



## WEDNESDAY 21 JUNE

8:00 **WORKSHOP REGISTRATION**  
WITH BREAKFAST

9:00 **WELCOME AND INTRODUCTION**  
PROF ANDREW RICHARDSON  
DIRECTOR, CENTRE FOR MICROSYSTEMS ENGINEERING  
LANCASTER UNIVERSITY

PROF MARCELO LUBASZEWSKI  
UFRGS FEDERAL UNIVERSITY, BRAZIL

9:15 **KEYNOTE PRESENTATION**  
ALLAN JAMES, MANAGING DIRECTOR, SEMEFAB, GLENROTHES

10:00 **COFFEE BREAK AND POSTER SESSIONS**

**DEBUGGING MIXED-SIGNAL CIRCUITS VIA THE IEEE1149.4 STD. - ANALYSIS OF LIMITATIONS AND REQUIREMENT**

MANUEL FELGUEIRAS, GUSTAVO ALVES, JOSE FERREIRA, *ISEP & FEUP, PT*

**A DESIGN-FOR-DIAGNOSIS SCHEME FOR THE DELTA-SIGMA ADC**

CHUNG LEN LEE, CHEN WEI-HSIEN, JWU E CHEN, *NATIONAL CHIAO TUNG UNIVERSITY, TW*

**AN ALTERNATIVE TO HISTOGRAM METHOD FOR THE STATIC TEST OF HIGH-RESOLUTION SD CONVERTERS**

SARA ESCALERA, ALVARO ESPIN, OSCAR GUERRA, RAFAEL CASTRO-LOPEZ, *INSTITUTO DE MICROELECTRÓNICA DE SEVILLA, ES*

**MEASURING ADC DRIVING CIRCUIT SETTLING TIME ACCURATELY BY SHIFTING SAMPLE EDGE OF THE ADC**

BHASKAR GOSWAMI, RAJIV MANTRI, *TEXAS INSTRUMENTS, USA*

10:50 **ANALOG TEST PRESENTATIONS**

**ON THE ACCURATE ESTIMATION OF TEST METRICS FOR MULTIPLE ANALOGUE PARAMETRIC DEVIATIONS**

AHCÈNE BOUNCEUR, SALVADOR MIR, EMMANUEL SIMEU, LUIS ROLINDEZ, *TIMA LABORATORY & STMICROELECTRONICS, FR*

**A NETWORK THEORETICAL APPROACH TO ANALOG DC-FAULT DIAGNOSIS**

BERND STRAUBE, MARTIN CLAUS, TORSTEN COYM, ALBRECHT REIBIGER, *TECHNISCHE UNIVERSITÄT DRESDEN & FRAUNHOFER INSTITUT INTEGRIERTE SCHALTUNGEN, DE*

**FAULT DIAGNOSIS OF ANALOG INTEGRATED CIRCUITS USING AN ANALOG FAULT SIMULATOR**

BERND STRAUBE, WOLFGANG VERMEIREN, TORSTEN COYM, MICHAEL LINDIG, LOTHAR GROBELNY, *FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS BRANCH & ZMD ANALOG MIXDD SIGNAL SERVICE GMBH & CO., DE*

**FAULT DIAGNOSIS APPROACH BY USING OSCILLATION TEST TECHNIQUES IN AN OPERATIONAL TRANSCONDUCTANCE AMPLIFIER**

SEBASTIAN BOTA, RODRIGO PICOS, EUGENI ISERN, MIQUEL ROCA, EUGENI GARCIA, *UNIVERSITAT ILLES BALEARS, ES*

12:30 **LUNCH**

SPONSORED BY WOLFSON MICROELECTRONICS

14:00 **DATA CONVERTERS TEST PRESENTATIONS**

**DFT BEHAVIOURAL DESCRIPTION FOR FOLDED ADCS**

ROMAN MOZUELOS, YOLANDA LECHUGA, MAR MARTINEZ, SALVADOR BRACHO, *UNIVERSITY OF*



CANTABRIA, ES

**SCREENING TEST FOR REAL TIME SD MODULATOR FAILURE MODE DETECTION**

KONSTANTINOS GEORGOPOULOS, ANDREAS LECHNER, MARTIN BURBIDGE, ANDREW RICHARDSON, LANCASTER UNIVERSITY, UK

**FULLY DIGITAL STRATEGY FOR FAST TEST OF SD ADC'S**

DANIELA DE VENUTO, LEONARDO REYNERI, POLITÉCNICO DI BARI & POLITÉCNICO DI TORINO, IT

**SIGNATURE ANALYSIS FOR FAULT DIAGNOSIS DURING THE APPLICATION OF MODEL-BASED DATA CONVERTER TESTING**

CARSTEN WEGENER, MICHAEL KENNEDY, UNIVERSITY COLLEGE CORK, IE

15:40-  
17:25

**MS SYSTEM TEST AND FAULT TOLERANCE PRESENTATIONS**

**COMPONENT VALUE CALCULATIONS AND CHARACTERIZATIONS FOR MEASUREMENTS IN 1149.4 ENVIRONMENT**

TEUVO SAIKKONEN, MARKKU MOILANEN, UNIVERSITY OF OULU, FI

**EXPERIMENTAL VALIDATION OF THE "ANALOGUE NETWORK OF CONVERTERS" TECHNIQUE TO TEST COMPLEX SIP/SOC**

VINCENT KERZERHO, SERGE BERNARD, PHILIPPE CAUVET, MARIANE COMTE, FLORENCE AZAIS, MICHEL RENOVELL, UNIVERSITY OF MONTPELLIER & PHILIPS FRANCE SEMICONDUCTEURS, FR

