

# **ESTRO BASIC CLINICAL RADIOBIOLOGY COURSE** **PRAGUE, CZECH REPUBLIC, 16-20 MAY 2010**

**Course Director:** A. van der Kogel (NL)  
**Teaching staff:** W. Dörr (D), V. Grégoire (B), M. Joiner (USA),  
M. Nordsmark (DK), M. Koritzinsky (CAN)

## **Sat- 15 May**

Arrival and registration (17.00-19.00)

## **Sun- 16 May**

09.00-09.20 Introduction – A. van der Kogel  
09.20-10.00 1. Importance of radiobiology in the clinic – V. Gregoire  
10.00-10.30 2. Hallmarks of cancer – M. Koritzinsky

10.30-11.00 *Coffee*

11.00-11.45 3. Molecular basis of cell death – M. Koritzinsky  
11.45-12.15 4. Cell survival – in vitro and in vivo – A. van der Kogel  
12.15-13.00 5. Models of radiation cell killing – M. Joiner

13.00 – 14.15 *Lunch*

14.15-14.45 6. LET and RBE – M. Joiner

14.45-15.30 7. Clinical side effects and its quantification – M. Nordsmark

15.30-16.00 *Coffee*

16.00-17.00 8. Pathogenesis of normal tissue side effects – W. Dörr

Welcome reception

## **Mon- 17 May**

09.00-09.45 9. The linear-quadratic approach to fractionation – M. Joiner  
09.45-10.30 10. Molecular basis of radiation response: DNA repair/checkpoints – M. Koritzinsky

10.30-11.00 *Coffee*

11.00-11.30 11. Normal tissues: radiosensitivity & fractionation - W. Dörr  
11.30-12.30 12. Normal tissues: overall treatment time - W. Dörr  
12.30-13.00 General discussion

13.00-14.00 *Lunch*

14.00-15.00 13. Hyperfractionation and accelerated radiotherapy – V. Gregoire  
15.00-15.45 14. The LQ-model in practice –introduction to calculations – M. Joiner

15.45-16.15 *Coffee*

16.15-17.00 14. The LQ-model in practice – examples of calculations – M. Joiner

## **Tue- 18 May**

- 09.00-10.00 15. The oxygen effect – A. van der Kogel  
10.00-10.45 16. Hypoxia and tumor microenvironment – M. Koritzinsky
- 10.45-11.15 *Coffee*
- 11.15-12.00 17. Clinical efforts to modify tumor hypoxia – M. Nordsmark  
12.00-13.00 General discussion/clinical questions
- 13.00 *Lunch*
- 14.15-15.00 18. Dose-response relationships in radiotherapy – M. Joiner  
15.00-16.00 19. The volume effect in radiotherapy – W. Dörr  
16.00 -17.30 Clinical examples – fractionation, gaps – V. Gregoire / M. Nordsmark

## **Wed- 19 May**

- 09.00-10.00 20. Biological image guided radiotherapy – V. Gregoire  
10.00-11.00 21. Biological response modifiers in tumors – preclinical – M. Koritzinsky
- 11.00-11.30 *Coffee*
- 11.30-12.15 22. The dose-rate effect – A. van der Kogel  
12.15-13.00 General discussion / clinical questions
- 13.00 -14.00 *Lunch*
- 14.00 -14.45 23. Combined radiotherapy and chemotherapy – V. Gregoire  
14.45 -15.30 24. Retreatment tolerance of normal tissues – W. Dörr
- 15.30-16.00 *Coffee*
- 16.00 -17.30 Clinical examples – volume, retreatment– V. Gregoire / M. Nordsmark

## **Thu- 20 May**

- 09.00-09.45 25. Particles in radiotherapy – V. Gregoire  
09.45-10.30 26. Radiation-induced malignancies – M. Joiner
- 10.30-11.00 *Coffee*
- 11.00-11.45 27. Tumor growth and response to irradiation – A. van der Kogel  
11.45-12.30 28. Biological response modifiers in tumors – clinical – M. Nordsmark  
12.30-13.00 General discussion / clinical questions
- 13.00 -14.00 *Lunch*
- 14.15-15.00 29. Biological modifiers of normal tissue effects – W. Dörr  
15.00-15.30 *Course evaluation and certificates*

