(Concept) Program

Physics & Physiology behind Medical Technology 2023

September 18, 19, 20, October 2, 3 2023 & Comeback day on December 11, 2023

Locations:
MMC Veldhoven, MMC Eindhoven, Kempenhaeghe Heeze, UMC Utrecht,
Catharina Ziekenhuis Eindhoven, TU/e, AG Eindhoven

Day 1: Monday, September 18, 2023 [09.00-17.00 hrs.] MMC Veldhoven, Room: Josephzaal

09.00 hrs Start course day 1
MMC Veldhoven – Josephzaal
09.00 hrs Introduction
Carola van Pul (MMC, TU/e)
09.05 hrs Monitoring (1/2)
Basics of ECG, Saturation, Blood pressure
Carola van Pul (MMC, TU/e)
09.50 hrs break
10.00 hrs (2/2)
10.45 hrs break
11.00 hrs Alarm systems & AI
Medical alarm chain
Carola van Pul (MMC, TU/e)
Al for monitoring (1/2)
11.45 hrs break
12.00 hrs (2/2)
12.30 hrs lunch
MMC Veldhoven
13.30 hrs Mother and Child-lab visit
Carola van Pul (MMC, TU/e),
Deedee Kommers (MMC, TU/e) &
Tamara Klopmeijer (MMC)
15.00 hrs Pregnancy monitoring
Beatrijs van der Hout (MMC) &
CTG & Fetal heart (1/2)
Rik Vullings (TU/e)
16.00 hrs break
16.15 hrs (2/2)
17.00 hrs Closure Day 1
Carola van Pul (MMC, TU/e)
Day 2: Tuesday, September 19, 2023 [09.00-17.00 hrs.]
Morning: Kempenhaeghe, Heeze, Afternoon TU/e, Room: unknown

09.00 hrs Start course day 2
09.00 hrs **Nervous system**
Electrophysiology sensors
EEG/EMG/ENG techniques (1/2)

09.45 hrs break
10.00 hrs (2/2)
10.45 hrs break
11.00 hrs **Nervous system**
Clinical neuromonitoring
(epilepsy centre), Demo EEG and TMS (1/2)

11.45 hrs break
12.00 hrs (2/2)
12.30 hrs travelling from Heeze to Eindhoven TU/e

13.15 hrs lunch
13.45 hrs **Exercise testing**
14.45 hrs break
15.00 hrs WEB: Electronic circuit defibrillation and pacemakers
Carola van Pul (MMC, TU/e)
15.45 hrs break
16.00 hrs LIVE: Pacemakers from the perspective of a pacemaker technician
Rob Cox (MMC)
17.00 hrs Closure Day 2

Day 3: Wednesday, September 20, 2023 [09.00-17.00 hrs.]
Location: UMC Utrecht, Room: unknown

09.00 hrs Start course day 3
09.00 hrs **Digestive system**
Endoscopy (1/2)

09.45 hrs break
10.00 hrs (2/2)
10.45 hrs break
11.00 hrs **Cutting techniques**
Lasers in clinical practice (1/2)

11.45 hrs break
12.00 hrs (2/2)
12.30 hrs lunch
13.30 hrs **Drug delivery - infusion** (incl. exercise)
Annemoon Timmerman (UMCU)
13.30 hrs break
15.15 hrs **Drug delivery - infusion**
Theory & clinical applications (1/2)

15.00 hrs break
16.15 hr (2/2)
17.00 hrs Closure Day 3
Day 4: Monday, October 2, 2023 [09.00-17.00 hrs.] Location: TU/e or AGE-

09.00 hrs  Start Day 4 – Weblectures background  Location to be confirmed
09.00 hrs  Lungs  Carola van Pul (MMC, TU/e)
Mech. Ventilation
Opdracht/commission: high end ventilation (1/2)
09.45 hrs  break
10.00 hrs  (2/2)
10.45 hrs  break
11.00 hrs  Anesthesia  Ton Visser (MMC)
Anesthesia & equipment
Clinical practice in the OR (1/2)
11.45 hrs  break
12.00 hrs  (2/2)
12.30 hrs  lunch
13.30 hrs  Dialyse system  Frank Stifft (Zuyderland)
Dialyse systems & models Clinical application (1/2)
14.15 hrs  break
14.30 hrs  (2/2)
15.00 hrs  break
15.15 hrs  Dialyse system  Frank Stifft (Zuyderland)
Dialyse systems & models-Film Dialyse
17.00 hrs  Closure Day 4  Carola van Pul (MMC, TU/e)

