAN (HEAD, HAND AND FINGER) MODEL
   Jun Ito (1), Syogo Hayashida (1), Hisashi Morishita (1) and Kyohei Fujimoto (2), (1) Natinal Defense Academy, (2) FAIS

4. REDUCTION OF ABSORPTION POWER IN HUMAN HEAD NEAR CELLULAR PHONE WITH DIRECTOR
   Yuji Sakamoto, Yoshtisugu Kaminura and Yoshifumi Yamada, Utsunomiya University

5. AN ANALYSIS OF THE PERFORMANCE OF A HANDSET PIFA INFLUENCED BY AN OPERATOR'S FINGER EFFECT AND ITS MITIGATION METHOD
   Nobuharu Mashima, Yutaka Saito, Yoshio Koyanagi and Koichi Ogawa, Matsushita Electric Industrial Co., Ltd.

6. CORRELATION BETWEEN THE LOCAL SAR AND NEAR E FIELD OF THE DIPOLE ANTENNA CLOSE TO THE COST244 PHANTOM
   Yoshiro Koyanagi (1), Koichi Ogawa (1) and Koichi Ito (2), (1) Matsushita Electric Industrial, (2) Chiba University
1B3 Integrated and Active Antennas

1. A MILLIMETER-WAVE ACTIVE INTEGRATED ANTENNA ARRAY WITH A 3D PRINTED PBG STRUCTURE
   Hideyuki Ishida, Shigeo Kawasaki and Ryuta Sonoda, Tokai University

2. NOVEL MULTI-LAYER ACTIVE INTEGRATED ANTENNA CONFIGURATION USING TEFLOWN SUBSTRATE
   Tomohiro Seki, Kenjiro Nishikawa and Keizo Cho, NTT

3. LOW-NOISE ACTIVE MICROSTRIP ANTENNA FED BY COPLANAR WAVEGUIDE
   Eko T Rahardjo and Dadang Handayana, Dept. of Electrical Engineering, University of Indonesia

4. DEVELOPMENT OF A TRIPLE-LAYERED PATCH ANTENNA CAPABLE OF THREE FREQUENCY OPERATIONS
   Sho Yuminaga (1), Makoto Hirayama (1) and Yoshihide Yamada (2), (1) OPTOWAVE Laboratory Inc.,
   (2) National Defense Academy

5. MULTIMODE DIELECTRIC RESONATOR ANTENNA WITH A SMALL GROUND PLANE
   Alexandre P Popov (1), Kyohei Fujimoto (2), (1) Institute of Miroelectronics, (2) University of Tsukuba

6. A SELF-DIPLEXING ANTENNA USING SLITTED PATCH ANTENNA
   Yuko Rikuta and Hiroyuki Arai, Yokohama National University

1B4 Millimeter Wave Antennas

1. DIELECTRIC ROD ANTENNA FED BY IMAGE NRD GUIDE
   Manabu Yamamoto (1), Toshio Nojima (1) and Kiyohiko Itoh (2), (1) Hokkaido University, (2) Tomakomai
   National College of Technology

2. FAN-SHAPED ANTENNAS
   Hisamatsu Nakano, Naoki Nishizaka, Hiroaki Mimaki and Junji Yamauchi, Wireless Network Communications
   Research Center, Hosei University

3. APERTURE ILLUMINATION OF A CIRCULAR POLARIZATION OVERSIZED RECTANGULAR WAVEGUIDE SLOTTED ARRAY
   Hisahiro Kai, Jiro Hirokawa and Makoto Ando, Tokyo Institute of Technology

4. RADIAL LINE SLOT ANTENNAS FED BY A RECTANGULAR WAVEGUIDE THROUGH A CROSSED SLOT
   Kaoru Sudo, Takuuchi Hirano, Jiro Hirokawa and Makoto Ando, Tokyo Institute of Technology

5. LEAKY-WAVE ANTENNAS WITH LOW SIDELOBES BASED ON STUB-LOADED RIDGE-RECTANGULAR WAVEGUIDES
   Mikio Tsuji, Taiji Harada, Hiroshi Shigesawa, Doshisha University

6. A DESIGN METHOD OF MULTIMODE HORN WITH LOW CROSS POLARIZATION FOR HIGH EFFICIENCY REFLECTOR ANTENNAS
   Hiroyuki Deguchi, Mikio Tsuji, Hiroshi Shigesawa, Doshisha University

7. LINEAR ARRAY OF RESONANT-TYPE LEAKY-WAVE ANTENNA BASED ON IMAGE NRD GUIDE
   Ally Y Simba (1), Manabu Yamamoto (1), Toshio Nojima (1) and Kiyohiko Itoh (2), (1) Hokkaido University,
   (2) Tomakomai National College of Technology
1C2  Computational Electromagnetics I
Time:  10:00 to 12:00, Tue, 26 November
Place:  Panasonic Hall
Organizer:  Weng C. Chew, University of Illinois at Urbana

1. APPLICATION OF ADAPTIVE INTEGRAL METHOD TO SCATTERING ANALYSIS OF ARBITRARILY SHAPED RADOMES (invited)
   Wei-Jiang Zhao(1), Le-Wei Li(1)(2), and Yeow-Beng Gan(1), (1) National University of Singapore, (2) Singapore-MIT Alliance

2. STUDY OF THE SCATTERING FROM CAVITIES (invited)
   Wang Hao Gang, Nie Zai Ping, and Qin Yi, University of Electronic Science and Technology of China

3. ACCURACY IMPROVEMENT IN FEM SOLUTION OF WAVEGUIDE DISCONTINUITY PROBLEMS BY DUAL E AND H FORMULATIONS (invited)
   Ting-Huei Lin(1), Ruey-Beei Wu(2), (1)Chunghwa Telecom, (2) National Taiwan University

4. SUB-GRIDDING FDTD METHOD FOR BOREHOLE RADAR ANTENNA (invited)
   Motoyuki Sato(1), Sixin Liu(2), (1) Tohoku University, (2) Jilin University

