## Preliminary programme of NORM IV Conference - 17th to 21st of May 2004

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<th>Time</th>
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<tr>
<td>8:00</td>
<td>Breakfast</td>
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<tr>
<td>9:00</td>
<td>Registration</td>
<td>Session 3A</td>
<td>Excursion</td>
<td>Session 6A</td>
<td>Session 8A</td>
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<tr>
<td>10:00</td>
<td>Welcoming address</td>
<td>Coffee break</td>
<td>Kraków</td>
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<tr>
<td>12:00</td>
<td>NORM in Polish mining</td>
<td>Session 4A</td>
<td>Measurement techniques – cont.</td>
<td>Air pollution &amp; Radon – cont.</td>
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<td>13:00</td>
<td>Lunch</td>
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<td>Session 7A</td>
<td>Closing ceremony</td>
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<td>14:00</td>
<td>Session 1B</td>
<td>Session 4B</td>
<td>Technical visit</td>
<td>NORM legal aspects – cont.</td>
<td>Coffee break</td>
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<td>15:00</td>
<td>NORM in mining – cont.</td>
<td>Water contamination</td>
<td>NORM legal aspects – cont.</td>
<td>Trip to Skrzyczne</td>
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<td>16:00</td>
<td>Coffee break</td>
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<td>Conference dinner</td>
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<tr>
<td>17:00</td>
<td>Session 2</td>
<td>Session 4B</td>
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<td>Environmental pollution</td>
<td>Water contamination – cont.</td>
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<td>18:00</td>
<td>Welcoming reception</td>
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### Session 1A 17th of May 2004, 11:20 – 13:00

**NORM in mining**  
(5 presentations)

1. Michalik B. – Ranking of TENORMs impact into radiation risk in some European countries (91)
2. Skubacz K. – Radon progeny measurements in Polish mines (81)
3. Hayumbu P. – Status of radon dosimetry in Zambian underground mines (27)
4. Wysocka M. – Radium removal from mine waters - underground treatment installation (82)
5. van der Westhuizen R. – Exposure from an igneous phosphate mine operation (6)

### Session 1B 17th of May 2004, 14:20 – 16:00

**NORM in mining**  
(5 presentations)

6. van der Westhuizen R. – Rail transport of igneous phosphate rocks (8)
7. Cowie M. – Assessment of NORM in Saudi Aramco Facilities (16)
8. Wysocka M. – Investigations of abandoned surface settling pond (86)
9. Chałupnik S. – Theoretical study of radium behaviour in brine’s aquifers (84)
10. Popescu M. – Sources of TENORM - Inventory of phosphate fertilizers and aluminium Industries (75)

**Coffee break 16:00 – 16:20**

### Session 2 17th of May 2004, 16:20 – 18:00

**Environmental pollution**  
(5 presentations)

11. Costa E. – Environmental impact of the fertilizer complex in the Ebro river (Spain) (15)
12. Briquet C. – Soil contamination i the rural site used for rare earth industry disposal site (25)
14. Michalik B. – The assessment of exposure to ionizing radiation at bank of spoil piles (90)
15. Geber K. – NORM and decommissioning of nuclear facilities (29)

**Welcoming reception 17th of May 19:00**
Session 3A  18th of May 2004,  8:40 – 10:40
NORM in industry
(6 presentations)

16. Weiss D. – Methods of assessment of the occupational exposure at working places of different TENORM industrial branches (36)
17. Hou X. - Natural radionuclides in rare earth industry and its environment (13)
19. Ryan T. – Industries giving rise to NORM discharges in the EU – a review (42)
20. Firganek H. - Naturally occurring radionuclides in raw materials, products and waste in the steel industry (78)
21. Beddow H. – Characterization of scale from former phosphoric acid processing plant (72)

Coffee break 10:40 – 11:00

Session 3B  18th of May 2004,  11:00 – 13:00
NORM in industry
(6 presentations)

22. Moravanska H. – Presence of NORM in Czech Republic (57)
23. Doering J. – Identification of enhanced concentrations of Pb-210 and Po-210 in iron ore industry (66)
24. Smith R. – The radiological impact of NORM industries in the UK (55)
25. Organo C. – Investigation of peat-firing power generation in Ireland (2)

26. Degrange J.P. – Evaluation of exposures associated with fly ash from French coal-fired power plants (22)
27. Zampieri Ch. – NORM in refractories industries (46)

