

First Announcement



ESSDERC 2008

38th European Solid-State Device Research Conference

15 - 19 September 2008

Edinburgh International Conference Centre, Scotland, UK

Paper submission deadline:

5 April 2008

www.essderc2008.org



IEEE





38th European Solid-State Device Research Conference **15 - 19 September 2008**

The aim of the ESSDERC conference is to provide an annual European forum for the presentation and discussion of recent advances in solid-state devices and technologies. ESSDERC and its sister conference ESSCIRC, which focuses on solid-state circuits, share a single Steering Committee, and are held together to enable both communities to share advances in the technologies and design which enable increasing levels of sophistication and performance in integrated systems. The advances in silicon technology and the conflicting opportunities and constraints on designers demand closer than ever interaction between technologists, device experts, and circuit and system designers. While keeping separate Technical Programme Committees, ESSDERC and ESSCIRC share Plenary Keynote Presentations and Joint Sessions bridging both communities. Attendees registered for either conference are encouraged to attend any of the scheduled parallel sessions.

The main themes for original contributions to be submitted to ESSDERC 2008 include, but are not limited to the following:

Advanced Devices

CMOS scaling; high performance, low power, and low voltage devices; SOI, SGOI, and SiON devices; SiGe, Ge, and strained devices; nano devices and related device physics; double and multi gate transistors; high mobility and ballistic devices.

Processing & Integration

Advances in integration for ULSI; SOI, SGOI, and SiON processing; 3D integration; new materials for CMOS; ICs patterning techniques; gate dielectrics; high k; gate stack and junction technology; silicidation; interconnects; low k dielectrics; damascene processing; cleaning and surface preparation.

Telecommunication & Power Devices

RF CMOS; passives; antennas; filters; resonators; inductors; RF MEMS/switches; SAW, BAW, and FBAR; oscillators, HBT; HEMT; bipolar devices; BiCMOS; high voltage and high power devices;

SiC; high temperature operation; CMOS compatible power devices.

Modelling and Simulation

Compact, numerical, and physical modelling; device simulation; behavior models; quantum mechanical and non-stationary transport phenomena; ballistic transport; scattering models; process dispersions, parameter fluctuations, variability; TCAD; mixed electrical-thermal modelling and simulation.

Characterisation and Reliability

Characterisation techniques; parameter extraction; advanced test structures and methods; noise; gate dielectric, device, and interconnect reliability; CHE effects; NBTI; SILC; memory retention; process-induced damages, ESD, EMI; defect monitoring and control; metrology.



38th European Solid-State Device Research Conference 15 - 19 September 2008

Memory, SoC & SiP

Embedded and stand-alone memories; DRAM, FeRAM, MRAM, PCRAM, CBRAM, Flash, SONOS; nanocrystal memories; single and few electron memories; 3D IC stacks; integrated MEMS and NEMS; integration of detectors, sensors, and actuators; CCDs and CMOS imagers; optical onchip communication, optical links; display technologies; TFTs; IC cooling techniques; SoC and SiP packaging; microsystem packaging.

Emerging Technologies, Sensors & Actuators

Nanotubes; single-electron, molecular and quantum devices; spintronics; self-assembling structures and emerging materials; photonic devices; light emission, APDs, single photon detectors; polymer transistors, sensors, light-emitting diodes and optoelectronic devices; flexible displays; biochemical sensors and actuators; microfluidic devices; micromachining; MEMS and NEMS.

Joint ESSDERC / ESSCIRC Sessions:

These sessions will focus on topics that straddle the boundary between design and technology and are planned to include Sensors and Imagers, Integration of IC designs with other technologies and materials, Yield and Reliability related technology developments and Design for Manufacture.

Plenary Sessions

ESSDERC and ESSCIRC share Plenary Sessions where distinguished invited speakers will discuss issues of interest for the attendees of both conferences. Details of speakers will be published in May 2008.

In addition, ESSDERC will include prominent invited speakers who will address issues more focused on

solid-state devices of specific interest to the device and fabrication community. Details of speakers will be published in May 2008.

Tutorials and Workshops

A Tutorial Day will be organised on Monday 15 September 2008 and the week will conclude with a Workshop Day on Friday 19 September 2008.

Best Paper Awards

Papers presented at the conference will be considered for the Best Paper Award and for the best "Young Scientist" paper award. The selection will be based on the results of the paper selection process and the judgment of the conference participants. The awards ceremony will take place at ESSDERC 2009.

Paper Submission

The 2008 ESSDERC conference will be through electronic submission of papers in PDF format. Prospective authors must submit their paper(s) via the conference website and in the final format to be published in the proceedings. They must not exceed four A4 pages including all illustrations and references. The size of the PDF files submitted must not exceed 2 MBytes. Manuscript guidelines as well as instructions on how to submit electronically will be available on the conference website.

All paper submissions must be received by April 5th 2008

After paper selection, authors will be informed about the decision of the Technical Programme Committee by e-mail at the end of May 2008 and at the same time, the complete programme will be published on the conference website.

The working language of the conference is English, which must also be used for all presentations and printed material.



38th European Solid-State Device Research Conference 15 - 19 September 2008

Review Process

Papers submitted for review must clearly state:

- The purpose of the work
- How and to what extent it advances the state-of-the-art
- Specific results and their impact

The degree to which the paper deals with the above issues is fundamental to a successful review and selection of the paper. The most frequent cause of rejections of submitted papers is a lack of new results. Only work that has not been previously published at the time of the conference will be considered. Submission of a paper for review and subsequent acceptance is considered by the committee as a commitment that the work will not be placed in the public domain prior to the conference.

