

Technion: Constructing A dynamic visual conceptual model for representation of possible miscommunications between telerobotics and the medical team

Proposer : Asst. Prof. Dr. Juan Wachs, Purdue

Visited laboratory: Enterprise Systems Modeling Laboratory (ESML), Haifa, Israel

Visit Dates : 05 June to 13 June, 2013

Asst. Prof. Dr. Juan Wachs from Purdue was hosted by Prof. [Dov Dori](#) and visited the [Enterprise Systems Modeling Laboratory \(ESML\)](#) at the [Technion, Israel Institute of Technology](#) on June 5 until 13, 2013.

The main goal of this visit was to apply conceptual modeling to the world of medical telerobotics by understanding what are the key components and their interactions during surgery, and their relationship with miscommunications.

During the visit there were sessions, discussions and simulation work in which an OPM conceptual model was constructed together. This joint process helped analyzing the complex procedure and interaction in the OR.

The impact of this visit is high. With the help of the visual conceptual models it is possible to identify what components of the interaction in the OR can be automated

using cybernetics. This is the basic step to introduce robots to the OR, and it is the factual support for systems. The correct implementation of this robotic system can have direct

positive outcomes by reducing the number of surgical complications due to miscommunications.

At the end of his visit Dr. Juan Wachs concluded and said "Overall this was a very unique experience and I am very satisfied with it. I look forward for more of this type of projects!". Later in he added "I wanted to express my gratitude for making my stay at the Technion and at the lab so enjoyable. On the professional level, I enjoyed interacting with all of you, and being aware of fruitful discussions, opinions and directions coming from the faculty

and the students. I was impressed how in such a limited time, almost a full conceptual model of the OR interactions were modeled in such a high level of detail. On the personal level, I was surprised to see how friendly, kind and generous all of you were with me."