5. FULL-WAVE COUPLING ANALYSIS OF FLANGED COAXIAL LINE ARRAY (invited)
   Yong B Park, Hyo J Eom, KAIST

6. LARGE SCALE SIMULATIONS OF SCATTERING OF WAVES BY RANDOM ROUGH SURFACES WITH APPLICATIONS IN MICROWAVE REMOTE SENSING AND WIRELESS COMMUNICATIONS (invited)

1C3  Scattering and Diffraction I
Time:  13:30 to 15:30, Tue, 26 November
Place:  Panasonic Hall
Organizer:  Young K. Cho, Kyungpook National University and Hyo J. Eom, KAIST

1. COMPUTATION OF GENERALIZED CONSTITUTIVE RELATIONS FOR META-MATERIALS
   Akira Ishimaru, Seung-woo Lee, Yasuo Kuga, Vikram Jandhyala, University of Washington

2. A FAST ANALYSIS OF SCATTERING FROM ARBITRARILY SHAPED CONDUCTING BODIES COATED WITH LOSSY MATERIALS
   Ning Yuan, Tat Soon Yeo, Xiao Chun Nie, Le Wei Li and Yeow Beng Gan, National University of Singapore

3. EFFICIENT EVALUATION OF THE TWO-DIMENSIONAL GENERALIZED EXPONENTIAL AND HANKEL INTEGRALS FOR THE MICROSTRIP STRUCTURES (invited)

4. APPLICABILITY OF INSENSITIVITY PROPERTIES OF MEI COEFFICIENTS: SCALAR-FIELD APPROACH
   N.m.alam Chowdhury(1), Jun-ichi Takada(1), Masanobu Hirose(2), (1) Tokyo Institute of Technology, (2) AIST

5. NUMERICAL CALCULATION OF SCATTERING FROM N DIELECTRIC CIRCULAR CYLINDERS BY USING GREENGARD-ROKHLIN'S FAST MULTIPOLE ALGORITHM
   Norimasa Nakashima, Mitsuo Tateiba, Kyushu University

6. REDUCTION OF ELECTROMAGNETIC FIELD PENETRATION THROUGH NARROW SLOTS IN CONDUCTING SCREEN BY SHORTING WIRE (invited)
   Ki-chai Kim, Woo Jin Kang, Yeungnam university
1C4 Scattering and Diffraction II
Time: 15:50 to 18:10, Tue, 26 November
Place: Panasonic Hall
Organizer: Young K. Cho, Kyungpook National University and Hyo J. Eom, KAIST

1. EXTRAPOLATION IN TIME AND FREQUENCY DOMAIN DATA USING BESSEL-CHEBYSHEV POLYNOMIALS (invited)
   Jinhwan Koh, Young-ki Cho, Tapan K Sarkar, Kyungpook National University

2. FORCED RESONANT TYPE CUTOFF CAVITY-BACKED SLOT ANTENNAS LOADED WITH REACTANCE ON APERTURE (invited)
   Ki-chai Kim, Sung Jae Yeo, Yeungnam university

3. DIFFRACTION FROM AN ANISOTROPIC CHIRAL SLAB WITH A PERIODICALLY APERTURED PLANE
   Masamitsu Asai (1), Jiro Yamakita (2), Hideaki Wakabayashi (2), (1) Tokyo Institute of Technology Kinki University,
   (2) Okayama Prefecture University

4. SCATTERING ANALYSIS OF A FLARED COAXIAL LINE RADIATING INTO A DIELECTRIC SLAB (invited)
   Dong H Shin, Hyo J Eom, KAIST

5. ELECTROMAGNETIC SCATTERING AND ABSORPTION OF CONDUCTING ELLIPTIC CYLINDER COATED WITH LOSSY FERRITE ABSORBER
   Tadahiro Masuda, Yasumitsu Miyazaki, Toyohashi University of Technology

6. ESTIMATION OF THE ENHANCED SCANNING PERFORMANCE OF TRIANGULAR GRID IN CAVITY-BACKED MICROSTRIP ARRAY ANTENNA (invited)
   Kyung-bin Park, Seong-ook Park, Information and Communication University (ICU)

7. WIDEBAND DUAL LINEARLY POLARIZED PATCH ARRAY ANTENNA (invited)
   Gi-cho Kang, Hak-young Lee, Jong-heon Kim, Nam-young Kim, Byungje Lee, Jong-chul Lee, Kwangwoon University

2A2 Antennas for Wireless Terminals
Time: 10:00 to 12:00, Wed, 27 November
Place: YRP Hall

1. A DEVELOPMENT OF BUILT-IN ANTENNA FOR W-CDMA VISUAL TERMINALS
   Kiyoshi Egawa, Tadashi Oga, Hiroshi Haruki, Matsushita Communication Industrial co., Ltd.

2. RECTANGULAR MICROSTRIP ANTENNA EXCITED BY MONOPOLE ANTENNA MOUNTED ON FINITE DIELECTRIC SUBSTRATE
   Mitsuo Taguchi (1), Ryo Nakamura (2), Hideaki Shimoda (3), Kazumasa Tanaka (1), (1) Dept. of Electrical and
   Electronic Eng., Nagasaki University, (2) Graduate School of Science and Tech., Nagasaki University,
   (3) Telecom Tech. Development Center, TDK Co.

3. BOADBAND CHARACTERISTIC OF INVERTED-F ANTENNA BY PARALLEL RESONANCE MODE
   Syu-ichi Sekine, Takedown Ito, Yasushi Murakami, Hiroki Shoki, Toshiba Corp.

