inholland academy

# VMAT Treatment Planning hands-on course

## - A Course on IMRT, VMAT and SABR -

You have a bachelor's degree or higher and want to acquire profound knowledge and skills in the field of state of the art Treatment Planning. We offer RT professionals a programme on treatment planning for advanced RT that is complementary to their basic training.

## Introduction to the course

The various and rapid developments in the field of 3D and 4D imaging, treatment planning and treatment delivery have lead to more accurate and optimal radiotherapy (RT) treatments. Intensity-Modulated Radiation Therapy (IMRT) is an example of an advanced treatment technique that has been or is being implemented in many RT clinics. During this course the RT professional will acquire the necessary knowledge and skills in the field of state-of- the-art Treatment Planning (TP) of Intensity-Modulated Radiation Therapy (IMRT), Volumetric Modulated Arc Therapy (VMAT) and Stereotactic Ablative Radiatiotherapy (SABR). The course "IMRT TP" has been developed by the research group Medical Technology of Inholland University (InhU) of Applied Sciences, together with professionals from the RT department of the Antoni van Leeuwenhoek Hospital - Netherlands Cancer Institute.
This course is the core part of a comprehensive educational module IMRT TP, but can be followed separately. The course itself will be given in collaboration with companies providing treatment planning systems. The aim is an intensive course with optimum interaction between students and teachers. Therefore the number of participants will be restricted to 36, including the students that follow the complete module.

### Content

Interactive teaching sessions, focused on situations in practice, are an important part of the course; various experts from renowned RT departments will share their experience in IMRT , VMAT and SABR Treatment Planning.
The core parts of the course are four hands-on sessions, "treatment planning labs" in the afternoons, executed in cooperation with the companies on the different commercial TP systems. During these hands-on sessions the possibilities of TP systems will be explored. The TP options comprise dose escalation, integrated boost techniques, dose and dose- volume constraints, hypofractionation, objective functions (EUD, DVH, min/max or uniform dose), static and rotational beams techniques, effect of number of segments, segment size, beam energy and use of TCP, NTCP models. Participants will carry out exercises for different tumour sites exploring the potential of IMRT, VMAT and SABR and the tools the systems offer. Experienced users of the systems and representatives of the companies will guide them.

In the morning sessions various experts will provide background information for the practical exercises. The participants will present the results of the afternoon sessions and motivate their choices made the next morning; the experts will guide the discussions.

## Target group and aims

The course is suitable for students with a bachelor's degree or higher who have experience in conventional 3-D treatment planning or IMRT, VMAT and SABR treatment planning and want to expand their knowledge and skills.

Potential students include radiation therapy technologists (RTTs), medical physicists/radiation oncologists in training and medical engineers working in RT departments. RTTs, physicists or engineers working for companies producing RT products will also benefit from this course.

After completion of the course the student will be able to:
- Design optimal treatment plans for IMRT, VMAT and SABR treatment techniques, using state-of-the art TP systems;
- Understand the principles of IMRT optimisation, including the influence of physical and biological factors;
- Estimate the influence of the size and position of the target volume and organs at risk on TP optimisation;
- Critically analyse the possibilities and limitations of TP systems with respect to inverse IMRT planning;

## Organizers and teachers

The course is organised by the Inholland Academy (www.inholland.nl/academy) together with the research group Medical Technology of InhU. The course directors are: Emmy Lamers and Jelle Scheurleer.

The teaching faculty consists of radiation oncologists, medical physicists and radiation therapy technologists from various centres in The Netherlands. RT-product experts from the participating vendors will also participate in the hands-on course.

## Further Information

For more information about the course please contact:
- Jelle Scheurleer e-mail: Jelle.Scheurleer@inholland.nl
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For all practical information, including accommodation and public transport from Amsterdam railway station and airport to the course venue, please contact the secretariat of the course:
e-mail: gsw.academy@inholland.nl
phone: +31-725 183 635

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| Type | Hands-on course |
| Level | post-graduate |
| Prijs | € 1100 |
| Duration | 30 OCT 2017 - 3 NOV 2017 |
| Studyload | 40 hours |
| Venue | Inholland University of Applied Sciences, Haarlem, The Netherlands. |
| Registration | http://master-miro.com/?p=192 |

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