

## COURSE TYPE 3: TEACHING COURSE „PARTICLE THERAPY“ (EN, 35 TEACHING UNITS (TU); 1 TU = 45 min.)

The teaching course *Particle Therapy* is dedicated to **national** and **international** colleagues (physicians, medical physics experts or physicist) who would like to get a deeper understanding of the physics of particle therapy and its clinical application. It comprises of all **English speaking** teaching units of course type 2 (35 TUs in total). Participants will end up with a certificate of attendance, issued by the German Cancer Research Center (DKFZ) Heidelberg **which is not** relevant for the “Fachkunde Partikeltherapie” but it indicates all TUs of the course.

ONLINE, 21.10. – 27.11.2019		THU, NOV. 28 2019 (K2, DKFZ)	FRI, NOV. 29 2019 (K2, DKFZ)	SAT, NOV. 30 2019 (K2, DKFZ)
Physical basics of particle therapy (2 TU) (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	Introduction: clinical rationale for particles (1 TU) (EN) <i>Prof. Dr. Dr. Jürgen Debus, Heidelberg</i>	<b>09.00 – 09.45am</b> Adv. dosimetry and QA for particle therapy (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	<b>09.00 – 10.30am</b> Treatment Planning for Ion Beams II: Hands-on Planning (EN) <i>Dr. Hans-Peter Wieser, Munich</i> <i>Dr. Niklas Wahl, DKFZ, Heidelberg</i>	<b>09.00 – 10.30am</b> Special clinical indications I: bronchial and mamma carcinoma, CNS and HNO tumors (EN) <i>Dr. Semi Harrabi, Heidelberg</i>
Radiobiological basics of particle therapy (2 TU) (EN) <i>Prof. Dr. Christian Karger, Heidelberg</i>	Clinical particle therapy: Liver & esophagus (1 TU) (EN) <i>Dr. Semi Harrabi, Heidelberg</i>	<b>09.45 – 10.30am</b> Molecular and cellular radiation effects: How beam quality matters! (EN) <i>Dr. Peter Peschke, Heidelberg</i>	<b>10.30 – 11.00am</b> Coffee break	<b>10.30 – 10.45am</b> Coffee break
Incidents in particle therapy (1 TU) (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	Clinical particle therapy: Pancreatic and rectal cancer (1 TU) (EN) <i>Dr. Semi Harrabi, Heidelberg</i>	<b>10.30 – 11.00am</b> Coffee break	<b>11.00 – 12.30pm</b> Current technical standards and experimental technologies in particle therapy (EN) <i>Dr. Malte Ellerbrock, Heidelberg</i>	<b>10.45 – 12.15pm</b> Special clinical indications II: skull base tumors, chordoma, chondrosarcoma, sarcoma, hip tumors, lymphoma & pediatric tumors (EN) <i>PD Dr. Matthias Uhl, Heidelberg</i>
Particle therapy facilities: beam production and delivery (2 TU) (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	Case presentation: medicine (1 TU) (EN) <i>Dr. Semi Harrabi, Heidelberg</i>	<b>11.00 – 11.45am</b> IGRT for particle therapy: clinical perspective (EN) <i>Dr. Semi Harrabi, Heidelberg</i>	<b>12.30 – 01.30pm</b> Lunch break	<b>12.15 – 12.45pm</b> Coffee break
Dosimetry and QA (2 TU) (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	Case presentation: physics (1 TU) (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	<b>11.45 – 12.30pm</b> Organ Motion Management (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	<b>01.30 – 02.15pm</b> Special aspects of stochastic radiation effects of neutrons in particle therapy (neutrons) (EN) <i>Prof. Dr. Christian Karger, Heidelberg</i>	<b>02.00pm</b> Guided Tour „HIT Facility“ (optional)
Treatment Planning for Ion Beams I (2h) (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	Introduction: IGRT for particle therapy: techniques (1 TU) (EN) <i>Prof. Dr. Oliver Jäkel, Heidelberg</i>	<b>12.30 – 01.30pm</b> Lunch break	<b>02.30pm</b> Guided Tour „HIT Facility“ (optional)	
		<b>01.30 – 03.00pm</b> Advanced Radiobiology (EN) <i>Prof. Dr. Christian Karger, Heidelberg</i>		
		<b>03.00 – 03.30pm</b> Coffee break		
		<b>03.30 – 05.00pm</b> Case discussion: medicine & physics (EN) <i>Prof. Dr. Oliver Jäkel, Dr. Malte Ellerbrock &amp; Dr. Semi Harrabi, Heidelberg</i>		
		<b>06.00pm</b> Get Together Christmas Market (optional)		

*Subject to changes!*