4. MONOPOLE-SLOT ANTENNA HAVING COMPLEMENTARY STRUCTURE CONSTITUTED ON A CONDUCTING BOX
   Pu Xu (1), Kyohei Fujimoto (2), Shiming Lin (3), (1) Philips Research East Asia, (2) FAIS, (3) Northwestern
   Polytechnical University
5. COMPACT PLANAR FOUR-SECTOR ANTENNA COMPRISING PATCH YAGI-UDA ARRAYS IN A SQUARE CONFIGURATION
Naoki Honma, Fumio Kira, Tamami Maruyama, Keizo Cho, NTT Network Innovation Laboratories, NTT Corporation

6. PRINTED DIVERSITY MONOPOLE ANTENNA FOR WLAN OPERATION IN THE 2.4 GHZ BAND
Tzuenn-yih Wu\textsuperscript{(1)}, Shyh-tirng Fang\textsuperscript{(2)}, Kin-Iu Wong\textsuperscript{(1)}, EE Dept., National Sun Yat-Sen University,
\textsuperscript{(2)} Computer & Communications Research Lab., Industrial Technology Research Institute

\begin{tabular}{ll}
\textbf{2A3} & \textbf{Broadband Antennas} \\
Time: & 13:30 to 15:30, Wed, 27 November \\
Place: & YRP Hall \\
\end{tabular}

1. BROADBAND CHARACTERISTICS DESIGN OF SEMI-CIRCLE TYPE BOWTIE ANTENNA WITH HOLE SLOTS USING FDTD ANALYSIS
Ippei Murata, Yasumitsu Miyazaki, Toyohashi Univ. of Tech

2. OPTIMIZATION OF VIVALDI ANTENNA FOR DEMINING BY GPR
Guangyou Fang, Motoyuki Sato, Center For Northeast Asian Studies, Tohoku University

3. ULTRA-WIDEBAND TAPERED SLOT ANTENNA WITH A PARALLEL PLATE WAVEGUIDE
Satoshi Yamaguchi, Hiroaki Miyashita, Kazushi Nishizawa, Yoshihiko Konishi, Shigeru Makino, Mitsubishi Electric Corporation

4. MICROSTRIP PATCH ANTENNAS WITH FRACTAL BOUNDARY
Mazanek Milos, Hazdra Pavel, Czech Technical University

5. SINGLY-FED CIRCULARLY POLARISED PATCH ANTENNA WITH WIDE IMPEDANCE AND AXIAL-RATIO BANDWIDTH
Kwok L Chung, Ananda S Mohan, University of Technology, Sydney

6. TANGENTIALLY FED BROADBAND ANNULAR SLOT ANTENNA FOR WLAN APPLICATIONS
Philippe Minard, Ali Louzir, THOMSON multimedia

\begin{tabular}{ll}
\textbf{2B2} & \textbf{Rainfall Attenuation} \\
Time: & 10:00 to 12:00, Wed, 27 November \\
Place: & YRP Meeting Room 1 \\
\end{tabular}

1. SPATIAL CORRELATION OF RAINFALL RATE AT LOW PERCENTAGES OF TIME AND ITS REPRESENTATION BY BIVARIATE GAMMA DISTRIBUTIONS FOR PERFORMANCE EVALUATION OF WIRELESS SYSTEMS
Shinichi Nomoto, Koichi Nakama, KDDI R&D Labs. Inc.

2. TRYING TO BETTER UNDERSTAND RAIN ATTENUATION DISTRIBUTIONS MEASURED AT 19 GHZ AND 38 GHZ
Vaclav Kvicera, Martin Grabner, TESTCOM

3. SPACIAL CORRELATION OF RAINFALL RATE IN URBAN AREAS OF JAPAN
Kenji Hirano\textsuperscript{(1)}, Kazuo Kumamoto\textsuperscript{(1)}, Koji Yasukawa\textsuperscript{(1)}, Koichi Nakama\textsuperscript{(2)}, Shinichi Nomoto\textsuperscript{(2)}, \textsuperscript{(1)} OSAKA Institute of Technology, \textsuperscript{(2)} KDDI R&D Laboratories

4. A WORLDWIDE RAIN ATTENUATION PREDICTION METHOD WHICH USES SIMPLIFIED MOUPFOUMA DISTRIBUTION AND REGIONAL CLIMATIC PARA- METERS
Chieko Ito, Yoshio Hosoya, Dept. of Electrical and Electronic Eng., Kitami Institute of Technology
5. A MODEL FOR THE PREDICTION OF DIFFERENTIAL RAIN ATTENUATION STATISTICS ON TWO CONVERGING POINT-TO-POINT TERRESTRIAL LINKS LOCATED IN A TROPICAL REGION
Athanasios D. Panagopoulos, Charis Geronymakis, Costas Bakalis, John D. Kanellopoulos, National Technical University of Athens

6. THE EFFECT OF HEAVY RAINFALL ON ATTENUATION OVER TERRESTRIAL LOS LINK AT 28.75 GHZ
Inderjit S Hudiara, Ashok K Baldotra, Vibhu Sharma, GURU NANAK DEV UNIVERSITY

2B3 Recent Advances of Antennas and Propagation in Korea
Time: 13:30 to 15:30, Wed, 27 November
Place: YRP Meeting Room 1
Organizer: Dong-chul Park, Chungnam National University

1. A LOW-PROFILE ACTIVE PHASED ARRAY ANTENNA SYSTEM FOR MOBILE DIRECT BROADCASTING SATELLITE RECEPTION (invited)
Cheol Sig Pyo, Young Keun Yoon, Jong Moon Lee, Won Kyu Choi, Jae Ick Choi, ETRI

2. FREQUENCY SCAN ERROR CORRECTION FOR TRACKING BEAM (invited)
Soon Ik Jeon (1), Haeng Sook Ro (1), Seong Ho Son (1), Seung Hyeub Oh (2), (1) ETRI, (2) Chungnam University

3. A STUDY ON THE MICROSTRIP YAGI-UDA ARRAY ANTENNA FOR SATELLITE SERVICE (invited)
Jae K Ha (1), Dong C Park (2), (1) BluewaveTel Co., Ltd, (2) Chungnam Natl. Univ.

4. 13 M ANTENNA SYSTEM FOR KOMPSAT-2 MISSION (invited)
Sang-il Ahn, Hae-jin Choi, Korea Aerospace Research Institute

5. RADIATION PATTERNS OF THE ANTENNA MOUNTED ON COMPLEX STRUCTURE USING FDTD ALGORITHM (invited)
Dong-hyuk Choi, Seong-ook Park, Information and Communications Univ.

