Program of the Course
on Application of Ionizing Radiation

Cooperation in the ATHENS project

Advanced Technology Higher Education Network, Socrates

### FNSPE CTU Prague - March 19 to 23 2018

Lectures: 14 hours (7 x 2 hours)

Experimental exercises: 8 hours (4 x 2 hours)

Demonstration: 3 hours

Lectures:

1. Doc. T. Trojek: Radioanalytical Methods and X-Ray Fluorescence Analysis
2. Ing. T. Hanušová: Application of Ionizing Radiation in Medicine
3. Prof. L. Musílek: Application of Radiation in Art and Archeometry
4. Prof. T. Čechák: Characteristic of Ionizing Radiation and Radioactivity
5. Prof. M. Matolín: Application of Ionizing Radiation in Geology and Geophysics
6. RNDr. L Thinová: Radon - Application in Geology and Problem in Radiation Protection
7. RNDr. J. Smolík: High Energy Physics, Accelerators and Synchrotron Radiation Applications

Four 2-hour experimental exercises:

1. Mgr. H. Bártová: Radiochromic gel dosimetry
2. Ing. K. Johnová: Spectrometry of Gamma Radiation with HP(Ge) Detector
3. Ing. R. Prokeš: X-Ray Fluorescence Analysis
4. Ing. J. Martinčík: Personal Dosimetry - TLD

Experimental demonstrations:

Proton Therapy Centre Czech

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| Monday 19. 3. 2018 |
| 08.40 – 09.00 | Opening sessionCTU in Prague, FNSPE - Basic Information  | 111 | Prof. T. Čechák |
| 09.00 – 10.40 | Characteristic of Ionizing Radiation and Radioactivity | 111 | Prof. T. Čechák |
| 10.50 – 12.30 | Radioanalytical Methods and X-Ray Fluorescence Analysis | 111 | Doc. T. Trojek |
| 12.30 – 13.30 | *Lunch* |
| 13.30 – 15.10 | Application of Ionizing Radiation in Medicine | 111 | Ing. T. Hanušová |

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| Tuesday 20. 3. 2018 |
| 08.00 – 09.30 | E1 – E4 | 15, 201, 204, 207 | Ing. J. Martinčík, Ph.D.; Mgr. H. Bártová; Ing. K. Johnová; Ing. R. Prokeš |
| 09.30 – 11.00 | E1 – E4 | 15, 201, 204, 207 | Ing. J. Martinčík, Ph.D.; Mgr. H. Bártová; Ing. K. Johnová.; Ing. R. Prokeš |
| 11.00 – 12.00 | *Lunch* |
| 13.00 – 16.00 | Proton Therapy Centre Czech |  |  |

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| Wednesday 21. 3. 2018 |
| 08.00 – 09.40 | E1 – E4 | 15, 201, 204, 207 | Ing. J. Martinčík, Ph.D.; Mgr. H. Bártová; Ing. K. Johnová.; Ing. R. Prokeš |
| 10.00 – 11.40 | Radon - Application in Geology and Problem in Radiation Protection | 111 | RNDr. L. Thinová, Ph.D. |
| 11.40 – 13.20 | Application of Radiation in Art and Archeometry | 111 | Prof. L. Musílek |
| 13.20 – 14.20  | *Lunch* |  |  |
| 15.30 – 17.30 | Excursion - National Technical Museum |  |  |

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| Thursday 22. 3. 2018 |
| 09.00 – 10.40 | Application of Ionizing Radiation in Geology and Geophysics | 111 | Prof. M. Matolín  |
| 11.00 – 12.40 | E1 – E4 | 15, 201, 204, 207 | Ing. J. Martinčík, Ph.D.; Mgr. H. Bártová; Ing. K. Johnová; Ing. R. Prokeš |
| 12.40 – 14.00 | Data Analysis, Preparation of Presentations |  | Ing. J. Martinčík, Ph.D.; Mgr. H. Bártová; Ing. K. Johnová; Ing. R. Prokeš |

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| Friday 23. 3. 2018 |
| 09.00 – 10.00 | Presentation of Results | 111 | Prof. T. Čechák, Doc. T. Trojek |
| 10.10 – 11.50 | High Energy Physics, Accelerators and Synchrotron Radiation Applications | 111 | RNDr. J. Smolík, Ph.D. |
| 12.00 – 13.00 | EXAM | 111 | Prof. T. Čechák, Doc. T. Trojek  |
| 13.00 – 13.30 | Closing Ceremony | 111 | Prof. T. Čechák, Doc. T. Trojek  |

Groups for practical Exercises

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| Group A | Group B | Group C | Group D |
| Jelene Verbruggen | Manon Cuveele | Quinten Debruyne | Maarten Durt |
| Léo Grosselin | Pedro Brandão | Marion Krapez | Cécile Noirot |
| Tom Deblonde | Margot Vergauwen | Teboul Raphaël | Pieter van den Berghe |
| Margot Vandenlindenloof | Louis Henrard | Sara Vandyck | Myriam Bonduelle |
| Melih Yavuz | Yinhao ZENG |  |  |
|  EXERCISE NO. 1 (room 207) | exercise No. 2 (room 15) | exercise No. 3 (room 204) | exercise No. 4 (room 201) |
| exercise No. 2 (room 15) | exercise No. 3 (room 204) | exercise No. 4 (room 201) | EXERCISE NO. 1 (room 207) |
| exercise No. 3 (room 204) | exercise No. 4 (room 201) | EXERCISE NO. 1 (room 207) | exercise No. 2 (room 15) |
| exercise No. 4 (room 201) | EXERCISE NO. 1 (room 207) | exercise No. 2 (room 15) | exercise No. 3 (room 204) |