# ICS/Pfizer Fellowship Report

## Dulce Alves de Oliveira

**Background & current work:**

My name is Dulce Oliveira, I am a recent doctorate in Biomedical Engineering from the Faculty of Engineering of the University of Porto and I work as a researcher at INEGI, Porto, Portugal.

**Location and site:**

My ICS/Pfizer Fellowship took place with Prof. Margot Damaser, Ph.D, responsible for the Urological Biomechanics Laboratory at the Lerner Research Institute, and Prof. Howard Goldman, Ph.D, MD, specialist in female pelvic medicine and reconstructive surgery in the Department of Urology, both at the Cleveland Clinic Main Campus (Cleveland, Ohio, U.S.A).

I chose this host because it is an internationally well-known Biomedical research centre devoted to investigate female pelvic floor dysfunction, with numerous publications. In addition, Prof. Damaser introduced me to Dr. Goldman for an opportunity to visit the clinic and see how urodynamic tests are performed. I am very honoured that she gave me so much support since I mentioned my wish to apply for this fellowship, providing me with an excellent opportunity to learn more about research in female pelvic floor dysfunction.

**Expectations and Learning Objectives:**

My main expectation was to interact with a highly productive group with expertise and state-of-the-art techniques in urodynamics, allowing the improvement and validation of the biocomputational models developed so far. The main goal was the improvement of the actual understanding of urodynamic biomechanics, which was fully covered.

**Specific details of learning and activities whilst on placement:**

I stayed two weeks at the Cleveland Clinic and was in contact with three different institutes: the Lerner Research Institute (Prof. Damaser), the Urology & Kidney Institute (Dr. Goldman) and the Digestive Disease and Surgery Institute (Dr. Massarat Zutshi, MD).

In the first one, I attended meetings where different topics were addressed by students and debated by all those present. I observed mesh implantation in mice and rats and realized the difficulties of proper implantation due to the size of the animal models. I also noticed the difficulty in dissecting mice and identifying the different anatomical structures. I also observed wire implantation in rats for pudendal nerve stimulation.

In the urology department, I attended meetings where recent papers of interest where debated by the doctors (physicians, residents and fellows). I observed different urodynamic tests both in men and women and realized the difficulties of the test for the patient. I also observed PTNS (percutaneous tibial nerve stimulation) in men and women and discussed with the patients its feedback from the treatment. I observed also Surgeries for sacral nerve stimulation, mesh implantation and mesh removal in women.

In the Crile building, I visited the Dr. Zutshi's department which is more focused on faecal incontinence and discussed with a specialist in anorectal manometry how the exams were performed and how the results were interpreted.

**Conclusion:**

I really enjoyed the experience and the fact that Prof. Damaser put me in touch with a lot of experts, with the intention of getting as much information during my short stay and having contacts for future partnerships. This site is a great host for those who want to focus on pelvic floor dysfunction, ranging from the diagnosis to its correction and including the latest research in animal models.

I strongly recommend these fellowships provided by ICS and Pfizer because we have the opportunity to have contact with different realities and experts in our area of interest, which without this generous financial support, would be almost impossible. I warmly thank all the people who helped and supported me during my stay in Cleveland.