6. TWO-ARM MICROSTRIP SPIRAL ANTENNA WITH A CIRCULAR APERTURE ON THE GROUND PLANE (invited)
Daeyoung Oh, Myungki Kim, Ikmo Park, Ajou University

2C2 - Last Minute Session on Bio-EM -
Electromagnetic Phantoms and Their Applications
Time: 10:00 to 12:00, Wed, 27 November
Place: Panasonic Hall
Organizer: Koichi Ogawa, Matsushita Electric Industrial Co. Ltd.

Panelist and Speakers:
Niels kuster, Swiss Federal Institute of Technology
Osamu Fujiwara and J. Wang, Nagoya Institute of Technology
Koichi Ito and Kazuyuki Saito, Chiba University
Koichi Ogawa, Matsushita Electric Ind., Co., Ltd.

The session includes:
1) Panel and free discussion regarding EM-phantom from various points of view.
2) Presentation of panelist for 15-20 minutes each person.

This session will treat a wide range of topics regarding EM-phantom extending from SAR problems, medical applications to communication performance evaluations. A number of visual and animated presentations to help understand physical Pictures and insights of EM-bioeffect problems will also be provided. In the panel discussion segment, the audiences are allowed to make a short presentation less than 5 minutes to trigger the discussion. A viewgraph and a projector will be provided. It is the last minute session and there is no proceeding paper. The newest Information of ISAP i-02 is found on the web at http://WWW.ieice.org/cs/ap/ISAP2002/
1. NOVEL PARALLEL LOOP ANTENNA FOR CIRCUMFERENTIAL MICROWAVE ABLATION OF THE PULMONARY VEINS
   Heng M Chiu\(^{(1)}\), Ananda S Mohan\(^{(1)}\), Duncan R Guy\(^{(2)}\), David L Ross\(^{(2)}\), \(^{(1)}\)University of Technology, Sydney, \(^{(2)}\)Department of Cardiology, Westmead Hospital

2. HEATING OF NECK TUMOR BASED ON MRI DATA BY USING A COAXIAL-SLOT ANTENNA
   Kazuyuki Saito\(^{(1)}\), Wataru Miyamoto\(^{(1)}\), Hiroyuki Yoshimura\(^{(1)}\), Koichi Ito\(^{(1)}\), Yutaka Aoyagi\(^{(2)}\), Hirotoshi Horita\(^{(2)}\), \(^{(1)}\)Chiba University, \(^{(2)}\)Tokyo Dental College

3. ASSESSMENT OF SAR DISTRIBUTIONS INSIDE 10, AND 70 DAYS OLD RATS EXPOSED TO 900MHZ RF
   Yasir Alfadhli\(^{(1)}\), Chio C Chiau\(^{(1)}\), Zhou Wng\(^{(1)}\), Xiaodong Chen\(^{(1)}\), Camelia Gabriel\(^{(2)}\), \(^{(1)}\)Queen Mary, University of London, \(^{(2)}\)Microwave Consultants Ltd

4. CHARACTERISTICS OF THE RADIATED EMISSION FROM A MULTILAYER PCB WITH A SLIT
   Kenichi Nakayama, Kenichi Kagoshima, Shigeki Obote, Ibaraki University

5. FDTD SIMULATION OF CURRENT BEHAVIOR IN A TRANSMISSION LINE EXCITED BY AN ESD GUN
   Xiaojiang Zhang\(^{(1)}\), Osamu Fujiwara\(^{(1)}\), Yukio Yamanaka\(^{(2)}\), \(^{(1)}\)Nagoya institute of Technology, \(^{(2)}\)Independent Administrative Institutions, Communications Research Laboratory

6. ANALYSIS OF RADIATION FROM PULSE WAVE ANTENNAS
   Takashi Nakamura\(^{(1)}\), Aki Takahashi\(^{(1)}\), Risaburo Sato\(^{(2)}\), \(^{(1)}\)Gifu University, \(^{(2)}\)Electromagnetic Compatibility Research Laboratory

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3A3 - Last Minute Session on Antennas and Propagation in Wireless Communications -
Hot issues on UWB, MIMO and Security for Wireless Broadband Technologies

Speakers:
Tadahiko Maeda, Ritsumeikan University
Yukitoshi Sanada, Keio University
Yoshihiro Ohba, Toshiba America Research, Inc.
Chisato Endo, Intel Corp.
Ryuji Kohno, Yokohama National University
Mamoru Sawahashi, NTT DoCoMo Inc.

This special session offers several aspects and hot issues on antenna, propagation, and systems in Broadband wireless technologies. Six related topics will be presented by invited speakers from both academia and industries. The emphasis is on applying Software Defined Radio, including MIMO techniques, to the future high-speed wireless communication systems, with emphasis on the seamless services between multi-wireless standards.

Central questions addressed include “how antenna systems can collaborate with operating system for higher frequency utilization?”, "What is the industry’s expectation to broad band wireless PAN (Personal Area Network) and wireless network security?” and “how does an antenna engineer efficiently contribute to the system development?” Also, special attention is given to UWB (Ultra Wideband) technologies including its current developing status in the industry.
1. MEASUREMENT OF UHF BAND RADIO PROPAGATION AFFECTED BY HUMAN MOTION BY USE OF EXISTENT TV BROADCASTING WAVE
Masahiro Nishi, Akira Yabuki, Teruaki Yoshida, Hiroshima City University

2. MEASUREMENT SYSTEM OF POLARIZATION AND PHASE COMPONENTS FOR EVALUATING CELLULAR PHONE ANTENNA PERFORMANCE IN MULTIPATH PROPAGATION ENVIRONMENTS
Kentaro Miyano (1), Yoichi Nakagawa (1), Masahiro Mimura (1), Yoshio Koyanagi (1), Kyohei Fujimoto (2), (1) Matsushita Communication Industrial Co., Ltd., (2) University of Tsukuba

