

LSC2020 program

Schedule

| Time (Beijing) | 10.17 | 10.18 | 10.19 | 10.20 |
|----------------|--------------|---------------------------------------|--|---|
| 8:00-9:50 | Registration | Registration | Topical session 1 Topical session 3 | Topical session 5 Topical session 6 |
| 9:50-10:20 | | | Photograph & Coffee break | Coffee break |
| 10:20-12:10 | | | Topical session 2 Topical session 4 | Poster session |
| 12:10-14:00 | Lunch | | | |
| 14:00-15:50 | Registration | Opening ceremony Plenary session 1 | Plenary session 3 | Topical session 7 Topical session 9 |
| 15:50-16:20 | | Coffee break | Coffee break | Coffee break |
| 16:20-18:10 | | Plenary session 2 | Plenary session 4 | Topical session 8 Topical session 10 |
| 18:10-18:30 | Dinner | Dinner | Banquet | Closing ceremony |
| 18:40-20:00 | | | | Dinner |

Presentation

| Type | Report time | Discussion time |
|-----------------|-------------|-----------------|
| Plenary talk | 25 mins | 5 mins |
| Invitation talk | 20 mins | 5 mins |
| Oral talk | 12 mins | 3 mins |

Poster

Time : 2021.10.20 10:20-12:10

Each poster can be downloaded from the LSC2020 website.

Program

| Program | | Local location | On-line |
|------------------------------|------------------------|-------------------|-----------------|
| Opening and closing ceremony | | Conference hall 1 | ZoomA |
| Plenary session | | Conference hall 1 | ZoomA |
| Topical session | Session 1, 2, 5, 7, 8 | Conference hall 1 | ZoomB |
| | Session 3, 4, 6, 9, 10 | Conference hall 2 | ZoomC |
| Poster | | Conference hall 1 | LSC2020 website |

Conference hall 1 : Zhan Yun hall, 5th floor

Conference hall 2 : Chu Nuan Hua Kai hall, 6th floor

Presentation index:

PL : Plenary presentation

I : Invited presentation

O : Oral presentation

P : Poster

| Program | Session chair |
|--------------------|-------------------|
| Opening ceremony | Leifeng Cao |
| Plenary session 1 | Leifeng Cao |
| Plenary session 2 | Xiaolin Hou |
| Plenary session 3 | Philippe Cassette |
| Plenary session 4 | Sizhong Wu |
| Topical session 1 | Zhilin Chen |
| Topical session 2 | Xiongxin Dai |
| Topical session 3 | Tsukasa Aso |
| Topical session 4 | Yuchi Wu |
| Topical session 5 | Hongbo Ren |
| Topical session 6 | Chao Tian |
| Topical session 7 | Denis Bergeron |
| Topical session 8 | Steffen Happel |
| Topical session 9 | Jose F. Garcia |
| Topical session 10 | Alex Tarancon |
| Closing ceremony | Xiaolin Hou |

10.18 pm

conference hall 1

| No. | Time (Beijing) | Speaker | Institute | Title | Session Chair |
|-------------------|-------------------|-------------------|---|--|------------------|
| Opening ceremony | | | | | |
| 1 | 13:30-14:30 | Shuangchen Ruan | Shenzhen Technology University, China | Opening talk | Leifeng Cao |
| 2 | | Philippe Cassette | Sofia University St. Kliment Ohridski, Bulgaria | | |
| 3 | | Xiaolin hou | Technical University of Denmark, Denmark | | |
| Plenary session 1 | | | | | |
| PL01 | 14:30-15:00 | Philippe Cassette | Sofia University St. Kliment Ohridski, Bulgaria | New developments in miniature TDCR counters | Leifeng Cao |
| PL02 | 15:00-15:30 | Xiaolin hou | Technical University of Denmark, Denmark | Application of LSC in the determination of radionuclides for decommissioning and environmental radioactivity investigation | |
| | 15:30-16:00 | Coffee break | | | |
| Plenary session 2 | | | | | |
| PL03 | 16:00-16:30 | Alex Tarancon | University of Barcelona, Spain | Progress in new plastic scintillation microspheres | Xiaolin Hou |
| PL04 | 16:30-17:00 | Steffen Happel | TrisKem International, France | On the development of new extraction chromatographic materials for the separation of difficult to measure radionuclides | |

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|------|-------------|--------------|--|---|--|
| PL05 | 17:00-17:30 | Xiongxin Dai | China Institute of radiation protection, China | TDCR Cerenkov counting for determination of beta-emitting radionuclides in environmental applications | |
|------|-------------|--------------|--|---|--|

