Program

Sunday, September 11

11:30-14:00 **Registration**

14:00-18:00 **Tutorial**

T1 **Scintillation Mechanisms in Inorganic Scintillators**
Carel van Eijk

T2 **Applications of Inorganic Scintillators**
Stefaan Tavernier

16:30-20:00 **Registration**

18:00.20:00 **Welcome Reception**

Monday, September 12

08:30-18:30 **Registration**

08:45-10:00 **Opening Ceremony**

- **Welcome Address** **Rainer W. Novotny,** *Conference Chair*
- **Congratulatory Remarks** **K. Becker,** *Vice-President of JLU*
- **Welcome from the Department** **W. Cassing,** *FB-07*
- **Welcome from the City** **Major of Giessen**
- **Remarks on the Organisation** **Rainer W. Novotny,** *Conference Chair*

O1.1 **Noval Scintillation Detectors for FAIR**
30 min Lars Schmitt

10:00-10:30 **Coffee Break**

10:30-12:00 **Scintillator Trend I**

O1.2 **The Origins of Scintillator Non-Proportionality**
30 min William W. Moses
O1.3 **New Approaches to Improve Timing Resolution in Scintillators**
30 min Paul Lecoq
O1.4 **High-Resolution Calorimeters Based on PWO**
30 min Rainer W. Novotny

12:00-13:30 Lunch Break

13:30-15:00 Scintillator Trend II

O1.5 **Scintillator Discovery and Development for Security and Safeguards Application**
30 min Gregory Bizzari

O1.6 **Image Based in-vivo Dosimetry: from PET to in-beam SPECT**
30 min Fine Fiedler, U. Dersch, C. Golnik, T. Kormoll, W. Enghardt

O1.7 **Inorganic Scintillators for Thermal-Neutron Detection**
30 min Carel W. E. van Eijk

15:00-16:30 New Scintillators

O1.8 **New Developments in Alkali-Earth Halide Scintillators: Crystal Growth and Scintillation Properties**
30 min Edith Bourret-Courchesne, G. Bizarri, Z. Yan, G. Gundiah, R. Borade, S. Derenzo

O1.9 **Ten Years of the LuAG-based Scintillator Development – State of the Art and Prospects**
30 min Martin Nikl, J. A. Mares, A. Yoshikawa, H. Ogino, K. Nejezchleb, K. Blazek, A. Vedda

O1.10 **Toward some Applications of Nanostructures as Scintillators**
30 min Christophe Dujardin, D. Amans, A. L. Bulin, A. Belsky, F. Chaput, G. Ledoux, A. N. Vasilèv

16:30-17:00 Coffee Break

17:00-18:30 Medical Application

O1.11 **New High Stopping Power Thin Scintillators Based on Lu_2O_3 and LuGG for High-Resolution X-Ray Imaging**
T.Martin, P. A. Douissard, Z. M. Seeley, N. J. Cherepy, S. A. Payne, E. Mathieu

O1.12 **Continuous or Pixelated Scintillation Detectors for PET –Measurements of the Spatial Resolution**
Matthias Streun, H. Larue, C. Parl, K. Ziemons, S. van Waasen

O1.13 **Enhancement of Radiotherapy by Scintillating Particles**
Roman Generalov, W. Chen, S. Kristensen, P. Juzenas

O1.14 **$LaBr_3$ and LYSO Monolithic Crystals Coupled to Photosensor Arrays for Time-of-Flight Positron Emission Tomography**
Herbert Löhner, P. Dendooven, R. Vinke, S. Seifert, H. T. van Dam, F. J. Beekman, D. R. Schaart

O1.15 **Scintillation Material Needs for Achieving < 100ps FWHM Coincidence Resolving Time in Time-of-Flight PET**
D. R. Schaart, S. Seifert, H. T. van Dam, D. ter Weele, P. Dorenbos

O1.16 **Results of Photonic Crystal Enhanced Light Extraction on Heavy Inorganic Scintillators**
Arno Knapitsch, E. Auffray, C. W. Fabjan, J.-L. Leclerq, P. Lecoq, X. Letartre, C. Seassal

