

PSD9: The 9th International Conference on Position Sensitive Detectors

Monday 12 September 2011 - Friday 16 September 2011

**Aberystwyth University
Programme**

Table of contents

Monday 12 September 2011	1
Opening speeches and Welcome	1
Positron Emission Tomography	1
Photon Detectors for Synchrotron Radiation and other applications	1
Knowledge Transfer and Commercial Opportunities for PSDs	1
Knowledge Transfer and Commercial Opportunities for PSDs	1
Tuesday 13 September 2011	3
X-Ray and Gamma detectors	3
Detectors for Particle Physics	3
Europlanet Workshop on Detectors for Astronomy and Planetary Science	3
Europlanet Workshop on Detectors for Astronomy and Planetary Science	3
Wednesday 14 September 2011	5
Poster Session	5
Detectors for Particle Physics	6
Advances in Pixel Detectors	6
Detectors for FELs and other light sources	7
Thursday 15 September 2011	8
Applications in Medicine, Life Sciences and Biology	8
Detectors for high radiation environments	8
Nuclear Physics	8
Advances in Pixel Detectors	9
Advances in Gas Based Detectors	9
Conference Dinner	9
Friday 16 September 2011	10
Detectors for Astrophysics	10
Detectors for Particle Physics	10
Summary and Closing Remarks	10

Monday 12 September 2011

Opening speeches and Welcome - Lecture Theatre A12 (09:15-09:40)

time	[id] title	presenter
09:15	[117] Welcome To Aberystwyth	Dr. LANGSTAFF, Dave (Aberystwyth University)
09:25	[118] A Brief History of PSD	Prof. ALLPORT, Philip Patrick (University of Liverpool (GB))

Positron Emission Tomography - Medrus (09:40-10:50)

- Conveners: Sellin, Paul (University of Surrey)

time	[id] title	presenter
09:40	[43] Development of a gamma-ray imager using a large area monolithic 4x4 MPPC array for a future PET scanner	Dr. NAKAMORI, Takeshi (Waseda University)
10:00	[94] Position-sensitive Solid-state Photomultiplier Devices	STAPELS, Christopher (Radiation Monitoring Devices)
10:20	[85] A modular positron camera for positron emission particle tracking in harsh environments	Dr. LEADBEATER, Thomas (University of Birmingham)

Photon Detectors for Synchrotron Radiation and other applications - Medrus (11:10-12:50)

- Conveners: Dr. Lapington, Jon (University of Leicester)

time	[id] title	presenter
11:10	[100] Position sensitive photon detectors for Nuclear Physics, Particle Physics and Healthcare Applications	Dr. SEITZ, Bjoern (Glasgow University)
11:50	[11] Improving the resolution in soft X-ray emission spectrometers through photon-counting using an Electron Multiplying CCD	Dr. HALL, David (The Open University)
12:10	[36] EIGER a new single photon counting detector for X Ray applications: performance of the chip.	Dr. RADICCI, Valeria (Paul Scherrer Institute)
12:30	[74] Application of time-tagged photon imaging for trace gas measurement using cavity enhanced absorption spectroscopy	Dr. HALLAM, Jonathan (University of Leicester)

Knowledge Transfer and Commercial Opportunities for PSDs - Medrus (13:50-15:50)

- Conveners: Huggins, Carlos (NPL)

time	[id] title	presenter
13:50	[96] Opportunities for the community towards a Sensors - Technology Innovation Centre (TIC)	HUGGINS, Carlos (Systems Technology Innovation Centre)
14:10	[105] The development of x-ray imaging for airport security, defence and medical markets	Dr. MCGRATH, John (Kromek)
14:50	[95] KE towards High k dielectrics, CMOS and solar cells	Dr. RUSHWORTH, Simon (NMRC)
15:30	[18] Detection of explosive materials with Gamma Resonant Nuclear Absorption and Argon-Nitrogen TPC	Dr. KRESLO, Igor (LHEP, Uni-Bern)

Knowledge Transfer and Commercial Opportunities for PSDs - Medrus (16:30-17:10)

- Conveners: Huggins, Carlos

time	[id] title	presenter
16:30	[25] Tracking of moving fiducial markers during radiotherapy using a CMOS active pixel sensor.	Dr. OSMOND, John (The Institute of Cancer Research & The Royal Marsden NHS Trust)
16:50	[55] A High Purity Germanium detector for Compton imaging in nuclear medicine	Dr. HARKNESS, Laura (Department of Physics, University of Liverpool)