10.19 am

conference hall 1

| No. | Time (Beijing) | Speaker | Institute | Title | Session Chair | |
|---|----------------|--------------------------|--|---|---------------|--|
| Topical session 1 : LSC applications in environmental | | | | | | |
| I01 | 08:00-08:25 | Romain Coulon | Bureau International des Poids et Mesures, France | The new International Reference System for pure beta emitters | Zhilin Chen | |
| I02 | 08:25-08:50 | Wenqing Wu | Sichuan Institute of Materials and Technology, CAEP, China | Ultratrace analysis of 3H in Helium-3 using Liquid Scintillation Counting | | |
| O01 | 08:50-09:05 | Angela Tan | National Environment Agency, Singapore | Column Extraction as Rapid Clean-up Method for Tritium Analysis | | |
| O02 | 09:05-09:20 | Zihao Fan | National Institute of Metrology, China | New progress in Cerenkov-TDCR method study for pure beta radionuclides | | |
| O03 | 09:20-09:35 | Susanna Salminen-Paatero | University of Helsinki, Finland | Encountered challenges in determining Difficult-To-Measure radionuclides from nuclear decommissioning waste matrices by LSC | | |
| O04 | 09:35-09:50 | Sarao Rozas Guinea | University of the Basque Country (UPV/EHU), Spain | Selectivity analysis of Tc-99 determination by Liquid Scintillation Counting (LSC) in the field of nuclear decommissioning | | |
| | 09:50-10:20 | Coffee break | | | | |
| Topical session 2 : LSC applications in environmental | | | | | | |

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|-----|-------------|---------------------|--|--|--------------|
| I03 | 10:20-10:45 | Haruka Minowa | The Jikei University School of Medicine, Japan | Rapid and safe method to measure radiostrontium in water samples I - chemical separation method - | Xiongxin Dai |
| I04 | 10:45-11:10 | Junpeng Guo | Shanghai Hapstar Mechanical And Electrical Equipment Co., Ltd, China | Research of H-3 and C-14 Sample Preparation Technology and Equipment in the Environment | |
| O05 | 11:10-11:25 | Xiaogui Feng | Tsinghua University, China | The effect of γ rays on the determination of α or β emitters by LSC | |
| O06 | 11:25-11:40 | Risto Juvonen | Hidex, Finland | Comparison of mathematical methods to improve LSC background – Hidex Digital Pb Shield (DigPb) and Guard Compensation Technology (GCT) | |
| O07 | 11:40-11:55 | Ines Krajcar Bronić | Ruđer Bošković Institute, Croatia | Optimization of the direct LSC method for determination of biogenic component in liquids by applying ^{14}C | |
| O08 | 11:55-12:10 | Qianyuan Chen | Radiation monitoring technical center, MEE, PRC | A summary on the monitoring method verification for tritium analysis in water | |
| | 12:10-14:00 | Lunch | | | |

conference hall 2

| No. | Time (Beijing) | Speaker | Institute | Title | Session Chair |
|--------------------------------------|----------------|---------------|--|--|---------------|
| Topical session 3 : LSC applications | | | | | |
| I05 | 08:00-08:25 | Mirela Vasile | Belgian Nuclear Research Centre, Belgium | A study for the selection of NPE-free cocktails for LSC routine measurements | Tsukasa Aso |
| I06 | 08:25-08:50 | Bin Feng | University of Tsukuba, Japan | Application of ALOKA LB7 in atmospheric HTO measurements | |
| O09 | 08:50-09:05 | Luis Pujol | Centro de Estudios y | Validation of radon-222 measurement in drinking | |

