

2005 IEEE/ACES International Conference on Wireless Communications and Applied Computational Electromagnetics

3-7 April 2005
Hilton Hawaiian Village, Honolulu, Hawaii

Advanced Program

SHORT COURSES

April 3: 8:00 – 12:00 AM

1. *Principles of mobile communication viewed under a Maxwellian context*: Dr. Tapan K. Sarkar
2. *Neural networks and their applications to electromagnetic modeling*: Dr. Christos Christodoulou
3. *Diversity Combining in Fading Channels*: Dr. Lal Godara
4. *Dielectric resonator antenna, theory and design*: Dr. Ahmed Kishk

April 3: 1:00 – 5:00 PM

5. *Finite element method in time and frequency domains for solution of electromagnetic field problems*: Dr. Magdalena Salazar Palma
6. *Use of higher order basis in solution of electromagnetic field problems*: Dr. B. Kolundzija
7. *Application of genetic algorithms in electromagnetics*: Dr. Randy Haupt
8. *Antennas for wideband and phased array applications*: Dr. Ahmed Kishk and Dr. Atef Elsherbeni

10:40 Design and Performance Analysis of a UWB Tracking System for Space Applications
Jianjun Ni, Richard Barton

11:00 UWB Sampler for Wireless Communications and Radar
Jeong-Woo Han, Cam Nguyen

April 4	8:00-11:40 AM	South Pacific
2	Emerging Algorithms for MIMO Systems	

8:00 Precodings for Transmission Rate Increasing for MIMO Single Carrier Block Transmissions
Shusuke Narieda, Katsumi Yamashita

8:20 Design of Synchronization Sequences in a MIMO Demonstration System
Guangqi Yang, Wei Hong, Haiming Wang, Nianzu Zhang

8:40 Compensation of Channel Information Error using First Order Extrapolation in Eigenbeam Space Division Multiplexing (E-SDM)
Toshihiko Nishimura, Takahiko Tsutsumi, Takeo Ohgane, Yasutaka Ogawa

9:00 Spatial Division Multiplexing of Space Time Block Codes for Single Carrier Block Transmission
Haiming Wang, Wei Hong, Xiqi Gao, Xiaohu You

9:20 Adaptive Channel Estimation for Multiple-Input Multiple-Output Frequency Domain Equalization
Xu Zhu, Fareq Malek, Yi Gong, Yi Huang

9:40 Coffee Break

10:00 On MIMO Signal Processing for Adaptive W-CDMA and OFDM Wireless Transceivers
Danijela Cabric, Dejan Markovic, Robert W. Brodersen

10:20 Performance Analysis of Adaptive Interleaving for MIMO-OFDM Systems
FengYe Hu, ShuXun Wang, Yang Liu

10:40 Adaptive MQAM Modulation for MIMO systems
Ramkumar Gowrishankar, M. Fatih Demirkol

11:00 Multiuser Detectors for MIMO DS/CDMA Systems
Fang-Biau Ueng, Shang-Chun Tsai, Jun-Da Chen

11:20 The Joint Space-Time Signal Detection Algorithm for MIMO DS-CDMA Systems with Multipath Fading Channels
Yung-Yi Wang, Jiunn-Tsair Chen, Ying Lu

TECHNICAL PROGRAM

April 4	8:00-11:20 AM	South Pacific
1	Technologies for Ultra-Wideband Communication	

8:00 Performance of Ultra-Wideband Transmission with Pulse Position Amplitude Modulation and RAKE Reception
Wei Li, T. Aaron Gulliver, Hao Zhang

8:20 Time Hopping QPSK Impulse Signal Transmission for Ultra Wideband Communication System in the Presence of Multipath Channel
Chaiyaporn Khemapatapan, Watit Benjapolakul, Kiyomichi Araki

8:40 Exploitation of Extra Diversity in UWB MB-OFDM System
Joo Heo, KyungHi Chang

9:00 Source Localization using Reflection Omission in the Near-Field
Ziba Ebrahimiyan, Robert A. Scholtz

9:20 Position localization with impulse ultra wide band
Guoping zhang

9:40 Coffee Break

10:00 Receiver Sites for Accurate Indoor Position Location Systems
Ziba Ebrahimiyan, Robert A. Scholtz

10:20 Characterization of the Ultra-Wide Band Channel
Feliziani Mauro, Graziosi Fabio, Santucci Fortunato, Di Renzo Marco, Manzi Giuliano

April 4	8:00-12:00 AM	South Pacific
3	Special Session: Electromagnetic Modeling by WIPL-D	

- 8:00 Analysis of Dipole Antenna Printed on Thin Film by using Electromagnetic Simulators
Mitsuo Taguchi, Yuki Matsunaga
- 8:20 Electrically Large Structure in WIPL-D -- Scattering Simulation of an Airplane
Mengtao Yuan, Tapan K. Sarkar
- 8:40 Into the Twilight Zone: How Does WIPL-D Perform in Quasistatics?
Ari Sihvola, Tapan Sarkar, Branko Kolundzija
- 9:00 Extended Limits of WIPL-D on PCs
Drazen S. Sumic, Branko M. Kolundzija
- 9:20 Efficient Analysis of Microwave Devices Based on Polygonal Modeling and WIPL-D Numerical Engine
Miodrag Tasic, Branko Kolundzija
- 9:40 Coffee Break**
- 10:00 Equalization of Numerically Calculated Element Patterns for Root-Based Direction Finding Algorithms
Hossam A. Abdallah, Wasyl Wasylkiwskij, Ivica Kopriva
- 10:20 WIPL-D Parallelization Effort
Christopher Card
- 10:40 Beta Test Analysis of WIPL-DP
Saad N. Tabet, Christopher Card
- 11:00 WIPL-D Results and Time Domain Response for an Impulse Radiating Antenna (IRA)
Mary C. Taylor, Tapan K. Sarkar
- 11:20 Deep Ground Penetrating Radar (GPR) – WIPL-D Models of Buried Sub-Surface Radiators
John Norgard, Michael Wicks, Randy Musselman
- 11:40 High Performance Low Cost Ferroelectric Phase Shifters Designed for Simple Biasing
Wayne Kim, Magdy Iskander

