

**Third National Conference (Online)**  
**on**  
**Radiation Awareness and Detection in Natural Environment**  
**(RADNET-III)**

**March 18-20, 2021**

**TECHNICAL PROGRAM**

**18 March 2021 (THURSDAY)**

<b>10:00 – 10:30</b>	<b>Technical/Connection check</b>
<b>10:30 – 11:00</b>	<b>Online Joining by Guests &amp; Conference Delegates</b>
<b>11:00 – 12:00</b>	<b>Inaugural Function</b>
<b>12:00 – 13:00</b>	<b>Keynote Address</b>
<b>13:00 – 14:00</b>	<b>Lunch Break</b>

**Session-I Chairpersons: Prof. Tibor Kovacs and Dr. S.K. Sahoo**

<b>14:00-14:30</b>	<b>Invited Talk 01</b> Protection from radon exposure in workplaces and dwellings: some lessons from the past and challenges for the future. <i>Francesco Bochicchio, INIH, Italy</i>
<b>14:30-15:00</b>	<b>Invited Talk 02</b> ICRP Radon Dose Conversion Factors in the context of public exposure control strategies. <i>James P McLaughlin, ERA, Ireland</i>
<b>15:00-15:10</b>	<b>Oral Presentation 01</b> A new look at radiation dose due to thoron gas in Indian dwellings. <i>Sandeep D. Kanse, BARC Mumbai</i>
<b>15:10-15:20</b>	<b>Oral Presentation 02</b> Characteristics of indoor Radon and Thoron Equilibrium Factors in Uttarakhand dwellings. <i>Mukesh Prasad, HNBGU, Tehri Garhwal</i>
<b>15:20-15:30</b>	<b>Oral Presentation 03</b> Assessment of indoor radon activity concentration levels in four northern districts of Telangana State, India. <i>G. Srinivas Reddy, Osmania University, Hyderabad</i>
<b>15:30-15:40</b>	<b>Oral Presentation 04</b> Estimation of indoor radon, thoron and their progeny concentrations in different types of dwellings in Kapurthala district of Punjab, India. <i>Manish Kumar, DAV University, Jalandhar</i>
<b>15:40-15:50</b>	<b>Oral Presentation 05</b> Radon and thoron concentrations in dwellings of Dakshina Kannada district of Karnataka state, India. <i>N. Lokesh, Mangalore University</i>
<b>15:50-16:00</b>	<b>Oral Presentation 06</b> Measurement of indoor $^{222}\text{Rn}$ , $^{220}\text{Rn}$ and decay products along with naturally occurring radionuclides in some Monuments of Punjab, India. <i>Rupinderjeet Kaur, Punjabi University, Patiala</i>

- 16:00-16:10** *Oral Presentation 07*  
Estimation radon, thoron and their progeny concentration using pin hole dosimeter and their radiological hazards. *D.R. Rangaswamy, PES University, Bangalore*
- 16:10-16:20** *Oral Presentation 08*  
Seasonal variation of Indoor radon and its progeny concentration in dwellings of Trans-Yamuna Region Delhi, India. *Ruchie Gupta, RIMT University, Mandi Gobindgarh*
- 16:20-16:30** **Tea Break**