Tuesday 13 September 2011

X-Ray and Gamma detectors - Medrus (09:00-10:40)

- **Conveners: Sellin, Paul (University of Surrey)**

time	[id] title	presenter
09:00	[15] The Silicon Strip Tracker of the Fermi Large Area Telescope	Dr. BREGEON, Johan (INFN sez. di Pisa)
09:20	[12] Development of high temperature AlGaAs soft X-ray photon counting detectors	Dr. LEES, John (University of Leicester)
09:40	[52] Planar Semiconductor Compton Imaging using Pulse Shape Analysis	SWEENEY, Anthony (University of Liverpool)
10:00	[29] One dimensional detector for X-Ray diffraction with superior energy resolution based on silicon strip detector technology	DABROWSKI, Wladyslaw (AGH University of Science & Technology)
10:20	[9] Pixellated CZT high-energy X-ray instrument	Mr. SELLER, Paul (RAL)

Detectors for Particle Physics - Medrus (11:10-12:50)

- **Conveners: Prof. Allport, Philip Patrick (University of Liverpool (GB))**

time	[id] title	presenter
11:10	[110] LHC detectors overview with emphasis on ATLAS	Dr. DI GIROLAMO, Beniamino (CERN)
11:50	[2] ATLAS Silicon Microstrip Tracker Operation and Performance	Dr. PATER, Joleen (Manchester University)
12:10	[10] Operational experience with the ATLAS Pixel Detector at the LHC.	Dr. DE LUCA, Carolina (SUNY)
12:30	[64] Track based alignment of the ATLAS Inner Detector tracking system	Prof. SCHIECK, Jochen (Ludwig-Maximilians-Universität München)

Europlanet Workshop on Detectors for Astronomy and Planetary Science - Medrus (13:50-15:55)

- **Conveners: Prof. Grande, Manuel (Aberystwyth University)**

time	[id] title	presenter
13:50	[114] Introduction to Europlanet Workshop	Prof. GRANDE, Manuel (Aberystwyth University)
14:05	[112] Life Marker Chip and its Detection Technologies	Prof. SIMS, Mark (Leicester University)
14:45	[37] The use of swept-charge devices in planetary analogue X-ray fluorescence studies	Mr. WALKER, Thomas (Brunel University)
15:05	[88] A Radiation-Hard Silicon Drift Detector Array for Extraterrestrial Element Mapping	RAMSEY, Brian (NASA/Marshall Space Flight Center)
15:25	[47] Development of the Balloon-Borne sub-MeV Gamma-ray Compton Camera Using an Electron-Tracking Gaseous TPC and a Scintillation Camera	Dr. MIZUMOTO, Tetsuya (Kyoto University)

Europlanet Workshop on Detectors for Astronomy and Planetary Science - Medrus (16:20-18:00)

- **Conveners: Prof. Grande, Manuel (Aberystwyth University)**

time	[id] title	presenter
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16:20	[113] Silicon Detectors in Space	Dr. WILBURN, Colin (Micron Semiconductor)
17:00	[91] Using a CCD for the direct detection of electrons in a low energy space plasma spectrometer	Mr. BEDINGTON, Robert (UCL - MSSL)
17:20	[115] Europlanet Workshop Summary and Discussion	Prof. GRANDE, Manuel (Aberystwyth University)

Wednesday 14 September 2011

Poster Session - Medrus (09:00-10:00)