3. AN ACCURATE PROPAGATION PATH MODEL OBSTRUCTED BY A BLOCKING VEHICLE FOR INTER-VEHICLE COMMUNICATIONS AT 60GHz
Atsushi Yamamoto (1), Koichi Ogawa (1), Tetsuo Horimatsu (2), Akihito Kato (2), Masayuki Fujise (3), (1) Matsushita Electric Industrial Co., Ltd., (2) Fujitsu Ltd., (3) Communications Research Laboratory

4. TIME-SPACE PATH MODELING WITH TWO DIFFERENT ATTENUATION SCATTERING DISKS FOR WIDEBAND MOBILE PROPAGATION
Hideki Omote, Teruya Fujii, Japan Telecom

5. EXPERIMENTAL STUDY OF WIDEBAND PROPAGATION CHARACTERISTICS IN AN UNDERGROUND MALL AT 5-GHZ BAND
Kiyohiko Itokawa (1), Naoki Kita (2), Akio Sato (2), Daisuke Mori (3), Hironobu Watanabe (3), (1) NIPPON TELEGRAPH AND TELEPHONE CORPORATION, (2) NIPPON TELEGRAPH AND TELEPHONE CORPORATION Service Systems Laboratories, (3) NTT Advanced Technology Corporation

6. RIGOROUS SOLUTION OF THE DIFFRACTION FIELD BY FLAT-TOPPED LOSSY OBSTACLES
Xiongwen Zhao, Helsinki University of Technology

1. RF DESIGN OF MOBILE PHONES BY TCAD: SUITABILITY AND LIMITATIONS OF FDTD
Nicolas P Chavannes (1), Roger Tay (2), Neviana Nikoloski (3), Niels Kuster (3), (1) Schmid & Partner Engineering AG (SPEAG), (2) Motorola Electronics Private Limited, (3) Foundation for Research on Information Technologies in Society (IT’IS)

2. INDUCTANCE EXTRACTION OF CONDUCTING PLATE USING ADAPTIVE PE EC GRID
Chang-hoi Ahn, Han Kim, Yeungnam Univ.

3. FAST ITERATIVE ALGORITHM FOR SOLVING MATRIX EQUATION IN MOM ANALYSIS OF LARGE-SCALE ARRAY ANTENNAS
Qiang Chen (1), Qiaowei Yuan (2), Kunio Sawaya (1), (1) Tohoku University, (2)Oi Electric Co., Ltd

4. A MOM ANALYSIS USING NUMERICAL EIGENMODE BASIS FUNCTIONS FOR A NOTCHED ANNULAR RING SLOT ON A SHORTING PLATE OF A RECTANGULAR WAVEGUIDE
Takuichi Hirano, Jiro Hirokawa, Makoto Ando, Tokyo Institute of Technology

5. RESONANCE CHARACTERISTICS OF PATCH ANTENNA USING IN-PLANE AND WEAKLY BIASED FERRITE SUBSTRATE
Takeshi Fukusako, Akira Imahase, Nagahisa Mita, Kumamoto University
6. A CONSIDERATION ON APPARENT ANTENNA EFFICIENCY OF MF GROUNDED BROADCASTING ANTENNAS
Naoki Inagaki, Daisuke Itatsu, Nobuyoshi Kikuma, Nagoya Institute of Technology
Poster Sessions

**POS1  Antennas I**

**Time:** 10:00 to 12:00, Thu, 28 November  
**Place:** YRP Lobby

1. **HIGH GAIN CONICAL CUP MICROSTRIP ANTENNAS**  
   Byung-sun Park (1), Masato Tanaka (2), Jae-hyeuk Jang (2), Yung-sik Kim (1), (1) Korea University, (2) CRL

2. **CPW-FED MONOPOLE ANTENNA FOR DUAL-BAND OPERATION**  
   Horng-dean Chen, Wen-shyang Chen, Cheng-Shiu Institute of Technology

3. **AN ENHANCED CAVITY MODEL FOR CHARACTERIZATION OF MICROSTRIP ANTENNAS**  
   Le-wei Li, Chee-parng Chua, Yeow-beng Gan, National University of Singapore

4. **A LOW-PROFILE FOLDED PLANAR MONOPOLE ANTENNA**  
   Shun Yun Lin, Cheng Shiu Institute of Technology

5. **SELF-BALANCED AND WIDEBAND FOLDED LOOP ANTENNA FOR HANDSETS**  
   Shogo Hayashida (1), Hisashi Morishita (1), Kyohei Fujimoto (2), (1) National Defense Academy, (2) FAIS

6. **A HYBRID COUPLED TRIPLE-FREQUENCY SLOT ANTENNA FED BY CPW**  
   Jin-sen Chen, Cheng-Shiu Institute of Technology

**POS2  Antennas II**

**Time:** 10:00 to 12:00, Thu, 28 November  
**Place:** YRP Lobby

1. **A NOVEL FUZZY LOGIC LMS ALGORITHM FOR ADAPTIVE ANTENNAS IN CDMA SYSTEMS**  
   Su Van Pham (1), Tuan Minh Le (1), Jewoo Kim (2), Giwan Yoon (1), (1) CEL lab. Information and Communication Univ., (2) TeleCIS, Inc.

2. **A PASSIVE INTERMODULATION MEASUREMENT SYSTEM WITH PLANER CONTANCT SETUP**  
   Nobuhiro Kuga, Nobuyuki Kobayashi, Tokyo Institute of Polytechnics

3. **ARRAY FEED SYSTEM DESIGN FOR PLANAR ARRAY FED MULTIBEAM REFLECTOR ANTENNA**  
   Fumio Kira, Naoki Honma, Keizo Cho, NTT

4. **EXPERIMENTAL STUDY ON PERFORMANCE OF CALIBRATION TECHNIQUES FOR SUPERRESOLUTION ARRAY**  
   Kenjiro Chiba, Hiroyoshi Yamada, Yoshio Yamaguchi, Niigata University

**POS3  Radio Propagation**

**Time:** 10:00 to 12:00, Thu, 28 November  
**Place:** YRP Lobby

1. **WAVE-OPTICAL SIMULATION OF RADIO PROPAGATION IN A CITY**  
   Klemens Hocke, Kiyoshi Igarashi, CRL, Koganei, Tokyo