19:30-21:00 Presentation to the local public – Mathematikum, Giessen

Es werde Licht: szintillierende Kristalle in Forschung, Medizin und Technik
Hartmut Hillemans, CERN

Tuesday, September 13

08:30-18:30 Registration

08:30-10:00 High-Energy Physics and Beam Diagnostics I

O2.1 **Quality of $PbWO_4$ Crystals for the PANDA-EMC**
T. Eissner, V. Dormenev, R. Novotny and for PANDA Collaboration

O2.2 **Performance of Cooled PWO Scintillators with Signal-Sampling Readout**
Herbert Löhner, E. Guliyev, M. Kavatsyuk, G. Tambave on behalf of the PANDA Collaboration

O2.3 **Comparing GSO and BGO Calibrations with Heavy Ions and Simulations**
S. K. Kulkarni, C. Martin, J. Gruneau, R. F. Wimmer-Schweingruber, S. Boettcher, E. Boehm, S. Burmeister, M. Kruse, B. Heber

O2.4 **Experimental Study of the Lead Tungstate Scintillator Proton-Induced Damage and Recovery**
E. Auffray, on behalf of CMS-ECAL group

O2.5 **A Non-Linear Response of Scintillation Crystals Heavily Damaged Under Radiation**
V. Mechinski, A. Fedorov, V. Dormenev, M. Korjik

O2.6 **Radiation Damage and Recovery Mechanisms in Cooled $PbWO_4$ Crystals**
V. Dormenev, T. Kuske, R. Novotny and for the PANDA Collaboration

10:00-10:30 Coffee Break

10:30-12:00 High-Energy Physics and Beam Diagnostics II

O2.7 **Scintillating Screen Applications in Beam Diagnostics**
30 min B. Walasek-Höhne, C. Andre, E. Guetlich, P. Forck, R. Krishnakumar, A. Reiter, G. Kube, P. Lecoq

O2.8 **Imaging Properties of Scintillation Screens for High-Energetic Ion Beams**
Renuka Krishnakumar, B. Walasek-Höhne, F. Becker, C. Andre, R. Haseitl, A. Reiter, P. Forck, W. Ensinger

O2.9 **Limits of Inorganic Scintillation Materials Application in a High Dose Rate Irradiation Environment**
M. Korjik

O2.10 **Development of LSO/LYSO Crystals for Future HEP Experiments**
Ren-Yuan Zhu, R. Mao, L. Zhang

O2.11 **Oxygen Defects and the Scintillating Properties of YSO, LSO and LYSO Single Crystals**
Bruce Chai

12:00-13:30 Lunch Break

13:30-15:15 Poster Session I

15:15-16:30 Homogeneous Hadron Calorimeter

O2.12 **Very High Resolution Hadron Calorimetry**
30 min Adam Para
O2.13 **Status of Crystal Development fo Homogeneous Hadronic Calorimeter**
30 min Ren-Yuan Zhu, R. Mao, L. Zhang
O2.14 **Potential Scintillators in BSO-Based Glass Systems**
C.-Y. Wang, G.-Q. Hu, J.-T. Zhao

16:30-17:00 Coffee Break

17:00-18:30 Spezialized Detectors

O2.15 **Development of Crystal Scintillators from Enriched Isotopes for Double Beta Decay Experiments**
Fedor A. Danevich
O2.16 **Scintillation Properties and Internal Background Study of $^{40}Ca^{100}MoO_4$ Crystal Scintillators for Neutrinoless Double Beta Decay Search**
J. H. So, H. J. Kim, A. A. Alenkov, A. N. Annenekov et al.
O2.17 **Measurement of the Quenching and Channeling Effect in CsI(Tl) at KIMS**
J. H. Lee, H. C. Bhang, J. H. Choi, W. G. Kang, H. J. Kim et al.
O2.18 **Scintillation Properties of Crystals with γ Particles down to 3K**
M.-A. Verdier, P. C. F. Di Stefano, C. Dujardin, P. Nadeau
O2.19 **Low Temperature Luminescence of $ZnMoO_4$ Single Crystals Grown by Low Temperature Gradient Czochralski Technique**
D. A. Spassky, V. V. Mikhailin, A. E. Savon, E. N. Galashov, V. N. Shlegel, Ya. V. Vasilyev
O2.20 **Gamma-Ray-Detectors Consisting of a SDD+Scintillator**
D. M. Schlosser, A. Niculae, H. Soltau, P. Lechner, R. Eckhardt, A. Bechteler, O. Jaritschin, K. Hermenau, K. Heizinger, F. Schopper, L. Strüder, C. Fiorini, A. Longoni