[id] title	presenter	board
[16] Planar slim edge ATLAS pixel sensors for the IBL and high-lumi-LHC upgrades	Mr. WITTIG, Tobias	1
[81] Basis Pulse Shape Analysis using planar HPGe semiconductor detectors	Mr. DORMAND, Jamie	2
[69] DETECTORS FOR DISTANT DIAGNOSTICS OF NUCLEAR-ENERGETIC INSTALLATION	Prof. MALTSEV, Anatoly	3
[106] Observation of Radiation Damage in the ATLAS Pixel Detector Using the High Voltage Delivery System	Dr. TOMS, Konstantin	4
[23] Silicon Sensor Developments for the CMS Tracker Upgrade	Dr. DIERLAMM, Alexander	5
[45] A Combined Energy and Angular Dispersive X-ray Diffraction System Using a Novel Pixellated X-ray Detector for Material Identification.	SELLER, Paul	6
[54] Characterization of new hybrid pixel module concepts for the ATLAS Insertable B-layer upgrade	Mr. BACKHAUS, Malte	7
[53] Development of Beam Profile Monitor for Antiproton Annihilation Cross Section Measurements by the ASACUSA Collaboration	Mr. TODOROKI, Koichi	8
[44] Inaccuracy of coordinate determined by several detectors' signals	Prof. SAMEDOV, Victor	9
[35] Simulating the effect of interface recombination velocity and fixed oxide charge on the responsivity of arsenic and phosphorus doped n+p PSDs	ESEBAMEN, Xerviar Omeime	10
[26] Novel methods for identifying the cause of inherent ageing in Electron Multiplying Charge Coupled Devices	Mr. EVAGORA, Anthony	11
[65] Application of a high-speed CMOS image sensor for geometric calibration of cone-beam computed tomography system	Dr. SEO, Changwoo	12
[86] Development of High Spatial Resolution Camera for Characterization of X-ray Optics	Dr. KUDROLLI, Haris	13
[56] Development of X-ray/Gamma-ray Imaging Spectrometer with Reach-through APD Arrays	Dr. NAKAMORI, Takeshi	14
[84] Investigation of the secondary electron emission characteristics of alternative dynode materials for imaging photomultipliers	Dr. CANN, Brad Mr. TAILLANDIER, Virgil Dr. JON, Lapington	15
[71] Performance Comparison of CMOS-based Photodiodes for High Resolution and High Sensitivity Digital Mammography	Mr. YOO, Hyunjun Mr. CHO, Minsik Mr. BAE, Jun Hyung Mr. CHA, Bo Kyung Mr. LEE, Dae Hee Mr. KANG, Dong-uk	16
[57] Position sensitive detectors with SiPM readout for measuring antiproton annihilations	Ms. SOTER, Anna	17
[28] Investigations with Gaseous Electron Multipliers for use on the ISIS spallation neutron source	Dr. DUXBURY, Dominic	18
[21] A wavelength-shifting-fibre-based scintillator neutron detector implemented with a median point calculating method	Dr. TOH, Kentaro	19

[14] Centroiding Methods for Split Events in a Charge Coupled Device used for Resonant Inelastic X-ray Scattering	Mr. SOMAN, Matthew	21
[62] Characterisation of AGATA HPGe detectors for Pulse Shape Analysis.	Ms. COLOSIMO, Samantha	22
[22] Electron Multiplying CCDs for future Soft X-ray Spectrometers	Mr. TUTT, James	23
[33] Fast, low-noise, and low-power, electronics for the analog readout of non-linear DEPFET pixels	FIORINI, Carlo	24
[49] Improved micro-pixel detector element for neutron measurement under high pressure	Dr. TOH, Kentaro	20
[20] Improvement of energy thresholds for scintillation detectors using a monolithic 2x2 MPPC array with a coincidence technique	Mr. MIURA, Takamasa	25
[76] Operational voltage of silicon heavily irradiated strip detectors utilizing avalanche multiplication effect	Dr. VERBITSKAYA, Elena	26
[80] Picosecond imaging using a capacitive charge division readout	Mr. CONNEELY, Thomas	27
[48] Radiation hardness studies of n ⁺ -in-n planar pixel sensors irradiated to 5E15 n _{eq} cm ⁻² and beyond for HLLHC	Mr. RUMMLER, André	28
[50] Simulation program for multiwire-type two-dimensional neutron detector with individual readout	Dr. YAMAGISHI, Hideshi	29
[38] Spatial and temporal beam profile monitor with nanosecond resolution for CERN's Linac4	Dr. HORI, Masaki	30
[72] Study and Optimization of Positioning Algorithms for Monolithic PET Detector Blocks	Ms. GARCÍA DE ACILU, Paz	32
[34] Synthesis and scintillation characterization of nanocrystalline Lu ₂ O ₃ (Eu) powder for high-resolution X-ray imaging detectors	CHA, Bo Kyung	31
[73] Zero Ion Backflow detector operating in pure xenon	Dr. AMARO, Fernando	33
[6] Snapshot Electron Spectroscopy using a Linear Array	Ms. CROSS, Rachel	34