Coffee break 10:40 – 11:00

Session 4B  18th of May 2004,  13:00 – 15:00
NORM in industry
(6 presentations)

27. Degrange J.P. – Evaluation of exposures associated with fly ash from French coal-fired power plants (22)
28. Zampieri Ch. – NORM in refractories industries (46)

Session 4A  18th of May 2004,  15:00 – 17:00
NORM in industry
(6 presentations)

28. Manjon G. – Natural restoration of a Spanish estuary affected by anthropogenic inputs of NORM (19)
29. Faanhof A. – Natural radioactivity of water sources to evaluate the impact on surrounding communities (54)
30. Ek B.M. – Radionuclides in Swedish drinking water (64)
31. Pietrzak-Flis Z. – Uranium isotopes in drinking water in Poland (71)
32. Aguado J. – Sequential extraction of Uranium isotopes from sediments in estuary affected by anthropogenic NORM (39)

Coffee break 16:00 – 16:20

Session 4A  18th of May 2004,  16:20 – 18:00
NORM in industry
(6 presentations)

33. Przylibski T. – Concentrations of Rn-222 in groundwater in crystalline bedrocks – Ślęża Massif (SW Poland) (32)
34. Chałupnik S. – Leaching of radium from mine deposits as a source of groundwater contamination (80)
35. Chałupnik S. – Radium balance in discharge waters from coal mines in Poland (83)
36. Wiegand J. – Radioactive contamination of surface waters, sediments and soil, caused by coal mining in the Ruhr District (Germany) (56)
### Session 5  **19th of May 2004**  18:00 – 20:00

**Poster Session**

**List of poster presentations:**

1. Evseeva T. - A comparative analysis of the heavy metals, heavy natural radionuclides concentrations and bio-indication assay of water sampled from a radium production industry storage cell territory (4)
2. Geras'kin S. – A comparative analysis of biological effects in plants inhabiting two Russian regions with a higher level of heavy natural radionuclides (5)
3. vd Westhuizen R. - Radiological risk assessment of phosphogypsum plasterboards in homes (7)
4. Aliyev Ch. - NORM in building materials (9)
5. Zolotyovskaya T. – NORM in coal (10)
6. Aliyeva S. – Radionuclide contamination of the natural environment of Absheron peninsula (AZERBAIJAN) (11)
7. Aliyev Ch. - Mitigation methods in selection places for construction (12)
8. Varga E. - Radioactivity of the food at Novi Sad markets (18)
9. Curcic S. - The first radon map of Vojvodina (21)
10. Bogacz J. - The radon dosemeter combining charcoal canisters and TLD detectors type MCP-N (LiF:Mg.Cu,P) (28)
11. Nguyuen Dinh Chau - Factors controlling measurements of mass radon exhalation coefficient (31)
12. Stochiou A. – Detection system for occupational exposure of personnel (37)
13. Komosa A. – Differentiation of natural radioisotope level in arable and non-cultivated soils at Łęczna-Włodawa Lake District (49)
14. Komosa A. – Attempts on radon exhalation rate determination from a waste-dump at Bogdanka coal mine using the PicoRad detectors (50)
15. Karpińska M. – Periodical changes of indoor radon concentrations (58)
16. Mamont-Cieśla K. - Estimation of radon dose in several workplaces using dosimetric model for inhalation of airborne radionuclides (68)
17. Jernström J. – Sample clean-up by on-line chromatography for the determination of Pu and Am in sediments (69)
18. Kant K. – Ventilation: a technique for indoor radon mitigation (73)
19. Kies A. – Radon measurements as a monitoring possibility for mining subsidence occurrences (76)
21. Chałupnik S. - Radium in desalination processes of brines from coal mines (85)
22. Sagathelyan E.- The effect of earthquake induced radon release on the population in the seismic active regions of Armenia (93)
23. Schoenhofer F. – NORM in drinking water - measurements using ultra low-level liquid scintillation spectrometry and considerations for compliance with the EU Drinking Water Directive (95)
24. Lauria D. – Radium in ground water close to Buena Lagoon in coastal zone of Rio de Janeiro state, Brazil (96)
25. Isajenko K. – Environmental assessment of the material deposited on the former uranium mining disposal dump in RADONIÓW (97)
| Session 6A | 20th of May 2004,  8:40 – 10:40 |
| Measurement techniques (6 presentations) |
| 38. Vesterbacka P. - Analytical Methods used for Determining Natural Radionuclides in Finnish Drinking Water (79) |
| 39. Van Velzen L.P.M. – Importance of sampling in relation to gamma spectroscopic analyses of NORM materials (30) |
| 40. Gablin V. – Grain size in radiometric measurements of the ground (47) |
| 41. Bem H. - Determination of radium Ra-226 nuclide in the ground level air (62) |
| 42. Lopez I. – Application of LSC for gross alpha, gross beta and radon measurements in Portuguese waters (53) |
| 43. Bem H. – A protocol for determination of natural radionuclides in the geothermal waters (61) |
| Coffee break 10:40 – 11:00 |