Edinburgh ESS-Fringe Poster Session

Following the parallel of cultural events of the Edinburgh Festival with its famous "Fringe" events, ESSCIRC and ESSDERC will all be holding a "fringe" event in addition to the main conference. The Fringe forum is ideally suited for the submissions of recent progress which may, in some cases, not be ready for a full paper submission. The emphasis of fringe submissions should be on the presentation of the latest data (both measurement and/or simulation) and new ideas. This forum provides the opportunity to network with the ESSDERC/CIRC community to discuss these ideas and latest results. Reviewing will be undertaken by a sub-committee under the main Technical Programme committee, and a separate proceedings will be published on CD for this event. To attract the latest results, submissions close at the later date of 13 June 2008.

Submissions will be in the form of abstracts of one page of text and two pages of figures. Submission will be via the website www.esscirt2008.org/fringe, where further details can be found. All PhD students

making fringe submissions will be offered a reduced registration rate.

Schedule at a Glance

Monday 15 September 2008

Tutorials

Tuesday 16 September 2008

Conference Opening

Technical Sessions

Welcome Reception

Wednesday 17 September 2008

Technical Sessions

Conference Dinner

Thursday 18 September 2008

Technical Sessions

Friday 19 September 2008

Workshops

Key Dates

5th April 2008

Abstract submission deadline

23rd May 2008

Notification of acceptance

20th July 2008

Early registration deadline

Conference Venue

The conference will be held at the Edinburgh International Conference Centre (EICC) located in the heart of Scotland's capital city. With its stunning Georgian and Victorian architecture, and winding medieval streets, it's easy to see why Edinburgh has been listed as a World Heritage Site.

Edinburgh has one of the most beautiful cityscapes in the world with the famous castle perched atop the crags of an ancient volcano dominating the

38th European Solid-State Device Research Conference 15 - 19 September 2008

urban skyline. At the opposite end of "The Royal Mile" lies the Palace of Holyrood, the Queen's official residence in Scotland. It contains historic apartments where Mary, Queen of Scots lived.

The capital is bustling with arts, culture, sports and attractions and is famous for playing host to the world's largest arts festival. The city is the birthplace of James Clerk Maxwell, Sir Arthur Conan Doyle, author of the Sherlock Holmes novels and Alexander Graham Bell, inventor of the telephone. The author Robert Louis Stevenson lived in the City and famous landmarks associated with him include the Jekyll & Hyde pub, Deacon Brodie's Tavern and The Hawes Inn in South Queensferry which features in his novel 'Kidnapped'. The author J K Rowling wrote the first "Harry Potter" novel in an Edinburgh café. After dark, Edinburgh has a lively nightlife with stylish bars and pubs, restaurants, clubs and live entertainment to

rival any European City.

The National Gallery of Scotland with an extensive collection of old masters, adjoins Princes Street Gardens in the City centre which boasts the World's oldest floral clock. A fifteen minute walk away are the Scottish National Gallery of Modern Art and Dean Galleries with their fine modern collections. The City centre also hosts the National Museum of Scotland. The collections in the landmark Museum of Scotland building tell the story of Scotland its land, its people and culture. The Royal Museum building, with its magnificent glass ceiling, houses international collections covering nature to art, culture to science.

Edinburgh is within easy reach of the Scottish countryside, and excursions to lochs and mountains, the East Lothian and Fife coasts and the home of golf, St Andrews, are all possible.



ESSDERC / ESSCIRC Steering Committee

Reinout Woltjer (Chair), NXP

Ralf Brederlow, Texas Instruments

Cor Claeys (Permanent Secretary), IMEC

Peter Ashburn, University of Southampton

Sorin Cristoloveanu, ENSERG-IMEP

Franz Dielacher, Infineon

Christian Enz, CSEM

Hervé Mingam, ST Microelectronics

Ernesto Perea, ST Microelectronics

Hans-Jörg Pfliederer, University of Ulm

William Redman-White, NXP

Hannu Tenhunen KTH, Stockholm

Contact Information

Conference Secretariat

Institute of Physics
76 Portland Place
London W1B 1NT
United Kingdom

Tel: +44 (0)20 7470 4800

Fax: +44 (0)20 7470 4900

E-mail: esscirc-essderc@iop.org

Local Organisation

University of Edinburgh
Scottish Microelectronics Centre
Kings Buildings, Edinburgh, EH9 3JF
United Kingdom

Tel: +44 (0)131 560 5624

Fax: +44 (0)131 560 6554

E-mail: Les.Haworth@ee.ed.ac.uk

Organising Committee

Conference Chair

Anthony Walton, University of Edinburgh
Deputy Chair - Peter Ashburn, University of
Southampton

ESSDERC TPC

Chair - Steve Hall, University of Liverpool
Deputy Chair - Asen Asenov, University of Glasgow
Vice Chair - A Dimoulas, IMEL/NCSR Demokritos

ESSCIRC TPC

Chair - Bill Redman-White, NXP
Deputy Chair - Robert Henderson, University of
Edinburgh
Vice Chair - Yannis Papanaos, NTU Athens

Tutorial Chairs

ESSDERC

Anthony O'Neil, Newcastle University

ESSCIRC

Peter Mole, Intersil

Local Chair

Les Haworth, University of Edinburgh

Deputy Chairs

Scott Roy, University of Glasgow
Rebecca Cheung, University of Edinburgh
Tom Stevenson, University of Edinburgh
Stewart Smith, University of Edinburgh
Jon Terry, University of Edinburgh

Conference Secretariat

Claire Garland, Institute of Physics
Jon Mackew, Institute of Physics
Lisa Cornwell, Institute of Physics