**Session-II Chairperson: Prof. P.D. Semalty and Prof. R.C. Tiwari**

- 16:30-17:00** *Invited Talk 03*  
Gamma radioactivity induced in the “cyclotron environment” on the example of the Cyclotron Centre Bronowice (CCB) at the Institute of Nuclear Physics Polish Academy of Sciences, Kraków, Poland. *Krzysztof Kozak, IFJ, Poland*
- 17:00-17:30** *Invited Talk 04*  
Advances in radon research and national radon action plan in Cameroon. *Saidou, UoY, Cameroon*
- 17:30-18:00** *Invited Talk 05*  
From Data to decisions - Challenges in Implementing Quality-Assured Radon Mitigation Policy. *Peter Bossew, BFS, Berlin, Germany*
- 18:00-18:10** *Oral presentation 09*  
Radiological impact assessment of different building material additives. *Erika Kocsis, University of Pannonia, Hungary*
- 18:10-18:20** *Oral Presentation 10*  
Estimation of indoor radon ( $^{222}\text{Rn}$ ) and thoron ( $^{220}\text{Rn}$ ) levels along with their progeny in dwellings of Punjab, India. *Deep Shikha, SGTB Khalsa College, Sri Anandpur Sahib*
- 18:20-18:30** *Oral Presentation 11*  
Measurement of Indoor radon concentration in the Saharanpur district, Uttar Pradesh using SSNTDs. *Pankaj Kumar, MS College, Saharanpur*
- 18:30-18:40** *Oral Presentation 12*  
Study of radon exhalation rates from coal using solid state nuclear track detectors. *Pranjal Protim Gogoi, Cotton University, Guwahati*
- 18:40-19:50** *Oral Presentation 13*  
Natural radioactivity in rocks and associated radiation exposure and radiological hazards in the environs of Udupi on the south west coast of India. *Sandesh Achari, Mangalore University, Mangalagangothri*
- 18:50-19:00** *Oral Presentation 14*  
Impact of Radiations on Human Life. *Amita Raizada, DAV PG College, Dehradun*
- 19:00-19:10** *Oral Presentation 15*  
The study of EM radiative effects on human health caused by cellular phones/networking towers. *Rajesh Sharma, MNS Govt College, Bhiwani*
- 19:10-19:20** *Oral Presentation 16*  
Effect of mobile phone radiations on plants. *Manu Pant, GEU Dehradun*
- 19:20-19:30** *Oral Presentation 17*  
Estimation of IEF and SAR for human skin exposed to 5G spectrum. *Rahul Kaushik, HVM PG College Raisi, Haridwar*

## 19 March 2021 (FRIDAY)

### Session-III Chairperson: Prof. N. Karunakara and Prof. S.C. Bhatt

- 09:00-09:30** *Invited Talk 06*  
Radiological and geochemical characterization of beach placer deposits in a natural high background radiation area of India. *S.K. Sahoo, QST, Japan*
- 09:30-10:00** *Invited Talk 07*  
Natural radioactivity measurements in high background areas (HBRA's) in parts of India: reliable detection, remediation and awareness. *Debashish Sengupta, IIT, Kharagpur*
- 10:00-10:30** *Invited talk 08*  
Japanese bathing treatment with radiation hot springs. *Kenji Sugimori, Toho University, Japan*
- 10:30-10:40** *Oral presentation 18*  
Measurement of Soil Gas Radon, its Exhalation Rates and Activity Concentration of Radionuclides in Soil Samples of Roopnagar District, Punjab, India. *Vimal Mehta, SGTB Khalsa College, Anandpur Sahib*
- 10:00-10:50** *Oral presentation 19*  
Study of soil-gas and indoor radon concentrations in test village of Tehri Garhwal, India. *Pooja, HNBGU, Tehri Garhwal*
- 10:50-11:00** *Oral presentation 20*  
Assessment of groundwater quality using hydrogeochemical methods in Bageshwar district of Uttarakhand. *Ankur Kumar, GKV, Haridwar*
- 11:00-11:10** *Oral presentation 21*  
Radiometric Analysis of Groundwater Samples in the Vicinity of GHAVP Nuclear Power Station Fatehabad, Haryana. *Manik Mehta, NIT, Jalandhar*
- 11:10-11:20** *Oral presentation 22*  
Assesment of radioactivity in drinking water. *Prakhar Singh, USERC, Dehradun*
- 11:20-11:30** **Tea Break**