2. **PREDICTION OF REGIONAL RAIN ATTENUATION USING HOURLY RAIN-RATE DATA**  
   Yong-seok Choi, Joo-hwan Lee, ETRI

3. **SIMPLE RAY TRACING IN INHOMOGENOUS MEDIUMS USING ANT COLONY OPTIMIZATION ALGORITHM**  
   Pavel Pechac, Czech Technical University
4. VEGETATION EFFECTS MODELING FOR TERRESTRIAL BROADBAND RADIO ACCESS SYSTEMS OPERATING IN MILLIMETER WAVEBAND
Petr Ledl, Pavel Pechac, Milos Mazanek, Czech Technical University in Prague

5. SIGNAL ATTENUATION IN URBAN ENVIRONMENTS: A TEST CASE IN OPORTO
Joao Paulo P Carmo (1), Joaquim Jose V Costa (2), (1) Joao Paulo Pereira do Carmo, (2) Joaquim Jose de Amaral Vieira e Costa

POS4
Dosimetry and Interaction with Body
Time: 10:00 to 12:00, Thu, 28 November
Place: YRP Lobby

1. SAR CALCULATION USING FDTD-ADI TECHNIQUE WITH TRANSPARENT ABSORBING BOUNDARY
Nuttaka Homsup, Kasetart University

2. NUMERICAL DOSIMETRY OF WHOLE-BODY HUMAN MODELS EXPOSED TO VHF ELECTROMAGNETIC WAVES
Soichi Watanabe (1), Yutaka Tanaka (2), Masaharu Takahashi (2), Masao Taki (3), Yukio Yamanaka (1), (1) Communications Research Lab., (2) Tokyo Univ. of Agr. & Tech., (3) Tokyo Metropolitan Univ.

3. FDTD COMPUTATION FOR LARGE-SCALE NUMERICAL DOSIMETRY ON PARALLEL PERSONAL COMPUTERS
Jianqing Wang, Osamu Fujiwara, Nagoya Institute of Technology

4. SIGNAL PROPAGATION OF WEARABLE COMPUTER USING HUMAN BODY AS TRANSMISSION CHANNEL
Katsuyuki Fujii, Koichi Ito (1), Shigeru Tajima (2), (1) Chiba University, (2) Sony computer science laboratories, inc.

POS5
FDTD
Time: 10:00 to 12:00, Thu, 28 November
Place: YRP Lobby

1. RADIATION MODES FOR EXPRESSING RADIATED FIELDS IN MULTILAYER MMIC CONFIGURATION
Nagayoshi Morita, Chiba Institute of Technology

2. NUMERICAL SIMULATION OF FAT DIELECTRIC LOADED WAVEGUIDE ANTENNA USING FDTD METHOD
Hidehisa Shiomi, Sadahiko Yamamoto, Osaka University

3. FDTD ANALYSIS OF A LARGE SCALE ENERGY TRANSMISSION ARRAY ANTENNA
Takashi Hikage (1), Toshio Nojima (1), Manabu Omiya (1), Kiyohiko Itoh (2), (1) Hokkaido University, (2) Tomakomai National College Of Technology

4. A FULL-WAVE ANALYSIS OF RF CIRCUIT WITH ACTIVE DEVICES BY THE FDTD METHOD USING SCATTERING PARAMETERS
Akihiro Tsujimura, Shuichi Sekine, Hiroki Shoki, Toshiba

5. IMPROVEMENT OF ACCURACY FOR FDTD ANALYSIS OF ANTENNAS ON DIELECTRIC SUBSTRATE
Takuji Arima, Toru Uno, Tokyo Univ. of Agri. & Tech.

6. PARALLEL FDTD ALGORITHM FOR ANALYSIS OF ELECTROMAGNETIC PROPAGATION IN BIG URBAN AREA AND IMPULSE RESPONSE
Glen D Rodriguez, Yasumitsu Miyazaki, Toyohashi University of Technology
1. **RADIATED WAVES FROM A CABIN ANTENNA AT 100 MHZ**  
Masato Takiguchi\(^{(1)}\), Yoshhide Yamada\(^{(1)}\), Kunihiko Yamada\(^{(2)}\), \(^{(1)}\) *National Defense Academy*, \(^{(2)}\) *OPTOWAVE Laboratory Inc.*

2. **AN ANALYSIS OF EXCITATION OF MAGNETOSTATIC SURFACE WAVES IN AN IN-PLANE MAGNETIZED YIG FILM**  
Yoshiaki Ando, Masashi Hayakawa, *University of Electro-Communications*

3. **A SIMPLE MODEL FOR CALCULATING THE RADIATION PATTERNS OF ANTENNAS MOUNTED ON A VEHICLE ROOF**  

4. **MOM MODELING OF DIPOLE ANTENNA ARRAY WITH OPTICAL MODULATORS IN A BOREHOLE, AND VERIFICATION IN FIELD EXPERIMENTS**  
Satoshi Ebihara, Motoyuki Sato, *Tohoku University*

5. **GENETIC ALGORITHM APPLIED TO OPTIMAL DESIGN OF A POLARIZATION-TRANSFORMATION FILTER**  
Atsushi Kusunoki, Mitsuru Tanaka, *Oita University*

### Special Sessions

#### 2A1 Invited Talks 1

**Time:** 9:00 to 9:40, Wed, 27 November  
**Place:** YRP Hall

1. **CHALLENGES FOR BROADBAND WIRELESS TECHNOLOGY** (*invited*)  
Fumiyuki Adachi, *Tohoku University*

#### 3A1 Invited Talks 2

**Time:** 9:00 to 9:40, Wed, 28 November  
**Place:** YRP Hall

1. **THEORY OF MAXWELLIAN CIRCUITS AND ITS APPLICATIONS TO MULTI WIRE SYSTEMS** (*invited*)  
Kenneth K Mei, *City University of Hong Kong*

#### 3A4 Invited Talks 3

**Time:** 15:50 to 16:30, Thu, 28 November  
**Place:** YRP Hall

1. **HUMAN HEAD PHANTOMS FOR COMPLIANCE AND COMMUNICATION PERFORMANCE TESTING OF MOBILE TELECOMMUNICATIONS EQUIPMENT AT 900MHZ** (*invited*)  
N. Kuster, A. Christ, N. Chavannes, N. Nikoloski, J. Frohlich, *Swiss Federal Institute of Technology, Zurich*
INSTRUCTIONS FOR ORAL SESSIONS

Working Language
The working language of the Symposium is English.