Wednesday, September 14

08:30-18:30 Registration

08:30-10:00 Fundamentals I

O3.1 **Correlation of Creation of Excitons and Electron-Hole Pairs with the Structure of Tracks of Ionizing Particles**
30 min Andreay Vasilèv
O3.2 **Predictive Transport and Quenching Model for Nonproportionality**
30 min R. T. Williams, Q. Li, J. Q. Grim, G. A. Bizarri, W. W. Moses
O3.3 **Role of Nonlinear Excitation Quenching Processes and Carrier Diffusion on the Nonproportionality of Light yield in Scintillators**
Jai Singh

O3.4 **First-Principles Calculations for Ce Co-doped Ba Silicate and Alkaline Halide Scintillators**
Andrew Canning, A. Chaudhry, N. Jensen, R. Boutchko

10:00-10:30 Coffee Break

10:30-12:00 Fundamentals II

O3.5 **Optical Properties of Ce^{3+} and Pr^{3+}Ions in Alkaline Earth Fluorides: First Principle Study**
Alexandra Myasnikova, A. Mysovsky, E. Radzhabov

O3.6 **Non-Proportionality of Rare-Earth Activated Scintillators under High Excitation Density Conditions**
S. Vielhauer, E. Feldbach, M. Kirm, J. Krzywinski, V. Nagirnyi, R. Laasner, S. Markov, A. Vasilèv

O3.7 **Relaxation in Nanometric Cluster of Electronic Excitons Formed in CsI by 50 – 1200 eV Photons**
A. Belsky, A. N. Vasiliev, E. Meltchakov, A. Giglia, N. Mahne, S. Nannarone, N. Shiran, A. Kotlov, C. Dujardin, A. V. Gektin

O3.8 **5d-4f Emission of Nd^{3+}, Ho^{3+}, Er^{3+}, Tm^{3+} Ions in Alkaline Earth Fluorides**
E. Radzhabov, V. Nagirnyi, M. Kirm, E. Prosekina

O3.9 **Twemperature Dependence of $LaBr_3$:Ce Nonproportionality**
Ivan V. Khodyuk, P. Dorenbos

O3.10 **TSL and ESR Study of Hole Centers in Lead Tungstate Crystals**
Svetlana Zazubovich, V. Laguta, M. Nikl

10:30-12:00 Poster Session II

12:30-21:00 Conference Excursion

Thursday, September 15

08:30-18:30 Registration

08:30-10:00 New Scintillators: Halide Scintillators

O4.1 **Discovery, Synthesis, and Characterization of New Halide Scintillators**
30 min C. L. Melcher, M. Zhuravleva, K. Yang, B. Blalock, M. Koschan

O4.2 **Fundamental and Structure Limits for CsI Based Scintillators**
A. Gektin, N. Shiran, A. Belsky, S. Vasukov

O4.3 **Temperature and Concentration Dependence of Europium Doped BaBrI and $CsBa_2I_5$ Scintillation and Optical Properties**
G. Bizarri, E. D. Bourret-Courchesne, Z. Yan, S. E. Derenzo

O4.4 **Scintillation Characterization of $Rb_2LiCeCl_6$ Single Crystal**
Hong Joo Kim, G. Rooh, H. Park, S. Kim

O4.5 **VUV Studies on Scintillation Mechanisms in BaF_2:Ce and BaF_2:Pr**
Andrzej J. Wojtowicz