### Session-IV Chairperson: Prof. B.S. Bajwa and Dr. Mirosław Janik

- 11:30-12:00** *Invited Talk 09*  
A unique high natural background radiation area in Indonesia. *M. Hosoda, Hirosaki University, Japan*
- 12:00-12:30** *Invited talk 10*  
Radon time-series data for earthquake precursory studies in Taiwan: An overview. *Vivek Walia, NCREE, Taiwan*
- 12:30-12:40** *Oral presentation 23*  
Soil radon monitoring for earthquake precursor study by networking approach in eastern India. *Saheli Chowdhury, Jadavpur University*
- 12:40-12:50** *Oral presentation 24*  
Study of Pre-seismic Thoron Anomaly Using Empirical Mode Decomposition based Hibert Huang Transform at Indo-Burman Subduction Region. *T.Thuamthansanga, Mizoram university*
- 12:50-13:00** *Oral presentation 25*  
Radon and thoron exhalation affected by bedrock geology and geochemistry of Udhampur and Reasi districts, Jammu & Kashmir, India. *Ajay Kumar, DAV College, Amritsar*
- 13:00-14:00** **Lunch Break**

## **Session-V Chairperson: Prof. Krzysztof Kozak and Prof. A.A. Bourai**

- 14:00-14:30** *Invited Talk 11*  
Application of solid-state nuclear track detectors for seismic and volcanic/mud volcanic studies in Taiwan. *Arvind Kumar, NCREE, Taiwan*
- 14:30-15:00** *Invited Talk 12*  
Ion beam induced tailoring in nanostructures. *R.P. Chauhan, NIT, Kurukshetra*
- 15:00-15:10** *Oral Presentation 26*  
Uranium contamination in drinking water as a health concern in India. *Mukesh Prasad, HNBGU, Tehri Garhwal*
- 15:10-15:20** *Oral Presentation 27*  
Application and Preparation of Polythiophene Nanocomposites. *Neena Panghal, BM University, Rohtak*
- 15:20-15:30** *Oral Presentation 28*  
Modification induced in Ga doped ZnO thin film using by Si<sup>+6</sup> ions beam irradiation. *Sandhya Negi, HNBGU, Tehri Garhwal*
- 15:30-15:40** *Oral Presentation 29*  
Estimation of seasonal Radon/Thoron levels and their exposure to inhabitants in Ghuttu Window, Tehri Garhwal, India. *Rohit Singh Sajwan, HNBGU, Tehri Garhwal*
- 15:40-15:50** *Oral Presentation 30*  
Synthesis of Nanocrystalline Al<sub>2</sub>O<sub>3</sub>:C by Thermal Plasma Reactor for Radiation Dosimetry Applications. *N.T. Mandlik, Fergusson College, Pune*
- 15:50-16:00** *Oral Presentation 31*  
Energy Resolution of Compton Electrons in LaCl<sub>3</sub>:Ce Using Compact Digitizer. *Sanjeet Singh Kaintura, IIT, Ropar, Punjab*
- 16:00-16:10** *Oral Presentation 32*  
Concentrations of heavy metals used in some personal care products used in Kano, Nigeria. *Habibu Ahmad Ibrahim, KUST, Nigeria*
- 16:10-16:20** *Oral Presentation 33*  
Geometrical stress tensor of the radiation fluctuation and quantum gravity. *Shankar Lal, HNBGU, Tehri Garhwal*
- 16:20-16:30** **Tea Break**

## **Session-VI Chairperson: Prof. R.C. Ramola and Dr. Rohit Mehra**

- 16:30-17:00** *Invited Talk 13*  
Bio and environmental monitoring under the shadow of COVID-19. *Tibor Kovacs, University of Pannonia, Hungary*
- 17:00-17:30** *Invited Talk 14*  
Radon as tracer in Altamira Cave: last results. *Luis Quindos, UoC, Spain*
- 17:30-18:00** *Invited Talk 15*  
Determination of the thoron emanation coefficient and testing the influence of various factors on its value. *Jadwiga Mazur, IFJ PAN, Poland*
- 18:00-18:10** *Oral presentation 34*  
Assessment of radon-222 activity in groundwater and soil-gas in Purulia district, West Bengal, India. *Joydeep Mukherjee, Sidho kanho Birsha University, Purulia, West Bengal*
- 18:10-18:20** *Oral Presentation 35*  
Development and Validation of CFD code for radon/thoron decay product studies. *Tarun Kumar Agarwal, BARC Mumbai*

