

Bridge to Doctorate Meeting Minutes

September 20, 2019

Facilitator: *Godwin Dzidotor*

Minute Taker: *Luis Ortiz*

Duration: *2:00 pm – 3:00 pm*

Location: *Castleman 306*

Research: Biodegradable Piezoelectric Joint Force Sensor

- Objective
 - Measuring vital physiological pressures at the knee joint
 - Convert mechanical movement into electrical energy
- Sensor: Pill shape
 - Inserted in the femur
 - The purpose is for it to degrade inside the body
 - Avoid inflammations
 - Tests in rabbits
 - The sensors were inside the rabbits for 3 months.
 - Previous process it was important to decalcified bone. New methods have been developed.
- Details:
 - Osteoblast: Bone formation.
 - Used different methods to study how the new bone regenerate around the sensor.
- Questions:
 - What do we use the energy collected for?
 - Converted into pressure - reduce the pressure on the knee. This is important because there is no fluid flow in the implanted area (pulse electric field).
 - What material was used for the pill sensor?
 - Not sure.
 - Do we care about roughness in this design?
 - Not important.
- Conclusion
 - Implant successfully compatible with the body
 - Well tolerated - no inflammation

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Announcements

- October 25-26
 - Help in a conference (Boston)
 - Friday and Saturday
 - Looking for Volunteers
 - Bus (Transportation)
 - Friday at noon (12pm)
 - Saturday at 3pm

Next Meeting: *Roman Mays*

Minutes: *Victor Calle*

Attendees:

Goswin Dzidotor

Pierre Fils

Roman Mays

Luis Antonio

Joseph Soto Perez

I'Jazz Muhammad