

Project Acronym:
PROSTASONIC(ENTERPRISES/0618/0012)

Prostate cancer ablation with a 4D robotic system using thermal ultrasonic waves under MRI guidance.

Deliverable: 1.3

Title: Minutes of all group meetings.

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Date: 06/04/2020 (Version 1)
Version 2 will be delivered in the 24th month.



Ευρωπαϊκή Ένωση
Ευρωπαϊκά Διαρθρωτικά
και Επενδυτικά Ταμεία



Κυπριακή Δημοκρατία



Διαρθρωτικά Ταμεία
της Ευρωπαϊκής Ένωσης στην Κύπρο

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Executive Summary

This deliverable (D1.3) includes all the minutes of all group meetings. The date, place, participants, agenda and minutes of each meeting are mentioned.

Minutes of partners meeting 1

Name of grant: PROSTASONIC

Date: 18/06/2019 (5:00 pm – 7:00 pm)

Place: Therapeutic Ultrasound Lab, Cyprus University of Technology

Participants:

M. Giannakou (MEDSONIC),
T. Drakos (MEDSONIC),
C. Damianou (CUT),
N. Evripidou (CUT),
C. Ioannides (POLYCLINIC YGIA).

Agenda:

- 1) Introduction of participants
- 2) Overview of proposal (C. Damianou)
- 3) Management (M. Giannakou)

Minutes:

- 1) All the participants have been introduced by the coordinator.
- 2) The scientific coordinator (C. Damianou) presented the aims of the proposal, the workpackages, and deliverables.
He asked the participants to pay attention to the deadlines and set procedure for reporting of deliverables.
He presented the template of the deliverables.
He explained the details of all workpackages.
Technical tasks were assigned based on the recommendation of the scientific coordinator.
- 3) M. Giannakou presented the WP1 (management).
He presented the timesheets of the project and emphasized all the approaching deadlines.
He announced the new researchers to be hired.
He analyzed the budget allocation and the payment procedures.

The next meeting will take place roughly in 3 months from this meeting.

Minutes of all group meeting 2

Name of grant: PROSTASONIC

Date: 02/09/2019 (10:00 am – 12:00 pm)

Place: Therapeutic Ultrasound Lab, Cyprus University of Technology

Participants:

M. Giannakou (MEDSONIC),
T. Drakos (MEDSONIC),
C. Damianou (CUT),
N. Evripidou (CUT).

Agenda:

- 1) Cart version and electronic system (N. Evripidou)
- 2) PROSTASONIC robot version 1 (M. Giannakou)
- 3) Agar phantom development (T. Drakos)

Minutes:

1) N. Evripidou presented the first version of the electronic cart.
He explained in detail the different parts of the electronic cart.
He informed the participants for the progress of the electronic system.

2) M. Giannakou presented the robot version 1 of PROSTASONIC.
He explained the designed parts of the robot and the details of each part.
He introduced the robot's version 1 free movements.

3) T. Drakos presented the development of agar-based gel phantom.
He explained in detail the materials and the procedure to develop the phantom.
He explained the first experiments of the thermal conductivity estimation of the agar-based gel phantom.
He informed the participants for the upcoming experiments to observe any effect of the phantom materials on thermal conductivity and propagation speed.
He informed the participants for the upcoming phantom X-ray images that will be acquired.

The next meeting will take place roughly in 3 months from this meeting.

Minutes of all group meeting 3

Name of grant: PROSTASONIC

Date: 10/12/2019 (11:00 am – 1:00 pm)

Place: Therapeutic Ultrasound Lab, Cyprus University of Technology

Participants:

M. Giannakou (MEDSONIC),
T. Drakos (MEDSONIC),
N. Evripidou (CUT),
C. Damianou (CUT).

Agenda:

Every participant explained the stage of each deliverable for which he/she is responsible, the deliverables which have already been completed and the future work for each deliverable that has remained.

Minutes:

- 1) Project Coordinator (M. Giannakou) presented in general lines the work already done and future work.
- 2) M. Giannakou explained that the Interim report (D1.1) will be finished by July.
- 3) T. Drakos and C. Damianou informed the other members about the creation of social media (Facebook, LinkedIn, Twitter) for the Communication and outreach strategy plan (D1.4) and the material that has been posted so far. They were also informed about the creation of a newsletter.
- 4) C. Damianou informed the participants that a publication in a scientific journal (D2.1) is under preparation and a presentation at a scientific conference (D2.2) is also under preparation.
- 5) M. Giannakou did a general overview of the 4 DOF robotic system (D3.1) and explained that the robotic device with the large motors has been prepared and the robotic device with the small motors is under preparation.
- 6) M. Giannakou presented the completed ultrasonic transducer (D3.2) but it remains the design and development of the probe that will hold the transducer.
- 7) N. Evripidou explained that the Electronic driving system (D3.3) has been completed.
- 8) N. Evripidou explained that the Design of medical cart (D3.4) is under preparation.