April 4	8:00-12:00 AM	South Pacific
4	CEM for Applied Analysis and Synthesis	

- 8:00 "Introduction to Antennas" – An Antenna Training DVD
Alan Nott, BEE CEng, MIEE
- 8:20 Shielding Effectiveness of Three Dimensional Gratings using the Periodic FDTD Technique and CPML Absorbing
J. Alan Roden, J. Paul Skinner
- 8:40 Hybrid Parallel Finite Difference Time Domain Simulation of Nanoscale Optical Phenomena
M. C. Hughes, M. A. Stuchly
- 9:00 A Comparative Study of RCS Computation Codes
CHIA, Tse Tong, ANG, Teng Wah, LIM, Kheng Hwee, David ROWSE, Matthew AMOS
- 9:20 Modeling an HF NVIS Towel-Bar Antenna on a Coast Guard Patrol Boat - A Comparison of WIPL-D and the Numerical

Electromagnetics Code (NEC)
Darla Mora, Christopher Weiser, Michael McKaughan

- 9:40 Coffee Break**
- 10:00 Modeling Multiple HF Antennas on the C-130/Hercules Aircraft - Part II
Stanley J. Kubina, Christopher W. Trueman, David Gaudine, Anita Ka Ki Lau
- 10:20 Modeling Antennas on Automobiles in the VHF and UHF Frequency Bands, Comparisons of Predictions and
Nicholas DeMinco
- 10:40 FDTD Analysis of a New Leaky Traveling Wave Antenna
G. M. Zelinski, M. L. Hastriter, M. J. Havrilla, J. S. Radcliffe, G. A. Thiele
- 11:00 Optimization of Aperiodic Waveguide Mode Converters
G. J. Burke, D. A. White, C. A. Thompson
- 11:20 Analysis, Design and Fabrication of Centimeter-Wave Dielectric Fresnel Zone Plate Lens and Reflector
Ali Mahmoudi
- 11:40 A Generalized MATLAB-based Distributed-computing Optimization Tool
Keith A. Lysiak, Jason Polendo

April 4	1:20-5:00 PM	South Pacific
5	Wideband Antennas	

- 1:20 Wideband Printed Lotus Antenna
Abdelnasser Edek, Atef Elsherbini, Charles Smith
- 1:40 Comparative Study of Wideband Properties of Planar Solid and Strip Fractal Bow-Tie Dipoles
Andrey S. Andrenko
- 2:00 Planar Elliptical Monopole Fed with CPW for UWB Applications
Kenneth C L Chan, Yi Huang, Xu Zhu
- 2:20 Techniques to Improve Ultra Wide Band Performance of Planar Monopole Antenna
X. N. Qiu, H. M. Chiu, A. S. Mohan
- 2:40 Design and Fabrication of a Multi-purpose Planar Antenna
Seong-il Park, Hyeon-Jin Lee, Yeong-seog Lim
- 3:00 Coffee Break**
- 3:20 A Frequency-Selectable Patch Antenna of Circular Polarization with Integrated MEMS Switches
Sunan Liu, Ming-Jer Lee, G.-P. Li, Mark Bachman, Franco De Flaviis
- 3:40 Short Electromagnetic Pulse Probe Fed by Tow-Coaxial Balun: Sensitivity and Bandwidth Examining
Esrafil Jedari, Mohammad Hakkak, Majid Okhovvat, Alireza Foroozesh
- 4:00 A UWB Antenna with a Stop-band Notch in the 5-GHz WLAN band
Seong-Youp Suh, Warren L. Stutzman, William A. Davis, Alan E. Waltho, Kirk W. Skeba, Jeff L. Schiffer
- 4:20 Broadband Microstrip-Fed Modified Quasi-Yagi Antenna
Shih-Yuan Chen, Powen Hsu
- 4:40 Slot Antenna for Ultra Wideband System

April 4	1:20-5:20 PM	South Pacific
6	Phased Array and Active Antennas	

- 1:20 Enhanced MVDR Beamforming Implementation with Arbitrary Linear Arrays on DS/CDMA
KyungSeok Kim, Yong-Seok Choi, Chang-Joo Kim, Ik-Guen Choi
- 1:40 A Broadband Dual Circularly Polarized High Gain Microstrip Array
Weiping Dou, Dan Degutis
- 2:00 Development of Wideband Random Phased Arrays Composed of Modified Canted Sector Antennas
J. T. Bernhard, G. Cung, K. C. Kerby, P. E. Mayes
- 2:20 Low-cost Nonplanar Microstrip-line Ferrite Phase Shifter Utilizing Circular Polarization
Magdy F. Iskander, Jodie M. Bell, William W.G. Hui, Jar J. Lee
- 2:40 Active Frequency Selective Surfaces for Antenna Applications Electronically to Control Phase Distribution and Reflective/Transmissive Amplification
Peter Edenhofer
- 3:00 Coffee Break**
- 3:20 Thinned Interleaved Linear Arrays
Randy Haupt
- 3:40 Lattice Spacing Effect on Scan Loss for Bat-Wing Phased Array Antennas
Thin Q. Ho, Charles A. Hewett, Lilton N. Hunt
- 4:00 Phased Array for Limited Coverage
Howard Luh
- 4:20 Wireless Communication Applications of the Continuous Transverse Stub (CTS) Array at Microwave and Millimeter Wave Frequencies
William Henderson, William Milroy
- 4:40 Low Cost Compact Active Integrated Antenna with a Reactive Impedance Surface
Fabio Urbani, Filiberto Bilotti, Andrea Alù, Lucio Vegni
- 5:00 CFDTD Solution For Large Waveguide Slot Arrays
T. Ho, C. Hewett, L. Hunt, T. Ready, M. Baugher/K. Mikoleit