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|--------------------------------------|-------------|---------------|--|--|----------|--|
| | | | Experimentación de Obras Públicas (CEDEX), Spain | water using LSC under the ISO/IEC 17025 criteria | | |
| O10 | 09:05-09:20 | Ana Gomes | Instituto Superior Técnico, Universidade de Lisboa, Portugal | Determination of PDD in ²²² Rn Calibration for Water Analyses by Liquid Scintillation Counting | | |
| O11 | 09:20-09:35 | Qifan Wu | Tsinghua University, China | Determination of ²²⁸ Ra in natural water by liquid scintillation counting and its application in environmental monitoring | | |
| O12 | 09:35-09:50 | Ong Chen Yu | Austrian Agency for Health and Food Safety, Austria | EVALUATING THE ROBUSTNESS OF ANALYTICAL METHOD FOR THE DETERMINATION OF TRITIUM (H-3) IN SEAWATER USING PLACKETT-BURMAN DESIGNS | | |
| | 09:50-10:20 | Coffee break | | | | |
| Topical session 4 : LSC applications | | | | | | |
| I07 | 10:20-10:45 | Chuangye He | China Institute of Atomic Energy, China | Application of scintillation detectors in laser nuclear physics | | |
| I08 | 10:45-11:10 | Bo Cui | Laser Fusion Research Center, CAEP, China | Experimental study of high yield neutron source based on multi reaction channels | | |
| O13 | 11:10-11:25 | Longyong Liao | Peking University, China | The applications of compact liquid scintillation detectors in fusion neutron | | |
| O14 | 11:25-11:40 | Zhe Wang | Tsinghua University, China | undetermined | Yuchi Wu | |
| O15 | 11:40-11:55 | Chao Tian | Laser Fusion Research Center, CAEP | Study on field effect caused by strong shock wave propagation in low density gas using liquid scintillator | | |
| O16 | 11:55-12:10 | Risto Juvonen | Hidex, Finland | Comparison of mathematical methods to improve LSC background – Hidex Digital Pb Shield (DigPb) and Guard Compensation Technology (GCT) | | |
| | 12:10-14:00 | Lunch | | | | |

10.19 pm

| No. | Time (Beijing) | Speaker | Institute | Title | Session Chair |
|-------------------|----------------|----------------|---|---|-------------------|
| Plenary session 3 | | | | | |
| PL06 | 14:00-14:30 | Zhilin Chen | Institute of nuclear physics and chemistry, CAEP, China | Theoretical calculations for the substitutability of liquid scintillation cocktail using CaF ₂ (Eu) powder in tritiated water measurements | Philippe Cassette |
| PL07 | 14:30-15:00 | Tsukasa Aso | University of Toyama, Japan | Galet-LSC, Geant4 based simulation tool for liquid scintillation counter | |
| PL08 | 15:00-15:30 | J.F. García | University of Barcelona, Spain | Scintillation for future in a changing world | |
| | 15:30-16:00 | Coffee break | | | |
| Plenary session 4 | | | | | |
| PL09 | 16:00-16:30 | Denis Bergeron | National Institute of Standards and Technology, USA | Considerations for optimizing liquid scintillation cocktails for neutron and neutrino detection | Sizhong Wu |
| PL10 | 16:30-17:00 | Haoran Liu | National Institute of Metrology, China | Development of $4\pi\beta(\text{LS})-\gamma$ digital coincidence counting system at NIM | |
| PL11 | 17:00-17:30 | Tieshuan Fan | Peking University, China | The neutron diagnostics in magnetic confinement fusion reactors | |

10.20

conference hall 1

| No. | Time (Beijing) | Speaker | Institute | Title | Session Chair |
|---|-------------------|----------------------|---|---|------------------|
| Topical session 5 : LSC applications in environmental and nuclear chemistry | | | | | |
| I09 | 08:00-08:25 | Peng Zhou | China | undetermined | Hongbo Ren |
| I10 | 08:25-08:50 | Anumaija Leskinen | Technical Research Centre of Finland (VTT), Finland | Analysis validation of Difficult To Measure Radionuclides in Decommissioning waste | |
| O17 | 08:50-09:05 | Ari Lehmusvuori | Hidex, Finland | Automated Oxidizer for LSC sample preparation | |
| O18 | 09:05-09:20 | Liangliang Yin | National Institute for Radiological Protection, China CDC, China | Study on the Method of Measuring ²²⁶ Ra in Water by Liquid Scintillation Counter and its uncertainty evaluation | |
| O19 | 09:20-09:35 | Eveliina Arponen | Hidex, Finland | Novel 14C LSC method for biofuels with variable color | |
| O20 | 09:35-09:50 | Ning Lv | Xi'an research institution of high technology, China | A new method for measuring uranium and plutonium aerosols in the atmosphere by using liquid scintillation spectrometer | |
| | 09:50-10:20 | Coffee break | | | |
| | 10:20-12:10 | Poster session | | | |
| | 12:10-14:00 | Lunch | | | |
| Topical session 7 : New development on LSC | | | | | |
| I11 | 14:00-14:25 | Benoit Sabo | Laboratoire | Performance of | Denis |