Visual Equipment
Each conference room is provided with one overhead projector for viewgraphs and one PowerPoint display for Windows. If the PowerPoint display option is selected, the speakers should bring their presentation files stored on a CD, make a copy of the files in the Hard Disc Drive of the PC for PowerPoint display, and confirm the file behavior before starting the session. Also, we strongly recommend that the speakers bring viewgraphs as a backup.

Session Registration
In order to ensure that the program runs smoothly, all speakers and session chairpersons are requested to contact the session desk at least 15 minutes before their sessions begin.

Presentation Time
Each paper, except Invited Talks, is allotted 15 minutes for presentation and 5 minutes for discussion.

INSTRUCTIONS FOR POSTER SESSION

Please follow the time schedule indicated below.

- A 1.2m(W)×1.2m(H) poster panel is prepared for each paper. A desk and electricity will be available only for the authors requested in advance.
- All speakers should stand near own poster during the session.
- If you have any question, please contact to a staff of the ISAP i-02.

Place: YRP Lobby (1st floor)

Time Schedule on November 28 (Fri):
- Preparation: 9:00 – 10:00
- Session: 10:00 – 12:00
- Removal: 12:00 – 15:00
REGISTRATION FEE

Registration method will be available by Web, fax or post. Payment of registration fee as shown below must be remitted at the time of your registration in order for it to be processed.

<table>
<thead>
<tr>
<th>Categories</th>
<th>On or Before Oct 4th, 2002</th>
<th>After Oct 5th, 2002</th>
</tr>
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<tbody>
<tr>
<td>Regular Participant</td>
<td>26,000JPYen</td>
<td>30,000JPYen</td>
</tr>
<tr>
<td>Student*</td>
<td>10,000JPYen</td>
<td>12,000JPYen</td>
</tr>
</tbody>
</table>

*Student only: Copy of the Student/Resident ID or the documentation from head of department is required.

The registration fee for regular participants includes the fees for admission to all technical sessions, proceedings (hard copy and CD-ROM), banquet and free bus ticket (between YRP Nobi station and YRP).

The registration fee for Students includes the fees for the fees for admission to all technical sessions, proceedings (hard copy and CD-ROM) and free bus ticket (between YRP Nobi station and YRP), and do not include the fee for banquet. (The students who would like to attend the banquet must pay the additional fees for banquet.)

ADDITIONAL FEE

<table>
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<tr>
<th>Contents</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Banquet (for student and accompanying person**)</td>
<td>5,000JPYen / person</td>
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<tr>
<td>Additional CD-ROM</td>
<td>2,000JPYen / set</td>
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</tbody>
</table>

**Accompanying Person: Spouse or family member only

PAYMENT

To remit the fee for registration use your credit card (Master, VISA, American Express) or transfer payment to the account below. Please note that we do not accept personal checks. Currencies other than Japanese yen will not be accepted.

Bank: Bank of Tokyo-Mitsubishi Branch: Akasaka Branch (No.046)
Account Name: ISAP i-02 Account No.: 1481314

Registration is complete only with full payment.

When all registration procedures have been completed, the Secretariat will send the Confirmation of Registration, together with a payment receipt, in late October 2002. Please bring this Confirmation of Registration to the conference and present it at the Registration Desk.
REGISTRATION DESK

The registration desk will be provided during the symposium as follows.

November 25 (Mon.) 3:00pm - 9:00pm at Yokosuka Prince Hotel
November 26 (Tue.)-28 (Thu.) 8:00am – 5:00pm at YRP (symposium site)

CANCELLATION OF REGISTRATION FOR THE SYMPOSIUM

Please notify secretariat by e-mail, fax or post of any changes to the items in your registration application or of cancellation of your application. The following cancellation fees are necessary when you cancel your application.

On or before November 15th, 2002: 25% of Registration Fee
After November 15th, 2002: No Refund

Further information for registration, contact to:
Registration Secretariat for ISAP-i02
c/o Inter Group Corp., 4-9-17 Akasaka, Minato-ku, Tokyo 107-8486, Japan
Phone: +81-3-3479-6004  Fax: +81-3-3423-1601  e-mail: sec-tky3@intergroup.co.jp

TECHNICAL TOURS (Wednesday 16:00-17:30)

All the facilities are located within a few minutes’ walking distances in YRP.

Course A (60min.): NTT DoCoMo R&D Center:
WEB:http://www.nttdocomo.co.jp/corporate/rd/muse_e/access_e.html

The NTT DoCoMo is the largest mobile communication provider in Japan. Their R&D Center is located in YRP with the following exhibition:
(A1)Exhibition hall & Video presentation
Features extensive presentation facilities, incorporating 70-inch projector and various displays to allow exploration of the past, present, and future of mobile communication technology, and to illustrate the spirit of innovation that forms the basis of the DoCoMo R&D programs.

(A2)Multimedia evaluation room
Provides a range of equipment, including a 130-inch dual-screen display system, for evaluating audio and video performance before and after encoding and transmission.

(A3)Radio anechoic chamber (subject to availability)
Three stories high and wide enough to accommodate a passenger vehicle.

Course B (60min.): TAO (Telecommunications Advancement Organization of Japan)

TAO launched a project of Information Communication Technology for ITS in 1999, founded Yokosuka ITS Research Center in YRP. The following exhibition is available:
(B1)Video presentation
Summary of TAO activities.
(B2)Wireless agent technology
Technology to automatically choose an appropriate and efficient communication networks such as cellular and DSRC (Dedicated Short-Range Communication) without user's operation.
(B3) Radio on fiber communication system technology
- Demonstration by R&D prototype system: In-house test system delivers 5.8GHz DSRC signals to the roadside radio zone through optical fiber network.
- Dynamic radio zone control technology R&D system: Dynamic control of radio zones involves adaptive allocation of radio zones by controlling antenna beams in response to communications traffic based on road traffic.