April 4	1:20-5:00 PM	South Pacific
7	Advances in Times Domain Techniques	

- 1:20 Numerical Dispersion of the 2-D ADI-FDTD Method
Qing-xin CHU, Lin-nian Wang, Zhi-hui Chen
- 1:40 A Novel HE-Coupling for Explicit Multigrid-FDTD
Peter Chow, Takashi Yamagajo, Tetsuyuki Kubota, Takefumi Namiki
- 2:00 New FDTD Model for Excitation of Microstrip Lines
Mikko Kärkkäinen
- 2:20 FVTD Simulations of Archimedean Spiral Antennas on Thin Substrates in Planar and Conformal Configurations
Christophe Fumeaux, Dirk Baumann, Rüdiger Vahldieck

- 2:40 Practical Considerations in the MRTD Modeling of Microwave Structures
Nathan Bushyager, Manos Tentzeris
- 3:00 Coffee Break**
- 3:20 A Multiresolution Model of Transient Microwave Signals in Dispersive Chiral Media
I. Barba, A. Grande, A.C.L. Cabeceira, J. Repra
- 3:40 Modeling of Ground-Penetrating Radar for Detecting Buried Objects in Dispersive Soils
Konstantinos P. Prokopidis, Theodoros D. Tsiboukis
- 4:00 Advances in the Adjoint Variable Method for Time-Domain Transmission Line Modeling
Peter A. W. Basl, Mohamed H. Bakr, Natalia K. Nikolova
- 4:20 A Comparison of Marching-on-in-Time Method with Marching-on-in-Degree Method for the TD-EFIE Solver
Zhong Ji, Tapan K. Sarkar, Baek Ho Jung, Magdalena Salazar-Palma, Mengtao Yuan
- 4:40 Lightning Electromagnetic Fields Computation using Time Domain Finite Element Method
Glássio Costa de Miranda, Evandro José Ribeiro

April 4	1:20-5:00 PM	South Pacific
8	Integral Equation Methods and Applications	

- 1:20 An Integral Equation Method for the Scattering from Multiple Multilayered cylinders
Fad Seydou
- 1:40 A New Integral Equation for the Calculation of the Internal Impedance of a Conductor
luc knockaert
- 2:00 The Effect of Integration Accuracy on the MoM VIE Solution for Dielectric Resonators
Shashank Kulkarni, Sergey Makarov
- 2:20 Bistatic Scattering from a PEMC (Perfect Electromagnetic Conducting) Sphere: Surface Integral Equation Approach
Ari Sihvola, Pasi Ylä-Oijala, Ismo V. Lindell
- 2:40 2D MFIE Solution Improvement by Regularization
Clayton P. Davis, Karl F. Warnick
- 3:00 Coffee Break**
- 3:20 Combined-Field Solution of Composite Geometries Involving Open and Closed Conducting Surfaces
Ozgur Ergul, Levent Gurel
- 3:40 Formulation of surface integral equations for metallic, dielectric and composite objects
Pasi Ylä-Oijala, Matti Taskinen
- 4:00 A Simple Extrapolation Method Based on Current for Rapid Frequency and Angle Sweep in Far-Field Calculation of an Integral Equation Algorithm
Cai-Cheng Lu
- 4:20 Fast Construction of Wavelet-Based Moment Matrices in Solving Thin-Wire Electric Field Integral Equations
Mr. Amir Geranmayeh, Prof. Rouzbeh Moini, Prof. S. H. Hesam Sadeghi
- 4:40 Eddy currents in a gradient coil, modeled by rings and

patches
J.M.B. Kroot, S.J.L van Eijndhoven, A.A.F. van de Ven

April 5	8:00-10:00 AM	South Pacific
9	Plenary Session	

April 5	10:20-12:00 AM	South Pacific
10	Direction of Arrival Estimation	

- 10:20 A Neural Blind Beamformer for Cyclostationary Signals
Li Hongsheng, He You, Yang Rijie
- 10:40 A Low Complexity Adaptive Algorithm for Tracking of Eigenspace-Based Two-Dimensional Directions of Arrival
Kuo-Hsiung Wu, Wen-Hsien Fang, Hsin-Jung Chen, Jiunn-Tsair Chen
- 11:00 Direction of Arrival (DOA) Estimation Using a Transformation Matrix Through Singular Value
Seunghyeon Hwang, T. K. Sarkar
- 11:20 Real Time Angle of Arrival Estimation for GSM Signals
Peter S. Wyckoff, John T. Keeler
- 11:40 Mutual Impedance of Receiving Array and Calibration Matrix for High-resolution DOA Estimation
Hiroyoshi Yamada, Yasutaka Ogawa, Yoshio Yamaguchi

April 5	10:20-12:00 AM	South Pacific
11	Dielectric Resonator Antennas	

- 10:20 Broadband Dielectric Resonator Antennas Excited by L-shaped Probe
Ahmed A. Kishk, Ricky Chair, Kai-Fong Lee
- 10:40 Wideband Dielectric Resonator Antenna with Parasitic Strip
Tso-Wei Li
- 11:00 Slot Fed Broadband Dielectric Resonator Antenna
Tso-Wei Li
- 11:20 Dual-frequency Dielectric Resonator Antenna with Inverse T-shape Parasitic Strip
Tso-Wei Li
- 11:40 FDTD Analysis of a Probe-Fed Dielectric Resonator Antenna in Rectangular Waveguide
Yizhe Zhang, Ahmed A. Kishk, Alexander B. Yakovlev, Allen W. Glisson

April 5	10:20-11:40 AM	South Pacific
12	Electromagnetic Imaging	

- 10:20 Numerical Modeling Interaction of RF Field in MRI with a Pregnant Female Model
M.L. Strydom, K. Caputa, M.A. Stuchly, P. Gowland
- 10:40 Microwave Imaging of Three-Dimensional Dielectric