10:00-10:30 Coffee Break

10:30-12:00 New Scintillators: Oxide Scintillators

O4.6 **Influence of Yttrium Content on the Ce_{Lu1} and Ce_{Lu2} Luminescence Characteristics in $(Lu_{1-x}Y_x)_2SiO_5$:Ce Single Crystal**
V. Jarý, M. Nikl, E. Mihóková, J. A. Mares, P. Horodysky, A. Beitlerova

O4.7 **Impact of Ce Concentration to Scintillation Mechanisms in GPS:Ce**
O. Sidletskiy, A. Belsky, A. Gektin, S. Neicheva, I. Gerasymov, D. Amans, V. Tarasov, O. Zelenskaya, A. Kotlov, C. Dujardin, B. Grinyov

O4.8 **Luminescent and Scintillation Properties of Tb, Sc Co-doped LuAG Thin Films Grown by Liquid Phase Epitaxy**
M. Kučera, M. Hanuš, M. Nikl, Z. Onderišinová, A. Beitlerová

O4.9 **Pr^{3+}-Doped in the UV Emitting Scintillators: Properties of Pure or Mixed (Lu,Y) Aluminum Garnets**
J. A. Mares, M. Nikl, A. Beitlerova, P. Horodysky, K. Blazek, K. Bartos, C. DÀmbrosio

O4.10 **Electron and Hole Traps in Y_2SiO_5 and Lu_2SiO_5 Crystals**
V. V. Laguta, M. Nikl, J. Rosa, K. J. McClellan, C. R. Stanek

O4.11 **Improving LYSO:Ce Scintillation Properties with Ca^{2+} and Mg^{2+} Co-doping**
Samuel Blahuta, B. Viana, A. Bessière, V. Ouspenski

12:00-13:30 Lunch Break

13:30-15:00 Poster Session III

15:10-16:30 Homogeneous Hadron Calorimeter

O4.12 **Doped PbI_2 as an Ultra-Fast Scintillator for Time-of-Flight**
Stephen Derenzo, E. Bourret-Courchesne, Z. Yan, K. Brennan, H. Fang, A. Canning, G. Zhang

O4.13 **Electron Response of Low-Z Scintillators in Wide Energy Range**
Lukasz Swiderski, R. Marcinkowski, M. Moszynski, W. Czarnacki, M. Szawlowski, T. Szczesniak, G. Pausch, C. Plettner, K. Roemer

O4.14 **Modeling Self-Absorption in SrI_2:2%Eu^{2+} and SrI_2:5%Eu^{2+}**
Mikhail S. Alekhin, J. T. M. de Haas, P. Dorenbos

O4.15 **Decay Kinetics of Self-Trapped Exciton Emission in $CdWO_4$ Scintillators under Femtosecond Laser Excitation in Absorption Saturation Conditions**
V. Nagirnyi, N. fedorov, R. Grigonis, S. Guizard, M. Kirm, R. Laasner, V. Makhov, S. Markov, V. Sirutkaitis, A. Vasil`ev, S. Vielhauer, L. A. Tupitsyna

O4.16 **Cerium Oxidation State in $Lu_{0.8}Sc_{0.2}BO_3$ Host: a Combined Study by X-Ray Absorption Near Edge Spectroscopy and X-Ray Excited Luminescence Spectroscopy**
Dongzhou Ding, Y. Wu, F. Yang, S. Pan, G. Ren

O4.17 **Scintillators Based on BaF_2 with Improved Performance**
Stanislav D. Gain, P. A. Rodnyi, E. A. garibin, D. M. Seliverstov

16:30-17:00 Coffee Break

17:00-18:30 Detectors for Neutrons and Security Applications

O4.18 **Pulse Shape Discrimination with the Elpasolite Crystals**
Jarek Glodo

O4.19 **Study of the Response of some Scintillation Crystals to 3 and 15 MeV Neutrons**
K. Pauwels, E. Auffray-Hillemans, R. Chipaux, F. Jacquot, P. lecoq, G. Mavromanolakis, H. MazéH. Wolff