(B4) Wireless multi-mode terminal technology
- Technology to develop multi-band antenna which can transmit/receive RF signals through various media with different frequencies.
- Technology to adaptively modulate signals for DSRC.
- Technology to demodulate terrestrial digital broadcast signals with software processing.

Course C (60min.): CRL Yokosuka (Communications Research Laboratory)
WEB: http://www2.crl.go.jp/mt/b180/

CRL is the only national institute of Japan promoting comprehensive research and development in the field of Info-Communications based on radio and photonic research. CRL Yokosuka is mainly carrying out the research of wireless communications system using high frequency band. The following exhibitions are available at CRL Yokosuka:

(C1) Millimeter-Wave Video Transmission System
Demonstration of millimeter-wave video transmission system using MMW self-heterodyne techniques (60 GHz band).

(C2) EMC anechoic chamber
The following equipments for evaluation of EMC test are available:
- G-TEM cell
- Reverberation chamber

(C3) Stratospheric platform system for wireless access
The following prototype antennas are available:
- DBF antennas (TX and RX) on-board stratospheric platform (31/28 GHz band)
- Multi-horn antenna with mechanical drive on-board stratospheric platform (47/48 GHz band)
- DBF antenna (RX) with 64 elements (21 GHz band)

HOTEL ACCOMMODATIONS

Secretariat has booked rooms at Yokosuka Prince Hotel during the symposium period. Reservations will be made on a first-come, first-served basis.

Yokosuka Prince Hotel
3-27, Hon-cho, Yokosuka-shi, Kanagawa 238-0041 Japan
Phone: +81-468-21-1111 / Fax: +81-468-21-1141
Transportation: 1 min. walk from Shioiri Station (Keihin-Kyuko)

Please indicate your order of preference in the Application Form and send secretariat by fax or mail before October 31, 2002.

We can also name some other relatively inexpensive hotels in the vicinity of the venue. Please note that since services in English are somewhat limited in these hotels, ISAP i-02 cannot recommend to participants from abroad. This information is provided for people who communicate in Japanese. Those wishing to use these hotels are requested to contact them directly to make reservations. Room rates below are included service charge but not included meals and tax. As the rates indicated are average charges, and they differ depending on the size and grade of the room, we would ask you to confirm the actual rate with the hotel receptionist when booking. Please note that rooms at the rate you want may sometimes be unavailable.
Central Hotel
Single:  8,500 JP Yen
Twin:  14,000 – 16,000JP Yen
2-8 Wakamatsu-cho, Yokosuka-shi, Kanagawa 238-0007 Japan
Phone : +81-468-27-1111 / Fax: +81-468-25-0837
Access : 1min. walk from Yokosuka Chuo Station on Keihin Kyuko Line

Hotel Harbor Yokosuka
Single:   6,900 - 8,000 JP Yen
Twin:  14,000 JP Yen
2-7 Shioiri, Yokosuka-shi, Kanagawa 238-0042 Japan
Phone : +81-468-22-0001 / Fax : +81-468-23-0375
Access : 5 min. walk from Shioiri Station on Keihin Kyuko Line

Hotel New Yokosuka
Single:  8,000 – 13,000 JP Yen
Twin:  15,000 JP Yen
1-12 Hon-cho, Yokosuka-shi, Kanagawa 238-0041 Japan
Phone : +81-468-20-1111 / Fax : +81-468-20-1112
Access : 5 min. walk either from Shioiri Station or from Yokusuka Chuo Station on Keihin Kyuko Line

VISA APPLICATIONS

Generally, when applying for a visa, each applicant is requested to submit some documents. Each country has a different policy for visa application; therefore, the applicant should ask the Japanese Embassy in his or her home country if a visa is required and which documents are needed. The applicant should then inform the registration secretariat (Fax: +81-3-3423-1601, e-mail: sec-ty3@intergroup.co.jp) of the documents that are needed to apply for a visa. After confirming the applicant’s information, the secretariat will send a Reply Form for Visa Application to him or her directly. Depending on the country, it will generally take more than three months for the applicant to obtain a visa. Please bear in mind that the applicant should prepare for the visa application procedure in advance.
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e-mail: sec-tky3@intergroup.co.jp

Symposium Office during the Symposium
Secretariat for ISAP i-02
Phone: +81-468-47-5460
Fax: +81-468-47-5461
ACCESS FROM NARITA AIRPORT TO THE CONFERENCE SITE

YRP Nobi St.  
Keikyu Line  
2 min. walking  
JR Kurihama St.  
YRPNobi  
Taxi

Kurihama St.  
2 min. walking  
JR Kurihama St.  
YRPNobi  
Taxi

Yokosukachuo St.  
2 min. walking  
JR Yokosuka St.  
HOTEL  
YCAT  
Limousine Bus

Shioiri St.  
10 min. walking  
JR Yokosuka St.  
HOTEL  
YCAT  
Limousine Bus

Yokohama St.  
JR Airport Narita Line  
JR Narita Express  
YCAT

Narita Airport

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**Narita Airport**

- **Limousine Bus to YCAT (Yokohama)**: 3,500 yen
- **Keikyu Express/Super Express for Misakiguchi to YRP Nobi**: 470 Yen

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**JR Narita Express / JR Airport Narita Line**

- **JR Narita Express / JR Airport Narita Line to Yokohama St.**: 4,180 yen
- **Keikyu Express/Super Express for Misakiguchi to YRP Nobi**: 470 Yen

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**JR Narita Express / JR Airport Narita Line**

- **JR Narita Express / JR Airport Narita Line to Yokohama St.**: 4,180 yen
- **JR Yokosuka Line for Kurihama to JR Kurihama St.**: 690 Yen

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