9) T. Drakos informed the participants that the Development of Agar/silica/milk phantom (D4.1) has been prepared.

10) T. Drakos explained the progress of the MR thermometry (D4.2). The MR thermometry is under preparation using Spoiled Gradient (SPGR) echo pulse sequence.

11) N. Evripidou explained that the Software of the ultrasonic system for prostate treatment (D5.1) is under preparation. The ultrasound control part of the software has been prepared.

12) T. Drakos informed the group that the MRI compatibility of the transducer (D6.1) has been finished while the MRI compatibility of the robotic system with only one motor will be completed after the printing and wiring of the 4 DOF robotic system in January. N. Evripidou will prepare an interface for the MRI room.

13) M. Giannakou explained that the Evaluation of the accuracy of the robotic system (D6.2) can be completed after the printing and wiring of the 4 DOF robotic system. It is expected to be finished in January.

14) T. Drakos has reported that the MRI evaluation of the thermal heating of the transducer (D6.3) is under preparation for phantom and excised tissue experiments and it still requires experiments in animals.

The next meeting will take place roughly in 3 months from this meeting.

Minutes of all group meeting 4

Name of grant: PROSTASONIC

Date: 03/04/2020 (1:00 pm – 2:00 pm)

Place: Teleconference (due to coronavirus pandemic situation)

Participants:

M. Giannakou (MEDSONIC),
T. Drakos (MEDSONIC),
N. Evripidou (CUT),
C. Damianou (CUT).

Agenda:

Every participant explained the progress for the deliverable he/she is engaged. The goals-work packages achieved in the first year of the project have also been discussed. The deliverables that have already been completed during the first 12 months of the project have been presented. The work that remains to be done as well as the project plan of the second year have been discussed and shared accordingly to the participants.

Minutes:

- 1) Project Coordinator (M. Giannakou) presented the progress with work packages and deliverables of the first year of the project. He explained that the interim report has been almost prepared, and he presented the completed deliverables that will be submitted in the interim report. He also introduced the future work of the project and the project plan that will be followed during the second year.
- 2) M. Giannakou explained that the Interim report (D1.1) has been almost prepared and will be fully completed by the 12th month.
- 3) C. Damianou and T. Drakos explained that the minutes of all group meeting is prepared and that the deliverable (D1.3) is up to date.
- 4) T. Drakos and C. Damianou informed the other members about the information, material and results that have been posted in social media (Facebook, LinkedIn, Twitter) for the Communication and outreach strategy plan (D1.4). Pictures of robotic devices, electronic system, evaluation results and other material have been posted so far as explained. They were also informed about the creation of the 2nd issue of newsletter and the finalization of the project brochure.
- 5) C. Damianou informed the participants that a publication in a scientific journal (D2.1) has been already prepared and an abstract at a scientific conference (D2.2) has been also submitted. Our presence in the conference will depend on the status of the coronavirus pandemic. In the second year, another publication will be prepared and an abstract at a scientific conference will be submitted.

- 6) M. Giannakou explained that the preparation of application for CE marking (D2.5) is under preparation.
- 7) C. Damianou informed the participants that the preparation of application of clinical trial Phase-I (D2.6) is under preparation.
- 8) C. Damianou informed the participants that the commercialization plan of the project (D2.7) is under preparation. He explained that the plan will be prepared during the second year.
- 9) M. Giannakou presented the final version of the 4 DOF robotic system (D3.1) with the large motors and the 4 DOF robotic device with the small motors.
- 10) M. Giannakou informed the participants that the ultrasonic transducers (D3.2) of the project were completed in the 6th month. The probe that holds the transducer was also designed and developed.
- 11) N. Evripidou informed the participants that the Electronic driving system (D3.3) has been completed.
- 12) N. Evripidou informed the participants that the Design of medical cart (D3.4) has been finished.
- 13) T. Drakos informed the participants that the Development of Agar/silica/milk phantom (D4.1) has been completed.
- 14) T. Drakos informed the participants that the MR thermometry (D4.2) has been finished.
- 15) N. Evripidou explained that the Software of the ultrasonic system for prostate treatment (D5.1) is under preparation.
- 16) T. Drakos informed the group that the MRI compatibility of the transducer and robotic system (D6.1) has been completed.
- 17) M. Giannakou and T. Drakos explained that the Evaluation of the accuracy of the robotic system (D6.2) is under preparation. Specially designed parts will be designed, and 3D printed to be temporarily assembled in the robotic system for motion measurements.
- 18) T. Drakos has reported that the MRI evaluation of the thermal heating of the transducer (D6.3) in excised tissues has been completed while it remains the evaluation in rabbits that will be performed in the second year.
- 19) C. Damianou explained that the Evaluation of navigation algorithms for reducing the near-field heating and the treatment time (D6.4) is under preparation.

The next meeting will take place roughly in 3 months from this meeting.