Objects Employing Evolution Strategies
Payam Rashidi, Magda El-Shenawee, Demetrio Macías, Eric Miller

- 11:00 Identification of Particles in Complex Structures from Scattering Data
Fad Seydou
- 11:20 Eccentric Annular Slot Antenna for Breast Cancer Detection Based on the Finite-Difference-Time-Domain
Vigneshware K. Raja, Magda El-Shenawee

April 5	10:20-12:00 AM	South Pacific
13	Metamaterials	

- 10:20 Time Domain Models of Negative Refractive Index Metamaterials
Wolfgang J. R. Hoefer, Poman P. M. So
- 10:40 Spectral Analysis of Negative Refractive Index Metamaterials Utilizing Signal Processing Techniques and Time-Domain Simulations
Titos Kokkinos, Raviraj S. Adve, Costas D. Sarris
- 11:00 Modeling of Metamaterial Structures Using an Extended FDTD Approach
Suzanne Erickson, Joshua Wong, Titos Kokkinos, Costas D. Sarris
- 11:20 Microwave/Millimeter Wave Metamaterial Development Using the Design of Experiments Technique
Daniela Staiculescu, Nathan Bushyager, Manos Tentzeris
- 11:40 Characterization of Meta-Material Using Computational Electromagnetic Methods
Manohar D. Deshpande, Joon Shin

April 5	1:20-4:00 PM	South Pacific
14	Special Session: Technology for Emerging Commercial Millimeter-Wave Application	

- 1:20 Technology for Emerging Commercial Applications at Millimeter-Wave Frequencies
Rudy Emrick, Steve Franson, Bruce Bosco, John Holmes, Steve Rockwell
- 1:40 High Performance SiGe BiCMOS Technology
Marco Racanelli, Sorin Voinescu, Paul Kempf
- 2:00 Multi-Gigabit Wireless Test Bed at Millimetre Waves
Oya Sevimli, Val Dyadyuk, David Abbott, Leigh Stokes, Stephanie Smith, John Arch, Mei Shen, Rod Kendall, Juan Tello
- 2:20 High Speed Data Communications based on W-band Automotive Radar MMIC
Carsten Metz, Torben Baras
- 2:40 Complementary Market Opportunities for Commercial & Military mm-Wave MMIC Devices
Roberto W. Alm
- 3:00 Coffee Break**
- 3:20 Circuit and Module Challenges for 60 GHz Gb/s Radio
Joy Laskar

3:40 A Millimeter-Wave Multifunction Sensor for Wireless Monitoring of Displacement and Velocity
Seoktae Kim, Cam Nguyen

April 5	1:20-5:00 PM	South Pacific
15	MIMO and Diversity System Characterization	

1:20 Simulations of Diversity Gains of Multiple Omni and Directive Antennas in Rician Channel with varying K-
Marin S. Stoytchev, David C. Wittwer

1:40 Deterministic Channel Modeling and Performance of Monopolarized and Multipolarized MIMO Wireless Channels
Nuttapol Prayongpun, Kosai Raoof

2:00 Evaluation of Propagation Characteristics in Indoor Environment for MIMO System
Hidetoshi Chiba, Yoshio Inasawa, Yoshihiko Konishi, Shigeru Makino

2:20 On the Channel Capacity in MIMO Systems for Aeronautical Channels
Farid Ghanem, Gilles Delisle, Tayeb Denidni, Khalida Ghanem

2:40 Alamouti and Differential Transmit Diversity for Air-to-Ground Communications
Michael A. Jensen, Michael D. Rice

3:00 Coffee Break

3:20 Statistical Modeling of Site-specific Indoor Channels in Wireless Communications
Chan-Ping Lim, John L. Volakis, Kubilay Sertel, Rickie W. Kindt, Achilleas Anastasopoulos

3:40 On the Diversity Gain Using a Butler Matrix in Fading MIMO Environments
Alfred Grau, Jordi Romeu, Franco De Flaviis

4:00 Space-Polarization Diversity for a 2x2 MIMO using Space Time Block Codes
Nour Mohammad MURAD, David CARSENAT, Bernard JECKO

4:20 Performance of 2x2 MIMO Spatial Multiplexing in Indoor Environments
Yasutaka Ogawa, Hiroshi Nishimoto, Toshihiko Nishimura, Takeo Ohgane

4:40 A Transmit Antenna Selection Diversity Scheme for Wireless Communications
Jiaen Li, Myoung Seob Lim

April 5	1:20-5:00 PM	South Pacific
16	Special Session: Electromagnetic Modeling by FEKO	

1:20 A Computer Simulation of 400 MHz and 1000 MHz Antennas Located on a High Mobility Multi-Wheeled
Keith Anthony Snyder

1:40 Design and Analysis of a Pattern Selectable Airborne HF Antenna
Nathan P. Cummings

2:00 Hybrid Simulation of Electrically Large Millimeter-Wave Antennas
Steven J. Franson

2:20 Loop-Dipole Antenna Modeling using the FEKO Code
Wendy Lippincott, Tom Pickard, Randy Nichols

2:40 Fast Multipole Solution of Metallic and Dielectric Scattering Problems in FEKO
Johannes J van Tonder, Ulrich Jakobus

3:00 Coffee Break

3:20 A Horn-Fed Reflector Optimized with a Genetic Algorithm
Randy Haupt

3:40 Prediction of VHF Radiation Patterns on Gulfstream Aircraft
Christopher Penwell

4:00 Database Generation of Bistatic Ground Target Signatures
Amit Kumar Mishra, Bernard Mulgrew

4:20 Analysis of a Narrow Slot backed by a Rectangular Cavity using FEKO
Vivek Ramani, C. J. Reddy, Anthony Q. Martin