**A GENERIC INFRASTRUCTURE FOR TESTING SOC'S WITH MIXED-SIGNAL/RF MODULES**

VLADIMIR ZIVKOVIC, JAN SCHAT, G SEUREN, F VAN DER HEYDEN, PHILIPS RESEARCH, ELECTRONIC DESIGN & TOOLS, NL, PHILIPS SEMICONDUCTORS, DE & NL

**ON THE USE OF HIGHER-ORDER SD-MODULATORS FOR RELIABLE DIGITAL CIRCUITS DESIGN**

ERIK SCHULER, LUIGI CARRO, DANIEL FARENZENA, UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL, BR

18:00-  
19:30

**WELCOME RECEPTION WITH WHISKY TASTING**

KEYNOTE SPEAKER: JOHN URWIN, OPERATIONS DIRECTOR, WOLFSON MICROELECTRONICS, EDINBURGH  
SPONSORED BY SCOTTISH ENTERPRISE



## THURSDAY 22 JUNE

8:00 **WORKSHOP REGISTRATION**  
WITH BREAKFAST

8:30 **INVITED TECHNICAL PRESENTATIONS -- tbc**

10:10 **COFFEE BREAK AND POSTER SESSIONS**

**EMBEDDED HIGH-FREQUENCY ANALOGUE BOUNDARY SCAN TEST SOLUTION FOR A 900 MHZ DIRECT CONVERSION I/Q TRANSMITTER**

JUHA HAKKINEN, JARI HANNU, JANI MANNINEN, PEKKA SYRI, MARKKU MOILANEN, UNIVERSITY OF OULU, FI

**DEVELOPING MODELS TO FACILITATE THE DESIGN OF SELF-TESTING AUTONOMOUS MICROELECTROCHEMICAL SENSOR SYSTEMS**

IAN BELL, ANTHONY BATESON, J. WADHAWAN, G. M. GREENWAY, THE UNIVERSITY OF HULL, UK

**VERIFICATION OF CORRECT OPERATION OF A MEMS DEVICE OVER ITS TEMPERATURE RANGE, THROUGH MODELLING AND SIMULATION**

RICHARD ROSING, DONGSHENG LIU, ANDREW RICHARDSON, LANCASTER UNIVERSITY, UK

**THERMAL TRANSIENT CHARACTERISATION OF THE ETCHING QUALITY OF MICRO ELECTRO MECHANICAL SYSTEMS**

PÉTER SZABÓ, BALÁZS NÉMETH, MARTA RENCZ, BUDAPEST UNIVERSITY OF TECHNOLOGY & ECONOMICS, HU

10:50 **MEMS TESTING PRESENTATIONS Sponsored by PATENT DfMM**

**FAULT SIMULATION OF HETEROGENEOUS INTEGRATED BIOLOGICAL SYSTEMS**

HANS KERKHOFF, XIAO ZHANG, *CENTRE FOR TELEMATICS AND INFORMATION TECHNOLOGY, NL*

**BUILT-IN TEST OF ELECTRODE DEGRADATION OF MULTI-ELECTRODE ARRAY BIOSENSORS**

HONGYUAN LIU, NORBERT DUMAS, ANDREW RICHARDSON, RICHARD HEAL, HANS KERKHOFF, *LANCASTER UNIVERSITY, UK, UNIVERSITY OF TWENTE, NL*

**PSEUDORANDOM FUNCTIONAL BIST FOR MEMS - A CASE STUDY**

ACHRAF DHAYNI, SALVADOR MIR, LIBOR RUFER, *TIMA LABORATORY, FR*

**TOWARDS A HEALTH MONITOR FOR SYSTEM IN PACKAGE WITH MEMS FUNCTIONALITY**

NORBERT DUMAS, ANDREW RICHARDSON, *LANCASTER UNIVERSITY, UK*

12:30 **LUNCH**

14:00 **SELF TUNING AND SELF CORRECTION PRESENTATIONS**

**SELF-HEALING MEMORIES FOR SCALED TECHNOLOGIES**

KAUSHIK ROY, S MUKHOPADHYAY, H MAHMOODI, *PURDUE UNIVERSITY, USA*

**RF MEMS TUNABLE MATCHING NETWORKS**

DIMITRIOS PEROULIS, *PURDUE UNIVERSITY, USA*

**ADAPTIVE OFDM WIRELESS RECEIVER FRONT-END: SELF CORRECTION AND SELF-TUNING**

ABHIJIT CHATTERJEE, DONGHOON HAN, HYUN CHOI, SOUMENDU BHATTACHARYA, RAJARAJAN SENGUTTUVAN, *GEORGIA INSTITUTE OF TECHNOLOGY, USA*