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|--|-------------|---------------------|---|---|----------------|
| | | | National Henri Becquerel, France | portable TDCR systems developed at LNE-LNHB | Bergeron |
| I12 | 14:25-14:50 | Hongbo Ren | Southwest University of Science and Technology, China | Research on the preparation and application of new scintillators | |
| O21 | 14:50-15:05 | Qianqian Zhou | National Institute of Metrology, China | Development of a portable TDCR system at NIM | |
| O22 | 15:05-15:20 | Jiri Janda | University of Defence in Brno, Czech | Coprecipitation technique as a new approach of using solid-state scintillation | |
| O23 | 15:20-15:35 | Erik Rajchl | University of Defence in Brno, Czech | Optimization of composition of water accepting scintillation cocktail | |
| O24 | 15:35-15:50 | Chavdar Dutsov | Sofia University 'St. Kliment Ohridski', Bulgaria | Significance of the correction for accidental coincidences in liquid scintillation counting measurements | |
| | 15:50-16:20 | Coffee break | | | |
| Topical session 8 : New development on LSC | | | | | |
| I13 | 16:20-16:45 | Ines Llopart | Belgian Nuclear Research Centre, Belgium | Method for determination of ^{36}Cl and ^{129}I in solid materials coming from decommissioning activities | Steffen Happel |
| I14 | 16:45-17:10 | Jordi Fons-Castells | University of Barcelona, Spain | DECLAB: A software for liquid scintillation spectra deconvolution | |
| O25 | 17:10-17:25 | Krasimir Mitev | Sofia University "St. Kliment Ohridski", Bulgaria | Effects of the photocathode non-uniformity on the radon measurements by scintillation counting | |
| O26 | 17:25-17:40 | Fulong Liu | China Institute of Atomic Energy, China | Development of a Detector to Detect 9.17MeV Gamma Ray | |

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| O27 | 17:40-17:55 | Wenjing Pu | PLA Army Academy of Artillery & Air Defense, China | Aryl group Grafting Polysilane Novel Scintillation Solute for High Efficient and Environment-friendly Scintillator | |
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conference hall 2

| No. | Time (Beijing) | Speaker | Institute | Title | Session Chair |
|---|----------------|----------------|--|--|---------------|
| Topical session 6 : LSC in particle detection | | | | | |
| I15 | 08:00-08:25 | Yuka Kato | Hitachi, Ltd. Japan | Rapid and safe method to measure radiostrontium in water samples -improvement of measuring method using a plastic scintillator bottle- | Chao Tian |
| I16 | 08:25-08:50 | Hongjie Liu | Laser Fusion Research Center, CAEP, China | Liquid Scintillator Neutron Detection System | |
| O28 | 08:50-09:05 | Yayun Ding | Institute of High Energy Physics, CAS, China | Liquid scintillator for Neutrino experiments such as Daya Bay and JUNO | |
| O29 | 09:05-09:20 | Sufen Li | Xi'an research institution of high technology, China | The effect of scintillator materials on the fast neutron multiplicity measurement | |
| O30 | 09:20-09:35 | Mengqing Niu | Xi'an Jiaotong University, China | Trial-production of liquid scintillation fiber array | |
| | 09:35-10:20 | Coffee break | | | |
| | 10:20-12:10 | Poster session | | | |
| | 12:10-14:00 | Lunch | | | |

| Topical session 9 : Plastic Scintillator and application | | | | | |
|--|-------------|----------------------|---|---|----------------|
| I17 | 14:00-14:25 | Jiri Janda | University of Defence in Brno, Czech | The influence of plastic scintillator dimensions, PMT size, and photocathode geometry on the detection efficiency | Jose F. Garcia |
| I18 | 14:25-14:50 | Krasimir Mitev | Sofia University "St. Kliment Ohridski", Buglaria | A Plastic Scintillator with enhanced Alpha-/Beta- PSD. Part II: Characterization for Rn-222 measurement | |
| O31 | 14:50-15:05 | Hector Bagan Navarro | University of Barcelona, Spain | Analysis of plutonium using PSresin | |
| O32 | 15:05-15:20 | Arnau Coma Garcia | University of Barcelona, Spain | Definition and optimization of a procedure for obtaining crosslinked plastic scintillation microspheres | |
| O33 | 15:20-15:35 | Isaac Giménez Guerra | University of Barcelona, Spain | PSresin for the analysis of alpha-emitting radionuclides: Comparison of diphosphonic acid-based extractants | |
| O34 | 15:35-15:50 | Matthieu Hamel | Université Paris Saclay, CEA, France | A Plastic Scintillator with enhanced Alpha-/Beta- PSD. Part I: Rationale and preparation | |
| | 15:50-16:20 | Coffee break | | | |
| Topical session 10 : Radionuclide Metrology Using LSC | | | | | |
| I19 | 16:20-16:45 | Tomasz Ziemek | National Centre of Nuclear Research Radioisotope Centre POLATOM, Polanc | Standardization of ⁵⁵ Fe solution using the TDCR method in POLATOM as part of the CCRI (II)-K2.Fe-55.2019 key comparison | Alex Tarancón |
| I20 | 16:45-17:10 | Marcell Peter Takacs | Physikalisch-Technische Bundesanstalt, Germany | Determination of the ²¹³ Bi half-life by Cherenkov counting | |
| O35 | 17:10-17:25 | Tomasz Ziemek | National Centre of | Standardization of ⁹⁰ Y solution by mean of a | |