Detectors for Particle Physics - Medrus (10:50-12:50)

- Conveners: Prof. Hobson, Peter (Brunel University)

time	[id] title	presenter
10:50	[5] Performance of the LHCb Vertex Locator	BJORNSTAD, Marius (University of Manchester)
11:10	[89] Performance of the present ALICE Inner Tracking System and studies for the upgrade	CONTIN, Giacomo (Dipartimento di Fisica-Universita degli Studi di Trieste / INFN Sezione di Trieste)
11:30	[7] The Belle II DEPFET vertex detector: current status and future plans	MARINAS PARDO, Carlos (University of Bonn)
11:50	[78] Results from the NA62 Gigatracker prototype: a lowmass and sub-ns time resolution silicon pixel detector	Dr. MARTIN, Elena (Catholic University of Louvain)
12:10	[92] Performance of the Resistive Plate Chambers in the CMS experiment	THYSSEN, Filip (Universiteit Gent)
12:30	[31] Developement of a novel 2D position-sensitive microstrip detector concept.	Ms. BASSIGNANA, Daniela (IMB-CNM CSIC)

Advances in Pixel Detectors - Medrus (13:50-15:50)

- Conveners: Dr. Langstaff, Dave (Aberystwyth University)

time	[id] title	presenter
13:50	[103] Imaging Based on Tracking of Individual Particles with the Timepix Pixel Detector	JAKUBEK, Jan (Institute of Experimental and Applied Physics, Czech Technical University in Prague)
14:30	[107] Planar Fourier Capture Arrays: Tiny Optical Sensors Built Entirely in Unmodified CMOS	Dr. GILL, Patrick (Cornell University)
15:10	[82] PImMS, a fast event-triggered pixel detector with storage of multiple timestamps	Mr. JOHN, Jaya John (Department of Physics, University of Oxford)
15:30	[46] SLID-ICV Vertical Integration Technology with Thin Pixel Sensors for the ATLAS Pixel Upgrades	WEIGELL, Philipp (MPI für Physik)

Detectors for FELs and other light sources - Old College (16:10-18:10)

- Conveners: Evans, Philip (Institute of Cancer Research)

time	[id] title	presenter
16:10	[101] The Detector Development Program for the European X-ray Free Electron Laser	Dr. KUSTER, Markus
16:50	[30] Optimization of Silicon Pixel Sensors for the high X-ray Doses of the European XFEL	SCHWANDT, Joern (Institute for Experimental Physics, Hamburg University, Germany)
17:10	[41] Investigation of pixel detector designs for X-ray Photon Correlation Spectroscopy by computer simulations	Dr. BECKER, Julian (DESY)
17:30	[42] AGIPD, the Adaptive Gain Integrating Pixel Detector: A 4.5 MHz camera for the European XFEL	Dr. BECKER, Julian (DESY)
17:50	[90] Active Pixel Sensors for direct detection of Soft X-rays	Dr. BLUE, Andrew (University of Glasgow)

Thursday 15 September 2011

Applications in Medicine, Life Sciences and Biology - Medrus (08:50-10:50)

- **Conveners: Evans, Philip (Institute of Cancer Research)**

time	[id] title	presenter
08:50	[93] Recent Developments in Molecular Imaging	Prof. LEWIS, Dewi (CERN)
09:30	[59] The application of Large Area Active Pixel Sensor to high resolution Nuclear Medicine imaging	Prof. OTT, Robert (Institute of Cancer Research)
09:50	[39] DynAMITe: A Wafer Scale Sensor for Biomedical Applications	ESPOSITO, Michela (Centre for Vision, Speech and Signal Processing, Faculty of Engineering and Physical Sciences, University of Surrey, Guildford GU2 7XH,U.K.)
10:10	[87] Development of a camera for imaging of prompt gamma rays in measurements of proton beam range	PELOSO, roberta (Politecnico di Milano and INFN sezione di milano, Italy)
10:30	[83] Performance of a high throughput multichannel detector for life science applications	Dr. LAPINGTON, Jon (University of Leicester)

Detectors for high radiation environments - Medrus (11:10-12:50)