April 5	1:20-3:20 PM	South Pacific
17	Low Frequency Electromagnetic Applications	

1:20 Motional Eddy Currents Analysis in moving solid iron using magnetic equivalent circuits method
Mojtaba Mirsalim, Mehran Mirzayee, Igor A. Tsukerman

1:40 Analysis of a High-Speed Solid Rotor Induction Motor Using Coupled Analytical method and Reluctance Networks
Mehran Mirzayee, Hasan Mehrjerdi, Igor Tsukerman

2:00 Electrostatic and Magnetostatic Finite-Difference Analysis without the 'Staircase' Effect
Igor Tsukerman

2:20 The Analysis of the Additional Substance Influence on the Grounding Grid Parameters by FEM
Anton Habjaniè, Mladen Trlep

2:40 Low-Frequency EM Field Penetration Through Magnetic and Conducting Cylindrical Shields
Michael A. Morgan

3:00 Electrodynamics of Dipolar Beads in an Electrophoretic Spherical Cavity
Meng H. Lean, Armin R. Volkel

April 5	3:40-5:00 PM	South Pacific
18	Asymptotic and High Frequency Techniques	

3:40 Multiscale Analysis of Panel Gaps in the Haystack Parabolic Reflector
Nader Farahat, Raj Mittra

4:00 Vectorial GO and Diffraction Decomposition of Physical Optics Scattering of Dipole Wave from Planar Surfaces in Terms of Modified Edge Representation Line Integrals
Luis Rodriguez, Ken-ichi Sakina, Makoto Ando

- 4:20 Efficient Macromodeling for Systems Characterized by Sampled Data
rong gao
- 4:40 A High-Frequency Asymptotic Formulation for Temporal Characterization of Reflector Antennas
Cassio Goncalves do Rego, Flavio Jose Vieira Hasselmann, Sandro Trindade Mordente Goncalves, Elias Lawrence Marques

April 6	8:00-11:40 AM	South Pacific
19	Special Session: Communication Antenna Analysis and Design	

- 8:00 Frequency Reconfigurable CPW-Fed Hybrid Folded Slot/Slot Dipole Antenna
G. H. Huff, J. T. Bernhard
- 8:20 Modified Sierpinski Fractal Antenna
Tripti Luintel, Parveen Wahid
- 8:40 Parallel PSO/FDTD Algorithm for the Optimization of Patch Antennas and EBG Structures
Nanbo Jin, Yahya Rahmat-Samii
- 9:00 Antennas and Propagation for Body Centric Wireless Communications
A. Alomainy, P. S. Hall, Y. I. Nechayev, C. G. Parini, C. C. Constantinou
- 9:20 Calculation of SAR using FDTD sub-domain approach
Tao Su, Raj Mittra, Wenhua Yu, Joe Wiart

9:40 Coffee Break

- 10:00 Narrow Beam Adaptive Array for Advanced Wireless Applications
Meriam Rezk, Wayne Kim, Zhengqing Yun, Magdy Iskander
- 10:20 Neural Networks in Antenna Engineering - Beyond Black-Box Modeling
Amalendu Patnaik, Dimitrios Anagnostou, Christos Christodoulou
- 10:40 Analysis of a Linear Slot Array Comprised of Tilted Edge Slots Cut in the Narrow Wall of a Rectangular Waveguide
John C. Young, Jiro Hirokawa, Makoto Ando
- 11:00 Antennas for Distributed Nanosatellite Networks
Thomas J. Mizuno, Justin D. Roque, Blaine T. Murakami, Lance K. Yonshige, Grant S. Shiroma, Ryan Y. Miyamoto, Wayne A. Shiroma
- 11:20 A Coupled-Antenna Interrogator/Receiver for Retrodirective Crosslinks in a Distributed Nanosatellite
Justin D. Roque, Stephen S. Sung, Blaine T. Murakami, Grant S. Shiroma, Ryan Y. Miyamoto, Wayne A. Shiroma

April 6	8:00-11:40 AM	South Pacific
20	MIMO Systems	

- 8:00 Development of RF Subsystems for MIMO and Beyond 3G Systems
Jianhong Chen, Wei Hong, Jianyi Zhou, Jianing Zhao, Jianjun Wang

- 8:20 Applications of MIMO Techniques to Sensing of Cardiopulmonary Activity
Dragan Samardzija, Olga Boric-Lubecke, Anders Host-Madsen, Victor M. Lubecke, Amy D. Droitcour

- 8:40 Modeling Front-End Signal Coupling in MIMO Systems
Matthew L. Morris, Michael A. Jensen

- 9:00 Signal Enhancement in a Near-Field MIMO Environment Through Adaptivity on Transmit
Seunghyeon Hwang, T. K. Sarkar

- 9:20 HSDPA Capacity Enhancement using MIMO in a Pico-cell Environment
Pedro Vieira, Maria Paula Queluz, António Rodrigues

9:40 Coffee Break

- 10:00 Development of The MIMO System for Future Mobile Communications
Wei Hong, Haiming Wang, Quangqi Yang, Nanzu Zhang, Jianyi Zhou

- 10:20 A Look at some of the Principles of Mobile Communication from a Maxwellian Viewpoint
Tapan K. Sarkar

- 10:40 Performance of Space-Time Trellis Codes over Nakagami Fading Channels
Mohammad O. Farooq, Wei Li, T. Aaron Gulliver

- 11:00 A New CDMA/SDMA Architecture with Transmit Diversity
Wei Li, T. Aaron Gulliver

- 11:20 Feedback Equalization for MIMO systems
Khalida Ghanem, Tayeb Denidni

April 6	8:00-12:00 AM	South Pacific
21	Hybrid CEM Techniques	

- 8:00 Parallel ICCG Solvers for a Finite-Element Eddy-Current Analysis on Heterogeneous Parallel Computation
Takeshi Iwashita, Masaaki Shimasaki, Junwei Lu