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| | | | Nuclear Research Radioisotope Centre POLATOM, Poland | Cerenkov Counting in comparison with a Liquid Scintillation Counting technique | |
| O36 | 17:25-17:40 | Renmingjie Li | Sichuan University, China | Radon concentration measurement & radon mitigation in large-scale liquid nitrogen cryogenic system | |
| O37 | 17:40-17:55 | Justyna Marganiewicz-Gal azka | National Centre for Nuclear Research Radioisotope Centre POLATOM, Poland | Standardization of ^{177}Lu by means of $4\pi(\text{LS})\beta\text{-}\gamma$ coincidence counting | |

conference hall 1

| No. | Time (Beijing) | Speaker | Institute | Title | Session Chair |
|------------------|-------------------|----------------|--|--------------------------|------------------|
| Closing Ceremony | | | | | |
| 1 | 18:10-18:20 | Cangtao Zhou | Shenzhen Technology University, China | Conference conclusion | Xiaolin Hou |
| 2 | 18:20-18:30 | Pillip Warwick | Southampton University, UK | Introduction of LSC 2024 | |

Poster

| No. | Reporter | Institute | Title |
|-----|-------------------------|--|--|
| P01 | Siegurd Möbius | German Society for Liquid Scintillation DGFS, Germany | 20 Years DGFS Society for Liquid Scintillation - New Developments |
| P02 | Amos Vincent Ntarisa | Department of Physics, Kyungpook National University, Poland | A method for detection for all three naturally occurring radon |
| P03 | ATSUSHI SATO | Tohoku University, Japan | High-energy X-ray detection characteristics of HfxSi1-xO2 particle-loaded PVK-based plastic scintillators synthesized by sol - gel method |
| P04 | Alex Tarancón Sanz | Universitat Politècnica de València, Spain | Radiostrontium determination in aerosol filters and vegetation in emergency situations using PS resin |
| P05 | Ryuta Hazama | Osaka Sangyo University, Japan | Nationwide survey of Tritium concentration in environmental water in Thailand |
| P06 | Tomasz Ziemek | National Centre of Nuclear Research, Radioisotope Centre POLATOM, Poland | Analysis of a home-made code used in calculation of the efficiency TDCR system as part of the CCRI(II)-K2.Fe55.2019 key comparison |
| P07 | Fei Chen | National Center for Occupational Safety and Health, NHC, China | Method for the analysis of 14C in urine |
| P08 | YOO JUNG BO | Radioactive Waste Chemical Analysis Center, KAERI, Korea | Determination of 32P Liquid Scintillation counting for RI wastes |
| P09 | Li Bao | China Institute for Radiation Protection, China | Direct sample preparation method of carbon -14 |
| P10 | Ping Xu | University of Science and Technology of China, China | Study on Determination of 90Sr in Different Matrix via LSC |
| P11 | Akito Watanabe | Tohoku University, Japan | Fabrication of liquid scintillators loaded with 6-phenylhexanoic acid-modified ZrO2 nanoparticles for observing neutrinoless double beta decay |
| P12 | Zhongzhu Jiang | Institute of Solid State Physics, Hefei Institutes of Physics Science, CAS, | undetermined |

| | | China | |
|-----|-------------|--|--|
| P13 | Zifeng Song | Laser Fusion Research Center, CAEP, China | The fast plastic scintillator used for neutron spectrum diagnostic in inertial confinement fusion experiments |
| P14 | Pinyang Liu | Laser Fusion Research Center, CAEP, China | Ultrafast plastic scintillation detector for neutron bang time detection in inertial confinement fusion |
| P15 | Yanqin Ji | National Institute for Radiological Protection, China CDC, China | Simultaneous determination of ^{210}Pb and ^{210}Po in seafood samples using liquid scintillation counting |
| P16 | Chao Fan | Southwest University of Science and Technology, China | Preparation and performance of a new type liquid scintillator |