- **Conveners: Dr. Lapington, Jon (University of Leicester)**

time	[id] title	presenter
11:10	[3] Silicon Strip Detectors for the ATLAS sLHC Upgrade	DERVAN, Paul (Department of Physics-Oliver Lodge Laboratory-University of Liv)
11:30	[61] Signal propagation and spark mitigation in resistive strips read-outs	Dr. GALAN, Javier (CEA Saclay)
11:50	[70] Recent Progress of the ATLAS Upgrade Planar Pixel Sensor R Project	WITTIG, Tobias (Technische Universitaet Dortmund (DE))
12:10	[8] Characterisation of microstrip and pixel silicon detectors before and after hadron irradiation	Prof. ALLPORT, Phil (University of Liverpool)
12:30	[63] Performance of the CMS Pixel detector for the Phase I upgrade at HL-LHC	OLZEM, Jan (DESY Hamburg)

Nuclear Physics - Medrus (13:50-15:50)

- **Conveners: Dr. Boston, Andrew (Liverpool University)**

time	[id] title	presenter
13:50	[108] Position Sensitive Detectors for Nuclear Structure Physics and their Applications	Dr. BOSTON, Helen (Liverpool University)
14:30	[77] Spectra distortion by the interstrip gap in spectrometric silicon strip detectors	Dr. EREMIN, Vladimir (Ioffe Physical Technical Institute RAS)
14:50	[58] AGATA Detector Characterisation using the Liverpool Scanning Table	Dr. MOON, Steven (University of Liverpool)
15:10	[79] Methodology development for analysis of in-beam AGATA data	Ms. FILMER, Fay (University of Liverpool)
15:30	[75] Preliminary Compton imaging results of the AGATA A006 detector	Mr. SLEE, Mike (University of Liverpool)

Advances in Pixel Detectors - Medrus (16:10-17:10)**- Conveners: Prof. Allport, Philip Patrick (University of Liverpool (GB))**

time	[id] title	presenter
16:10	[68] Application of a HEPE-oriented 4096-MAPS to time analysis of single electron distributoin in a two-slits interference experiment	Dr. GABRIELLI, Alessandro (Department of Physics, University of Bologna and INFN)
16:30	[40] Imaging and spectroscopic performance studies of pixellated CdTe Timepix detector with synchrotron radiation	Dr. MANEUSKI, Dzmitry (University of Glasgow)
16:50	[17] Irradiation and beam tests qualification for ATLAS IBL Pixel Modules	Dr. WEINGARTEN, Jens (Goettingen University)

Advances in Gas Based Detectors - Medrus (17:10-17:50)**- Conveners: Prof. Allport, Philip Patrick (University of Liverpool (GB))**

time	[id] title	presenter
17:10	[13] Development of spark-protected micropattern gaseous detectors with resistive electrodes	Prof. PESKOV, Vladimir (CERN and UNAM, Mexico)
17:30	[111] The ARGONTUBE, a R liquid Argon Time Projection Chamber	Dr. RUDOLF VON ROHR, Christoph (LHEP)

Conference Dinner - Medrus (19:30-23:00)

Friday 16 September 2011

Detectors for Astrophysics - Medrus (08:50-10:40)

- **Conveners: Prof. Allport, Philip Patrick (University of Liverpool (GB))**

time	[id] title	presenter
08:50	[102] The AMS-02 spectrometer: first data and detector performance	Dr. AMBROSI, Giovanni (INFN (Perugia))
09:30	[60] Assessment of proton radiation-induced charge transfer inefficiency in the CCD204 detector for the Euclid dark energy mission	Dr. GOW, Jason (The Open University)
09:50	[24] Modelling Charge Packet Storage within Euclid CCD Structures.	Mr. CLARKE, Andrew (e2v centre for electronic imaging)
10:10	[19] Performance results from the ZEPLIN-III second science run	Dr. MAJEWSKI, Pawel (STFC/Rutherford Appleton Laboratory)

Detectors for Particle Physics - Medrus (11:00-11:40)

- **Conveners: Prof. Allport, Philip Patrick (University of Liverpool (GB))**

time	[id] title	presenter
11:00	[116] Silicon detector in the ALPHA –experiment for antihydrogen detection	PUSA, Petteri (University of Liverpool)

Summary and Closing Remarks - Medrus (11:40-12:00)