- 8:20 Full Wave Analysis of RF Signal Attenuation in a Lossy Cave using a High Order Time Domain Vector Finite
James Pingnot, Robert Rieben, Daniel White

- 8:40 Calculation of Polyphase Induction Motor Parameters Using Finite Element Method
Reinaldo Shindo, Antônio Carlos Ferreira, George Alves Soares

- 9:00 A Highly Robust and Versatile Finite Element-Boundary Integral Hybrid Code for Scattering by BOR Objects
Jian-Ming Jin

- 9:20 FE-BI Analysis of a Leaky-Wave Antenna with
Leo Kempel, Stephen Schneider, Joshua Radcliffe, Dan Janning, Gary Thiele

9:40 Coffee Break

- 10:00 Nested Multigrid Finite Element Analyses of Eddy Current Losses in Power Transformers
Erich Schmidt, Joachim Schoeberl, Peter Hamberger

- 10:20 Virtual Design of Insulation Elements Based on FEM and Automated Optimization Process
Peter Kitak, Joze Pihler, Igor Ticar, Oszkár Bíró, Kurt

Preis

- 10:40 Application of an hp-adaptive FE method for computing electromagnetic scattering in the frequency domain
Niklas Sehlstedt, Adam Zdunek, Waldemar Rachowicz
- 11:00 Study of Electromagnetic Scattering from Material Object Doped Randomly With Thin Metallic Wires Using Finite Element Method
Manohar D. Deshpande
- 11:20 Acoustic Noise Signal Evaluation due to Magnetostrictive Effects in Electrical Equipment
Osama A. Mohammed, Nagy Y. Abed, Shreerang Ganu, Shuo Liu
- 11:40 Surface Based Differential Forms
James Pingenot, Chaunyi Yang, Vikram Jandhyala, Nathan Champagne, Benjamin J. Fassenfest

April 6	8:00-12:00 AM	South Pacific
22	Fast and Efficient CEM Methods	

- 8:00 Two-Step Reduction Approach based on the Scattering-Symmetric Lanczos Algorithm for TLM-ROM
Dzianis Lukashevich, Andreas Cangellaris, Peter Russer
- 8:20 High-Throughput Transmission Line Matrix (HT-TLM) System in Grid Environment for the Analysis of Complex Electromagnetic Structures
Petr Lorenz, José Vagner Vital, Bruno Biscontini, Peter Russer
- 8:40 Fast Time Domain Integral Equation Solver for Dispersive Media with Auxiliary Green Functions
E. Bleszynski
- 9:00 Discontinuous Galerkin Time--domain Simulations for Electromagnetic Wave Propagation in Photonic Crystals
Misun Min
- 9:20 Fast Adaptive Mode Reduction Scheme for Efficient Computation of Cascaded Filters by the MoL
Larissa Vietzorreck, Wilfrid Pascher
- 9:40 Coffee Break**
- 10:00 FDTD Calculations using Graphical Processing Units
Matthew J. Inman, Atef Elsherbeni, Charles Smith
- 10:20 The FDFD with the Iterative Multi-Region Technique for the Scattering from Multiple Three Dimensional Objects
Mohamed Al Sharkawy, Veysel Demir, Atef Elsherbeni
- 10:40 Efficient Calculation of Field Distribution with High-Resolution Using Ray-Tracing Method
Zhengqing Yun, Magdy F. Iskander
- 11:00 Two-Level Preconditioning Techniques for Electromagnetic Wave Scattering Problems
Jeonghwa Lee, Jun Zhang, Cai-Cheng Lu
- 11:20 TM scattering from finite rectangular grooves in a conducting plane using overlapping T-block analysis
Yong Heui Cho
- 11:40 Adaptive Cross Approximation for MOM Matrix Fill for PC Problem Sizes to 157000 Unknowns
John Shaeffer, Francis Canning

April 6	1:20-5:20 PM	South Pacific
23	Design and Analysis of Advanced Circuit Architectures	

- 1:20 2D Coupled Electrostatic-Mechanical Model for Shunt-Capacitive MEMS Switch Based on Matlab Program
Ehab K. I. Hamad, Amr M. E. Safwat, Abbas S. Omar
- 1:40 Dynamic and Electrical Analysis of MEMS Capacitor with Accelerated Motion Effects
Kohei Kawano, Shafrida Shahrani, Takashi Mori, Michiko Kuroda, Manos M. Tentzeris
- 2:00 Fast Full-Wave Analysis of Distributed MEMS Transmission Lines by the MoL
Wilfrid Pascher, Reinhold Pregla, Larissa Vietzorreck
- 2:20 Chip-Package Codesign of Receiver Front End Modules for RF/Wireless Applications
Yasar Amin, Prof. Hannu Tenhunen, Prof. Dr. Habibullah Jamal, Dr. Li-Rong Zheng, Xinzhong Duo
- 2:40 A Wide-band 0.5 um CMOS Low-Noise Amplifier
Ivy Lo, Derek Ah Yo, Ken Cheung, Victor M. Lubecke, Olga Boric-Lubecke
- 3:00 Coffee Break**
- 3:20 Amplifier-Based Active Antenna Oscillator Design at 0.9-1.8 GHz
Isaac Waldron, Ayoob Ahmed, Sergey Makarov
- 3:40 Realization of a Sub-harmonic Mixer with a Substrate Integrated Waveguide Filter
Hongjun Tang, Yulin Zhang, Wei Hong
- 4:00 Synthesis of a dual-passband elliptic filter with equalized group delay
Juseop Lee, Man Seok Uhm, Jong Heung Park
- 4:20 Unilateral Amplifier S-Parameter Extraction Technique
Kendall S. Ching, Ryan Y. Miyamoto, Wayne A. Shiroma
- 4:40 Ultra-wideband Miniaturized Electromagnetic Bandgap Structures Embedded in Printed Circuit Boards: Theory, Modeling and Experimental Validation
Shahrooz Shahparnia, Omar M. Ramahi
- 5:00 Hybrid FDTD Analysis for Periodic On-Chip Terahertz (THz) Structures
Yasser A. Hussein, James E. Spencer