| Session 6B | 20th of May 2004,  11:00 – 13:00 |
| Measurement techniques (6 presentations) |
| 44. Lavi N. – Measurements of K-40 in natural and synthetic materials by high resolution gamma spectrometry (24) |
| 45. Rusov V.D. – Passive antineutrino sounding of spatial distribution of radioactive elements in deep strata (26) |
| 46. Lizurek G. - Assessment of natural and anthropogenic radioactivity levels in rocks in the Krzeszowice area, Poland, by in situ gamma-ray spectrometry (74) |
| 47. Heinrich E, - Rapid determination of NORM discharges – a possible screening methodology (43) |
| 48. Degrange J.P. - Aerosol sampling for radiological protection – which particle size aerosol sampler to select? (60) |

| Session 7A | 20th of May 2004,  14:20 – 16:00 |
| NORM legal aspects (5 presentations) |
| 50. Wymer D. – Application of ISS to work involving exposure to natural radiation (45) |
| 51. Skowronek J. – NORM legislation in Poland (88) |
| 52. Organo C. – Status of implementation of Directive 96/29/Euroatom in Ireland in relation to NORM (1) |
| 53. Fernandez H. – TENORM regulatory framework in Brazil (20) |
| 54. Akerblom G. – The proposal of IKA on non-nuclear waste management and implications for management and storage of NORM waste (38) |
| Coffee break 16:00 – 16:20 |

| Session 7B | 20th of May 2004,  16:20 – 18:00 |
| NORM legal aspects (5 presentations) |
| 55. Ryan T. – New regulatory developments and guidance in EU with regards to NORM (41) |
| 56. Gellerman R. – Release of NORM residues from surveillance in Germany – some practical experiences (65) |
| 57. Villar H.P. – Presumed radioactive contamination and how to deal with it (14) |
| 58. Trotti F. – The inventory of Italian NORM concerned work activities in the frame of environment protection (70) |
59. Briquet C. - Improving criteria for remediation of monazite by-products contaminated sites in Brazil (98)

Conference dinner 19:00

Session 8A  
21st of May 2004, 8:40 – 10:40
Radon & air pollution
(6 presentations)

60. Rolle R. – Assessment of radon contribution from mining sites to the geogenic environment (40)
61. Grabowska S. - Cosmogenic Na-22 and Be-7 in ground level air (52)
62. Solatie D. -\(^{210}\)Po and\(^{210}\)Pb in environmental samples in Finnish Lapland (91)
63. Rojc J. – Test of the Material for Radon Seal Layer at the Mine Waste Disposal Site Jazbec (67)
64. Kozak K. – Radon chambers – design and some calibration problems (33)
65. Mocsy I. – Radon soil gas in environment of building zones (3)

Coffee break 10:40 – 11:00

Session 8B  
21st of May 2004, 11:00 – 13:20
Radon & air pollution
(6 presentations)

66. Becker K. – Cost/benefit ratio for residential radon levels below 1000 Bq/m\(^3\) (30 minutes)
67. Skowronek J. – Radon in some caves of Kraków-Częstochowa Jurassic Upland (87)
68. Mazur J. – Influence of meteorological conditions on radon measurements in soil (35)
69. Przylibski T. – Polish national comparison of radon-in-water measuring techniques (44)

70. Janik M. - Calibration of soil probe for in-situ permeability measurements (34)
71. Mamont-Cieśla K. – Intercomparison of instruments for radon and progeny measurements in the CLOR calibration chamber (59)

Round table discussion 14:20 – 15:00
(summarizing the conference)
moderators A.Janssens & J.Skowronek

Closing ceremony 21st of May 2004
15:00 – 15:30
A. Lipowczan, J. Skowronek

Meeting of TENORM-HARM working group will be held on Saturday 22.05.2004 and Sunday 26.05.2004, following NORM IV Conference