Day 5: Tuesday, October 3, 2023 [09.00-17.00 hrs.] Location: Morning: TU/e, Helix/STW building, room t.b.c./Afternoon: Room CZE: unknown

09.00 hrs  Start Day 5  TU/e, room unknown
09.00 hrs  Cutting techniques  Eduard Meijer (MMC)
Electrosurgery theory & models
09.45 hrs  break
10.00 hrs  (2/2)
10.45 hrs  break
11.00 hrs  Cutting techniques  Peter Martens (MMC)
Electrosurgery demo
11.45 hrs  break
12.00 hrs  (2/2)
12.30 hrs  lunch  TU/e- room/restaurant unknown
Travel to CZE?? (25’?) – CZE room___
13.30 hrs  OR and its technology  Carla Kloeze (CZE)
OR equipment (1/2)
14.15 hrs  break
14.30 hrs  (2/2)
15.00 hrs  break
16.00 hrs  Tour in OR in CZE  Carla Kloeze (CZE)
17.00 hrs  Closure Day 5  Carola van Pul (MMC, TU/e)
Day 6: Monday, December 11, 2023 [09.00-17.00 hrs.] AG Eindhoven, Meerlezaal - confirmed

09.00 hrs  Start Day 6
09.00 hrs  AI in general physics applications
09.45 hrs  break
10.00 hrs  (2/2)
10.45 hrs  break
11.00 hrs  Role of QME and Clinical Physicist in healthcare
Discussion (1/2)
11.45 hrs  break
12.00 hrs  (2/2)
12.30 hrs  lunch
13.30 hrs  Presentation literature study
In groups (1/2)
14.00 hrs  break
15.00 hrs  (2/2)
15.15 hrs  lunch
15.30 hrs  Presentation literature study
In groups (2/2)
16.00 hrs  break
16.30 hrs  Discussion (2/2)
17.00 hrs  Closure Day 6 & evaluation of the course

Contributors

1. Cox, Rob
2. Dijk, Hans van
3. Hooff, Martijn van
4. Kloeze, Carla
5. Klopmeijer, Tamara
6. Kompers, Dee Dee
7. Lansbergen, Michaël
8. Martens, Peter
9. Meijer, Eduard
10. Pul, Carola van
11. Rem, Alex
12. Stift, Frank
13. Timmerman, Annemoon
14. Visser, Ton
15. Vullings, Rik

Rob Cox, MMC
Hans van Dijk, Kempenhaeghe Eindhoven
Martijn van Hooff, MMC
Carla Kloeze, Catharina Ziekenhuis E’ven
Tamara Klopmeijer, MMC
Dee Dee Kompers, MMC, TU/e
Michaël Lansbergen, ZGT, Medicta, TU/e
Peter Martens, MMC
Eduard Meijer, MMC
Carola van Pul, MMC, TU/e
Alex Rem, UMC Utrecht
Frank Stift, Zuyderland Med. Centrum
Annemoon Timmerman, UMC Utrecht
Ton Visser, Zuyderland Med. Centrum
Rik Vullings, TU/e
Locations (yet to be confirmed for 2024)

- **Academische Genootschap (zaalverhuur) Eindhoven (AGE), Eindhoven**
  Parklaan 93, Eindhoven, (GPS Fazantlaan 16)

- **Catharina Ziekenhuis Eindhoven (CZE), Eindhoven**
  Michelangelolaan 2, 5623 EJ, Eindhoven

- **Kempenhaeghe, Heeze**
  Sterkselseweg 65, 5591 VE, Heeze

- **Máxima Medisch Centrum (Location Eindhoven)**: Ds.Th. Fliednerstraat 1, Eindhoven
  **(Location Veldhoven)**: De Run 4600, Veldhoven

- **Technische Universiteit Eindhoven (TU/e), Eindhoven**
  Den Dolech 2, Eindhoven, (GPS De Zaale)
  Building Helix/STW (number 14 on the map)
  Building Flux (number 19 on the map)

- **Universitair Medisch Centrum Utrecht, (MCU), Utrecht (in 2023:) in 2024 room needs to be confirmed**
  Heidelberglaan 100, Utrecht - www.umcutrecht.nl
  Room: Vredenburgzaal

  Route: Entrance Hospital: Go left at the entrance. After about 100 metres, just after a big TV screen on the wall, you see the Room 'Vredenburgzaal' at your left-hand side.