April 6	1:20-5:00 PM	South Pacific
24	Propagation Channel Characterization	

- 1:20 A Vectorial Analysis of UHF Propagation in a Three-dimensional Multislit Street Waveguide
Edgar Silva Júnior, Gilberto Arantes Carrijo
- 1:40 An Efficient Wave Propagation Model for Simulation and Analysis of Multipath Effects of Mobile Users in Indoor and Urban Environment
Steve Hall, Jei S. Chen, Shankar Venkatesan
- 2:00 A SBR Algorithm for Simple Indoor Propagation Estimation
Ryoichi Sato, Hiroshi Sato, Hiroshi Shirai

- 2:20 Propagation Prediction Software for Wireless Communication System Optimization
Chad Takahashi, Zhengqing Yun, Magdy F. Iskander
- 2:40 Characterizing Dispersion in the Enclosed-Space Radio Channel using a Composite Mode Model
J.P. Vant Hof, D.D. Stancil
- 3:00 Coffee Break**
- 3:20 Measurements of a CW signal in Brazil and Comparison with Prediction using ITU-R P.1546-1
A. J. Martins Soares, P. Carvalho
- 3:40 The Channel Characterization and Performance Evaluation of Mobile Communication Employing Stratospheric Platform
Iskandar
- 4:00 Electromagnetic Propagation of Wireless Networks in Aircraft Cabins
Mennatoallah Youssef, Linda Vahala, John Beggs
- 4:20 802.11ab Propagation Prediction Inside a B777
Genevieve Hankins, Linda Vahala, John Beggs
- 4:40 Effect of Road Undulation on the Propagation Characteristics of Inter-Vehicle Communications in the
Atsushi Yamamoto, Koichi Ogawa, Tetsuo Horimatsu, Katsuyoshi Sato, Masayuki Fujise

April 6	1:20-5:00 PM	South Pacific
25	Special Session: Recent Electromagnetics & Antennas Activities in the European Network "ACE"	

- 1:20 European Effort Towards a Unified Framework for the Analysis of Antenna Structures
G. A. E. Vandenbosch
- 1:40 Three Different Ways to Decorrelate Two Closely Spaced Monopoles for MIMO
S. Dossche, S. Blanch, J. Romeu
- 2:00 FDTD Analysis of Reflectarray Radiating Cells
Cadoret David, Laisné Alexandre, Marie-anne Milon, Gillard Raphaël, Legay Hervé
- 2:20 Built-in Multiband Antennas for Mobile Phone and WLAN Standards
Cyril Luxey, Pascal Ciaï, Georges Kossiavas, Robert Staraj
- 2:40 Multiscale Analysis of Array and Antenna Farm Problems
L. Matekovits, A. Laza, F. Vipiana, P. Pirinoli, G. Vecchi
- 3:00 Coffee Break**
- 3:20 Integral Equation Formulation for the Impedance Representation of Aperture-Coupled Devices with Finite
Michael Mattes, Juan R. Mosig
- 3:40 A General Procedure to set up the Dyadic Green's Function of Multilayer Conformal Structures and its Application to Microstrip Antennas
Michael Thiel, Truong Vu Bang Giang, Achim Dreher
- 4:00 Binary Optical Mixing for Broadband THz Communication
C. Sydlo, R. Mendis, J. Sigmund, M. Feiginov, H. L.

- Hartnagel and P. Meissner*
- 4:20 Planar Terahertz Antenna Optimisation
C. Sydlo, J. Sigmund, H.L. Hartnagel, R. Mendis, M. Feiginov and P. Meissner
- 4:40 EMANT: Integration of GiD and Kratos, Open and Flexible Computational Tools.
Ruben Otin, Javier Mora, Eugenio Oñate

April 6	1:20-5:00 PM	South Pacific
26	Electromagnetic Analysis of Wave Phenomena	

- 1:20 Time and Frequency Evolution of Precursor Fields in Dispersive Media using FDTD and Joint Time-Frequency
Reza Safian, Costas Sarris, Mohammad Mojahedi
- 1:40 Multiple Scattering of Plane Electromagnetic Waves by two Dielectric Coated conducting strips
Hassan A. Ragheb, Essam Hassan
- 2:00 Dipole Radiation in the Presence of a Planar Unidirectionally Conducting Screen
Binhao Jiang
- 2:20 A New Method for Evaluation of Electromagnetic Field of Vertical Electric Dipole over Constant-impedance Plane
Jiang Binhao, Liu Yongtan
- 2:40 A New Approach to Electromagnetic Wave Diffraction by Plane with an Impedance Discontinuity
Binhao Jiang
- 3:00 Coffee Break**
- 3:20 A New Computational Method for Plasmon Resonances of Nanoparticles and for Wave Propagation
Igor Tsukerman
- 3:40 Far-Field RCS Prediction From Measured Near-Field Data Including Metal Ground Bounce
Yoshio Inasawa, Shinji Kuroda, Shinichi Morita, Hitoshi Nishikawa, Yoshihiko Konishi
- 4:00 Analysis of Electromagnetic Field in Inhomogeneous Medium by Fourier Series Expansion Methods
Tsuneki Yamasaki, Katsuji Isono, Takashi Hinata
- 4:20 Educational Software Package for Electromagnetic Scattering from Simple Two and Three Dimensional Canonical and Non-Canonical Objects
Mohamed Al Sharkawy, Veysel Demir, Atef Elsherbeni
- 4:40 Hard and Soft Surfaces Realized by Frequency Selective Surfaces on a Grounded Dielectric Slab
Manish Hiranandani, Alexander B. Yakovlev, Ahmed A. Kishk