- 18:20-18:30** *Oral Presentation 36*  
The importance of direct progeny measurements for correct estimation of effective dose due to radon and thoron: application to the uranium and thorium region of Lolodorf, Cameroon. *BINENG Guillaume Samuel, University of Yaounde, Cameroon*
- 18:30-18:40** *Oral Presentation 37*  
Mapping of radon concentration in drinking water of Davanagere district, Karnataka State, India. *M.S. Chandrashekhara, University of Mysore*
- 18:40-18:50** *Oral Presentation 38*  
Estimation of Natural radioactivity and radiation hazard indices in soil samples of Uttara Kannada district, Karnataka, India. *S. Suresh, Kuvempu University, Karnataka*
- 18:50-19:00** *Oral Presentation 39*  
Seasonal and spatial variability of uranium and major ions in groundwater of Jalandhar district of Punjab, India. *Tanu Sharma, GNDU, Amritsar*
- 19:00-19:10** *Oral Presentation 40*  
Uranium estimation, radiation dose assessment and physico-chemical parametric study of underground water in Tarn Taran district, Punjab state, India. *Archana, GNDU Amritsar*
- 18:10-19:20** *Oral Presentation 41*  
A Study of radon and thoron exhalation rate in soil samples from Barnala and Moga districts, Punjab, India. *Supriya Rani, MRS PTU, Bathinda*
- 19:20-19:30** *Oral Presentation 42*  
Studies on natural radioactivity and physico-chemical parameters of soil in Belagavi, India. *K.V. Dawalekar, Mangalore University*

## **20 March 2021 (SATURDAY)**

### **Session-VII Chairperson: Prof. D. Sengupta and Prof. R.P. Chauhan**

- 09:00-09:30** *Invited Talk 16*  
Evaluation of in-house treatment methods prior to etching CR-39 chips exposed to alpha particles. *Miroslaw Janik, QST, Japan*
- 09:30-10:00** *Invited Talk 17*  
Advances in Radon-Thoron Gas Monitoring System and Potential Applications. *B.K. Sahoo, BARC, Mumbai*
- 10:00-10:30** *Invited Talk 18*  
Opportunities for collaborative research in radiation physics at Mangalore University. *N. Karunakar, Mangalore University*
- 10:30-10:40** *Oral presentation 43*  
Effects of Meteorological parameters on Radon exhalation rate from soil, building materials and its comparison with different techniques-A Review. *J. Sannappa, Kuvempu University*
- 10:40-10:50** *Oral presentation 44*  
Annual monitoring of risk assessment due to Radon, Thoron and their progeny element in the dwellings of Kumaon Himalaya Region of Uttarakhand. *Preeti Pant, HNBGU, Tehri Garhwal*
- 10:00-11:00** *Oral presentation 45*  
Quantification of exhalation rate of Rn222/Rn220 in soil samples of Champawat region of Kumaun Himalaya, India by using Active Technique. *Taufiq Ahamad, SGRR PG College, Dehradun*

- 11:00-11:10** *Oral presentation 46*  
Studies on radon exhalation rate in soil samples and its radiological hazards to the population of Davanagere District, Karnataka State India. *Mohamed Hidayath, University of Mysore*
- 11:10-11:20** *Oral presentation 47*  
Impact of the leakage and back diffusion rates on measurement of radon exhalation from commonly used building materials. *Vandana Devi, National Institute of Technology, Kurukshetra*
- 11:20-11:30** **Break**

