



Medizinische Fakultät Heidelberg

Online studieren in Heidelberg – der Aufbau des Master Online „Advanced Physical Methods in Radiotherapy“ (APMR)

Marcel Schäfer
E-Learning Koordinator



MASTER ONLINE

ADVANCED PHYSICAL METHODS IN RADIOTHERAPY



APMR im Überblick: institutioneller Rahmen

- **Fach: Medizin-Physik**
- **Abschluss: Master of Science (MSc)**
- **Dauer: 4 Semester**
- **Art: weiterbildender & gebührenpflichtiger Masterstudiengang**
- **Konzept: international, englischsprachig, online, blended learning**
- **ECTS-Punkte: 120 Punkte**
 - **45 Punkte für Vorleistungen**
 - erster berufsqualifizierender Abschluss z.B. BSc
 - Mind. 2 Jahre Berufserfahrung
 - Grundkenntnisse im Bereich Medizin-Physik
 - **75 Punkte durch Studium**
 - 37,5 Punkte online (5 Online-Module)
 - 7,5 Punkte on-site (1 Praktikumsmodule)
 - 30 Punkte Masterarbeit



APMR im Überblick: zeitlicher Rahmen

Semester 1	Semester 2	Semester 3	Semester 4
M I Introduction to VLE (3 weeks)	M 3 Ion Therapy (3 months)	M 5 Advanced Dosimetry and Quality Assurance (QA) (3 months)	M T Master's thesis (6 months)
Attendance phase 1 (1 day, optional)			
M 1 Anatomy and Imaging for Radiotherapy (3 months)	Attendance phase M2, M3 (4 days)	Attendance phase M4, M5 (4 days)	
Attendance phase (1.5 days)	M 4 Image Guided Radiotherapy (IGRT) and Adaptive Radiotherapy (ART) (3 months)	M P 4 Internships Attendance phase (7-14 days)	
M 2 Intensity Modulated Radiotherapy (IMRT) (3 months)			



Didaktisches Konzept

KONSTRUKTIVISMUS

PROBLEM-
ORIENTIERTES
LERNEN

MOBILE
LEARNING

STUDIERENDEN
ZENTRIERUNG

FALLBASIERTES
LERNEN

FLEXIBLES
LERNEN

AKTIV
LERNENDE

MULTIPERSPEKTIVITÄT

KOLLABORATION
KOOPERATION



Lehrende

Studierende

APMR Team

Technik



Task:

Treatment of patients in radiation oncology is decided depending on several factors (histology, location of the tumor, treatment alternatives, radiation alone or combination with chemotherapy). The following group work including 4 clinical cases is aimed at a better understanding of treatment concepts, decision pathways and treatment planning with different radiation modalities.

You can work on the cases by yourself, or in groups of 2-3 students. Please describe briefly how you would treat the patients, what the treatment alternatives might be, and which approach using modern radiation oncology could be chosen. Please work on at least **1 of the 4** cases.

The solution to each of the cases will become available online in the next few days in M3.6 in Moodle.

Camera and Voice

Start My Webcam

Attendee List (1)

Hosts (1)

Marcel Schäfer

Presenters (0)

Participants (0)

Chat (Everyone)

Everyone

Note

11

Share

Group names:

Case 1

Case 2

Case 3

Attendee List (8)

- Veranstalter (1)
- Benutzer 1
- Moderatoren (7)
- Benutzer 2
- Benutzer 3
- Benutzer 4
- Benutzer 5
- Benutzer 6
- Benutzer 7
- Benutzer 8

Teilnehmer (0)

Camera and Voice

Benutzer 1 Benutzer 2 Benutzer 5

Chat (Alle)

Benutzer 4: Hello
Benutzer 4: looks like I am the first one
Benutzer 4: :-)
Benutzer 4: i think t was me... sorry

n.pdf

3.6 Dose Prescription Task

Case 1

65 yrs. old male patient
Presentation with elevated liver enzymes, fatigue
Liver MRT and CT showed typical mass for hepatocellular cancer (HCC)
Child Pugh B liver cirrhoses, single lesion

Comorbidities: diabetes, hypertension, COPD

1

 Dose Prescription Task



Beispiel 2: Video lectures

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Module 5.2
Basics of Dosimetry

Beam Calibration

Dosimetry Protocols

Outline of this present: 1

Learning objectives

Introduction

Introduction

Introduction

Measured Quantity: W

00:00 / 24:47

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Module 5.2
Basics of Dosimetry

Beam Calibration

Comparison of Two Time-Dependent Protocols

Prof. Günther Hartmann, PhD

German Cancer Research Center (DKFZ)

Heidelberg, Germany

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18:33

Adobe Acrobat Professional - 'Dosimetry_Protocol_print.pdf'

File Edit View Document Comments Tools Advanced Window Help

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Module 5.2
Basics of Dosimetry

Beam Calibration

Dosimetry Protocols

Prof. Günther Hartmann, PhD

German Cancer Research Center (DKFZ)

Heidelberg, Germany

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1

mp3





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all programs in Medical

otherapy" (APMR)
P)

PMR guest area to join a
city:

year

omr@uni-hd.de or use



Calendar

October 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Upcoming Events

WINTERTIME in Germany!!!
Today

Self-test M4.4
(Testschließung)
Wednesday, 30 October

Online Expert Lecture: Giesel:
topic "Limbs"
Wednesday, 6 November

Self-test M1.2 (Testöffnung)
Friday, 8 November

Online expert guest lecture:
Tom Depuydt
Tuesday, 12 November, 18:00
» 19:30

Online expert guest lecture:
Heinz Deutschmann
Thursday, 14 November, 18:00
» 19:30

Main Menu

APMR and CMP Problems
Forum

RSS Feeds

medicalphysicsweb: Newsfeed
RSNA session to discuss benefits of
next-generation modular imaging
systems

CT Lung Cancer Screening Could Save
12,000 Lives — Or More
Source site...

- APMR winter semester 2012/13
- APMR summer semester 2013
- APMR: winter semester 2013/14
- APMR guest area
- APMR: ASPCEM Area



1. APMR Problems Forum

2. APMR Team:



3. Hiwis: 40h/Monat (2-3 Personen)



- Studierende müssen an das Online-Lernen herangeführt werden.
- Betreuung der Studierenden ist wichtig, aber aufwendig.
- Lehrkräfte müssen an das Online-Lehren herangeführt werden.



Vielen Dank für Ihre Aufmerksamkeit

Kontakt:

Marcel Schäfer

m.schaefer@uni-hd.de

Skype: mschaeferskype

www.apmr.uni-hd.de