April 7	8:00-12:00 AM	South Pacific
27	Integrated Antennas for Portable Devices	

- 8:00 Dual-band Circularly Polarized Microstrip Antenna
Tso-Wei Li
- 8:20 Multi-band Loop Antenna Integrated with a Telephone Handset

Muhammed Z Alam, Maria A. Stuchly

- 8:40 A Card-Type Inverted LFL Antenna for Dual-Frequency Operation
H. Nakano, K. Morishita, Y. Sato, H. Mimaki, J. Yamauchi
- 9:00 A Circularly Polarized Dual-Band Microstrip Antenna
Cyril Luxey, Fabien Ferrero, Gilles Jacquemod, Robert Staraj
- 9:20 Miniaturized, Wideband Fractal Patch Antenna
M.Jamshidifar, F.Arazm, Ch.Ghobadi, Javad .Nourinia,
- 9:40 Coffee Break**
- 10:00 Meandered Planar Inverted-F Antenna for PCS Mobile Phone
Joo-Seong Jeon, Man-Hoe Heo, Jae-Won Noh
- 10:20 Coupled Retractable Whip/Stub Antennas for Mobile Phones
Faton Tefiku, Kevin Li
- 10:40 Development of Mobile Phone Using Dual-interface SIM and Fingerprint Recognition
Meihong Li
- 11:00 Analytical Calculation of Input Impedance of Rectangular Microstrip Patch Antennas on Finite Ground Planes
D. Chatterjee, E. Chettiar
- 11:20 A Study of Non-uniform Meandered and Fork-Type Grounded Antenna using iterative method.
Gharsallah ali, Zairi hsan, Glaoui mohamed
- 11:40 A Dual-Band Monopole Antenna for Mobile Communications
Yuehe Ge, Karu P. Esselle, Trevor S. Bird

April 7	8:00-10:40 AM	South Pacific
28	Beamforming and Smart Antennas	

- 8:00 New Constraints for Broadband Beamformers without Steering Delays
Lal C. Godara, M. R. Sayyah Jahromi
- 8:20 A New Implementation Approach for Cyclostationary Signal-Based Adaptive Arrays
Fang-Biau Ueng
- 8:40 Block Adaptive Beamforming via Parallel Projection Method
Wen-Hsien Fang, Sen-Hsien Hung, Kuo-Hsiung Wu
- 9:00 Steering Broadband Beamforming without Pre-steering
M. R. Sayyah Jahromi, Lal C. Godara
- 9:20 Phase-only Adaptive Processing based on the Direct Data Domain Least Squares Approach
Wonsuk Choi, Tapan K. Sarkar
- 9:40 Coffee Break**
- 10:00 A New GSC-Based Adaptive Array
Fang-Biau Ueng
- 10:20 Performance Enhancement by Using Switch-Beam Smart Antenna in 802.11a WLAN System
Shao - Hua Chu, Hsin - Piao Lin, Ding - Bing Lin

April 7	8:00-12:00 AM	South Pacific
29	System Architectures and Analysis	

- 8:00 The Next Generation Air to Ground Communication System Using for Air Traffic Control
HO DAC TU
- 8:20 Novel Interpolator Structure for Digital Symbol Synchronisation
Markku Kiviranta
- 8:40 An Efficient Timing Synchronization Method for OFDMA System
JungJu Kim, Jungho Noh, KyungHi Chang
- 9:00 Improvement of Voice Activity Detection Algorithm Based on 3G Partnership Project
Zhang liang, Bian zhengzhong, Gao yingchun
- 9:20 Performance of Digital Transceiver for Space-Time Coded Cooperative Multihop Wireless Communication Systems
Pham Bao Thi Ngoc, Takaaki Zakoji, Hidekazu Murata, Kiyomichi Araki
- 9:40 Coffee Break**
- 10:00 A Study of Multi-hop Mobile Communication Access Models Considering Elapsed Time from Coverage Area
Yukiko Nasu, Shigeru Shimamoto
- 10:20 Digital joint phase and sampling instant synchronisation for UMTS standard
Youssef Serrestou, Kosai RAOOF, Jo, LIENARD
- 10:40 Characterization of a Low Power, Short Range Wireless Transceiver
Usha Neupane, Samuel M. Richie, Arthur Weeks
- 11:00 Complex Spatial/Temporal CFAR
Ziba Ebrahimian, Hosein Alavi, Ali. M Doost Hoseini
- 11:20 The New Scheme for Data Rate Improvement in HF Communication without using Equalizer
Vahid Heidari, Mohammad H. Alavi
- 11:40 Fast Arithmetic of Elliptic Curve Cryptosystem in Mobile Communication
Zhang liang, Bian zhengzhong, Gao yingchun

April 7	8:00-10:00 AM	South Pacific
30	Electromagnetic Compatibility and Interference	

- 8:00 The Isolation Island and the Displacement of Decoupling Capacitors for Power Integrity Issues
Ding-Bing Lin, Chun-Te Wu, Guo-Chiang Hung
- 8:20 Shield Design about Circumference of Choke Structure Used for Microwave Oven by Parallel FDTD
Kouta Matsumoto, Osamu Hashimoto
- 8:40 Graphical Analysis of Electromagnetic Coupling on B-737 and B-757 Aircraft for VOR and LOC IPL Data
Madiha Jafri, Linda Vahala, Jay Ely
- 9:00 Response Bounds Analysis for Transmission Lines Characterized by Uncertain Parameters
Sami Barmada, Antonino Musolino, Marco Raugi

9:20 Computational Electromagnetics Applied to Analyzing the
Efficient Utilization of the RF Transmission Hyperspace
*Andrew L. Drozd, Irina P. Kasperovich, Andrew C.
Blackburn, Clifford E. Carroll, Jr., Chilukuri K. Mohan*

9:40 Broadband Over Power Lines (BPL) Interference Analysis
Joel T. Fox