### **Session-VIII Chairperson: Prof. R.C. Dimri and Dr. M. Hosoda**

- 11:30-12:00** *Invited Talk 19*  
Mathematical Models on Radon and Thoron Behavior in the Indoor Environment: A Review. *P.Y. Reddy, Osmania University, Hyderabad*
- 12:00-12:30** *Invited talk 20*  
Protocols and applications of direct radon and thoron progeny. *Rosaline Mishra, BARC, Mumbai*
- 12:30-12:40** *Oral presentation 48*  
Effect of soil's porosity and moisture content on radon and thoron exhalation rates. *Aibanjop Pyngrope, NEHU, Shilong*
- 12:40-12:50** *Oral presentation 49*  
Estimation of attached and unattached fraction and Deposition based progeny sensors using Wiremesh DTSP/DRPS. *Amit Kumar Singla, Maharaja Ranjit Singh Punjab Technical University, Bathinda*
- 12:50-13:00** *Oral presentation 50*  
Quantification of naturally occurring radionuclides and their relation with soil gas radon concentration *Veena joshi, HNBGU Tehri Garhwal*
- 13:00-14:00** **Lunch**

### **Session-IX Chairperson: Dr. Luis Quindos and Dr. B.K. Sahoo**

- 14:00-14:30** *Invited Talk 21*  
Prevention aspects of health hazard due to X-ray radiation for the health workers, patient and to general public in Mizoram. *R.C. Tiwari, Mizoram University*
- 14:30-15:00** *Invited Talk 22*  
Uranium biokinetics in human adult from protracted ingestion of groundwater. *Rohit Mehra, NIT, Jalandhar*
- 15:00-15:10** *Oral Presentation 51*  
Assessment of  $^{222}\text{Rn}$  and  $^{220}\text{Rn}$  exhalation and emanation rate from the soils of Himalayan belt of Uttarakhand, India. *Poonam Semwal, GPGC, New Tehri*
- 15:10-15:20** *Oral Presentation 52*  
Assessment of terrestrial gamma radiation exposure in different stress conditions. *Sanjeev Kimothi, SRHU, Dehradun*
- 15:20-15:30** *Oral Presentation 53*  
Transfer parameters of  $^{90}\text{Sr}$  into the skeleton of farm animals. *Zhanat Baigazinov, University of Pannonia, Hungary*



- 15:30-15:40** *Oral Presentation 54*  
Uranium distribution in groundwater of Faridkot district of SW-Punjab and its remediation using WS<sub>2</sub> nanostructures. *Satvir Singh, GNDU, Amritsar*
- 15:40-15:50** *Oral Presentation 55*  
Distribution of natural radioactivity levels of soil samples and assessment of radiation hazards in the Davanagere district, Karnataka in India. *Malleshi Kavasara, Mangalore University, Mangalagangothri*
- 15:50-16:00** *Oral Presentation 56*  
Natural radioactivity levels and associated radiation hazards in soil samples of Chikkamagaluru district, Karnataka, India. *E. Srinivasa, IDSGG College, Chikkamagaluru*
- 16:00-16:10** *Oral Presentation 57*  
Variation of natural radioactivity in soil and water samples of Garhwal Himalaya region. *Manjulata Yadav, Govt. Degree College Nainidanda, Pauri Garhwal*
- 16:10-16:20** *Oral Presentation 58*  
Efficient removal of Uranium (VI) from aqueous solution utilizing L-histidine capped copper nanoparticles. *Jaspreet, Guru Nanak Dev University, Amritsar*
- 16:20-16:30** *Tea Break*