**TUNABLE RF AND MIXED SIGNAL IC DESIGN FOR COGNITIVE RADIO**

BYUNGHOO JUNG, *PURDUE UNIVERSITY, USA*

16:00-  
17:15 **PANEL DISCUSSION**

18:30 **EDINBURGH CASTLE WORKSHOP RECEPTION, DINNER, AND ENTERTAINMENT**





## FRIDAY 24 JUNE

8:00 **WORKSHOP REGISTRATION**  
WITH BREAKFAST

9:00 **INVITED TECHNICAL PRESENTATION**

10:10 **COFFEE BREAK AND POSTER SESSIONS**

**EXTRACTING RANDOM JITTER IN THE EXISTENCE OF SINUSOIDAL JITTER**  
JIUN LANG HUANG, *NATIONAL TAIWAN UNIVERSITY, TW*

**IMPROVING SIGNAL INTEGRITY IN SYNCHRONOUS CIRCUITS BY MONITORING POWER INTERCONNECTS ACTIVITY**  
MARCIAL RODRIGUEZ, JORGE SEMIAO, JUAN J. RODRIGUEZ-ANDINA, FABIAN VARGAS, MARCELINO SANTOS, ISABEL TEIXEIRA, JOAO PAULO TEIXEIRA, *INESC, UNIVERSITY OF VIGO & UNIVERSITY OF ALGARVE, PT, PUCRS, BR*

**MODELING OF POWER SUPPLY GLITCHES EFFECTS ON CMOS CIRCUITS**  
DJELLID-OUAR ANISSA, CATHEBRAS GUY, BANCEL FREDERIC, *UNIVERSITY OF MONTPELLIER & STMICROELECTRONICS, FR*

**MULTIFREQUENCY SIGNAL ANALYSIS BY INTERPOLATED DFT METHOD WITH MAXIMUM SIDELobe DECAY WINDOWS**  
DANIEL BELEGA, DOMINIQUE DALLET, *UNIVERSITY "POLITEHNICA" OF TIMISOARA, RO, LABORATOIRE IXL, FR*

10:50 **SIGNAL INTEGRITY JITTER PRESENTATIONS**

**MONITORING SIGNAL INTEGRITY OF FULLY DIFFERENTIAL SIGNALS**  
LUZ BALADO, RICARD SANAHUJA, JOAN FIGUERAS, *UNIVERSITAT POLITÈCNICA DE CATALUNYA, ES*

**MULTI-GIGAHERTZ SOURCE SYNCHRONOUS TESTING OF AN OPTICAL PACKET SWITCHING NETWORK**  
CARL GRAY, DAVID C KEEZER, ODILE LIBOIRON-LADOUCEUR, KEREN BERGMAN, *GEORGIA INSTITUTE OF TECHNOLOGY & COLUMBIA UNIVERSITY, USA*

**ON-CHIP JITTER MEASUREMENT USING A DUAL-CHANNEL UNDERSAMPLING TIME DIGITIZER**  
QINGQI DOU, JACOB ABRAHAM, *THE UNIVERSITY OF TEXAS AT AUSTIN, USA*

**BIST FOR CDR JITTER MEASUREMENT AND JITTER DECOMPOSITION**  
CHAUCHIN SU, JENCHIEN HSU, *NATIONAL CHIAO TUNG UNIVERSITY, TW*

12:30 **LUNCH**

14:00 **RF TEST PRESENTATIONS**

**EMBEDDED SIGNAL GENERATOR USING SHIFT REGISTERS WITH FIR FILTERING**  
WILLIAM EISENSTADT, SANGHOON CHOI, ROBERT FOX, *UNIVERSITY OF FLORIDA, USA*

**EFFICIENT COMPARISON-BASED WAFER PROBE TEST OF ANALOG/RF CIRCUITS USING RESPONSE FEATURES**  
SOUENDU BHATTACHARYA, RAJARAJAN SENGUTTUVAN, ABHIJIT CHATTERJEE, ADIT SINGH, *GEORGIA INSTITUTE OF TECHNOLOGY & AUBURN UNIVERSITY, USA*

**A BUILT-IN SELF TEST APPROACH FOR RF POWER AMPLIFIERS**  
JOSE MACHADO DA SILVA, GABRIEL PINHO, PEDRO MOTA, *INESC, PT*

**BUILT-IN RF TRANSCEIVER TEST AND DIAGNOSIS USING TRANSIENT ENVELOPE DETECTION AND SAMPLING**  
DONGHOON HAN, SOUMENDU BHATTACHARYA, ABHIJIT CHATTERJEE, *GEORGIA INSTITUTE OF TECHNOLOGY, USA*

15:40 **CLOSING SESSION**