O4.20 **Application of High-Density Inorganic Scintillators for Neutron Detection**
Katja Roemer, C.-M. herbach, Y. Kong, A. Kreuels, R. Lentering, G. Pausch, C. Plettner, F. Scherwinski, P. Schotanus, J. Stein, N. Teofilov, T. Wilpert

O4.21 **Building High-Grade Instruments with Conventional Scintillators – an Advantageous Challenge**
Guntram Pausch, R. Lentering, J. Stein

O4.22 **The Neutron Detection Properties of $Li_6Re(BO_3)_3$:Ce (Re=Y, GD, Lu) Crystals**
F. Yang, S. K. Pan, D. Z. Ding, H. Y. Li, G. H. Ren

O4.23 **Fast-Response and Low-Afterglow Pr- or Ce-Doped Scintillator with ^{6}Li for Laser Fusion-Originated Down-Scattered Neutron Detection**
Takahiro Murata, K. Watanabe, Y. Arikawa, K. Yamanoi, M. Cadatal-Raduban, T. Nagai, M. Kouno, K. Sakai, T. Nazakato, T. Shimizu, N. Sarukura, M. Nakai, T. Norimatsu, H. Azechi, A. Yoshikawa, S. Fujino, H. Yoshida, N. Izumi, N. Satoh, H. Kan

19:45-23:00 Conference Banquet

Friday, September 16

08:30-10:00 Registration

08:30-10:00 Scintillator Technologies I

O5.1 **Modern Technology of Crystal Growth and Transparent Ceramics for Scintillator Materials and Related Crystal Chemistry**
30 min Akira Yoshikawa, et al.

O5.2 **Fibercryst Involvement in New Scintillating Concepts**
30 min Didier Perrodin, N. Aubry

O5.3 **Crystal Growth and Scintillation Properties of Ce-Doped $Gd_3(Ga, Al)_5O_{12}$ Single Crystal**
Kei Kamada, T. Yanagida, T. Endo, K. Tsutumi, Y. Usuki, M. Nikl, Y. Fujimoto, A. Fukabori, A. Yoshikawa

O5.4 **Cost Effective Fabrication of High Sensitivity, High-Resolution Scintillators**
Harish Bhandari, V. Gelfandbein, S. Miller, M. Jivotovsky, K. Riley, V. Nagarkar

10:00-10:30 Coffee Break

10:30-12:00 Scintillator Technologies I

O5.5 **RE Doped Transparent Sesquioxide Ceramics for X-Ray Scintillation**
B. Viana, S. Blahuta, H. Retot, A. Bessiere, B. LaCourse, E. Mattmann

O5.6 **Energy Relaxation Pathways in YAG-Based Crystals and Ceramics**
Irina Kamenskikh, G. Huber, F. Moretti, C. Pedrini, K. Petermann, D. Spassky, S. Usenko, A. Vasil`ev, A. vedda, U. Wolters, H. Yagi

O5.7 **Development of Phase-Separated Scintillator with Optical Guiding Function**
Nobuhiro Yasui, Y. Ohashi, T. Kobayashi, T. Saito, R. Horie, T. Den

O5.8 **Scintillator with Eu Complex for α-Particles Registration**
P. N. Zhmurin, V. N. Lebedev, V. N. Kovalenko, A. F. Adadurov

O5.9 **Scintillating Glasses for Specialized Applications**
Mary Bliss, D. Haas, S. Bowyer, J. MyIntyre, J. Stave, M. Schweiger, J. Ryan

O5.10 **Bridgman Growth and Properties of LuAG Based Scintillators**
G. Petrosyan, G. O. Shirinyan, K. L. Ovanesyan, M. V. Derdzyan, R. V.Sargsyan, E. Auffray, K. Pauwels, P. Lecoq, C. Dujardin, C. Pedrini

12:00-13:00 Closing

O5.11 **Summary of the Conference**
30 min N. N.

O5.12 **The Conference Site in 2013**
N. N.

O5.13 **Closing of SCINT 2011**
Rainer W. Novotny