**Session-X Chairperson: Prof. P.Y. Reddy and Dr. Rosaline Mishra**

- 16:30-17:00** *Invited Talk 23*  
Health effects of nuclear radiation exposure. *B.S.Bajwa, GNDU, Amritsar*
- 17:00-17:10** *Oral presentation 59*  
Impact of radiation in origin of life and evolution on earth: A review. *Shalini Rawat, GPG College, New Tehri*
- 17:10-17:20** *Oral Presentation 60*  
Toxicological risk assessment of uranium in drinking water of Central Haryana, India. *Vikas Duggal, DAV College Bathinda*
- 17:20-17:30** *Oral Presentation 61*  
Natural background gamma radiation dose estimation in the surrounding villeges of Devarakonda Town, Telangana State, India. *M. Srinivas Reddy, Mahatma Gandhi University, Nalgonda*
- 17:30-17:40** *Oral Presentation 62*  
Estimation of radon exhalation rate in soil samples in and around oil field areas of Tinsukia and Dibrugarh District of Assam. *Sonali Dutta, Assam Down Town University, Guwahati*
- 17:40-17:50** *Oral Presentation 63*  
Dosimetric Assessment of Primordial Radionuclides in Groundwater of Sikar District, Rajasthan. *Chanchal Charan, NIT, Jalandhar*
- 17:50-18:00** *Oral Presentation 64*  
Quantification of outdoor gamma radiation level and consequent health hazards assessment in Panipat district of Haryana. *Naresh Tanwer, Aggarwal College, Ballabgarh*
- 18:00-18:10** *Oral Presentation 65*  
Analysis of uranium concentration and associated age-dependent radiation dose in bottled water from Haryana State, India. *Samriti Sharma, Chandigarh University, Gharuan-Mohali*

- 18:10-18:20** *Oral Presentation 66*  
Study of indoor radon thoron and their decay products level in residences of Udham Singh Nagar district of Uttarakhand, India. *Sanjay Dutt, HNBGU, Tehri Garhwal*
- 18:20-18:30** *Oral Presentation 67*  
Effect of Meteorological Parameters on Air Pollutants in Major Cities of Uttarakhand, India. *Amar Deep, Chinamya Degree College, BHEL, Haridwar*
- 18:30-18:40** *Oral Presentation 68*  
Identification of water quality status in upper Ganga basin using enviro assessment techniques. *Vishal Kamboj, GKV, Haridwar*
- 18:40-18:50** *Oral Presentation 69*  
Study of uranium toxicity in humans from protracted ingestion of groundwater in Lower Himalayas. *Abhishek, NIT, Jalandhar*
- 18:50-19:00** *Oral Presentation 70*  
Luminescence and dosimetric characteristics of microcrystalline  $\text{SrB}_4\text{O}_7:\text{Eu}^{3+}$  synthesized by solid state diffusion method. *Avinash R. Kachere, Fergusson College, Pune*
- 19:00-19:10** *Oral Presentation 71*  
Quantification of doses and health risks to organs and tissues corresponding to different age groups due to radon in water. *Anjali Kaushal, IKG PTU Kapurthala*
- 19:10-19:20** *Oral Presentation 72*  
Radiation dosimetric properties of mango leaf extracts. *Bhagat Chand, LPU Jalandhar*
- 19:20-19:30** *Oral Presentation 73*  
Comparative study of radon exhalation rates from bricks with different Composition. *Amit Kumar, Markanda National College, Shahabad*
- 19:30-19:40** *Oral Presentation 74*  
Chemotoxicity and radiotoxicity risk assessment from exposure to uranium in drinking water of Noida, Uttar Pradesh State, India. *Narendra Chahal, SVNIT, Surat, Gujarat*
- 19:40-19:50** *Oral Presentation 75*  
Impact of attached, unattached fraction of radon, thoron and their daughter element and its seasonal variability in Doon-valley along the Main Boundary Thrust region. *Tushar Kandari, GPGC, Gopeshwar*
- 19:50-20:00** *Oral Presentation 76*  
Radon Exposure Dose Assessment using CFD Modeling, active and passive measurement techniques. *Neetika Chauhan, NIT, Kurukshetra*
- 20:00-20:10** *Oral Presentation 77*  
Health hazards and risk assessment from heavy metals in drinking water of Bathinda and Mansa districts of Punjab (India). *Pargin Bangotra, Sharda University, Greater Noida*
- 20:00-20:10** *Oral Presentation 78*  
Variation of Radon concentration, gaseous pollutants and the influence of Meteorological parameters: A Review. *Alok Sagar Gautam, HNBGU Srinagar*
- 20:10-20:30** **Valedictory Function**