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
  o Measuring vital physiological pressures at the knee joint
  o Convert mechanical movement into electrical energy

● Sensor: Pill shape
  o Inserted in the femur
  o The purpose is for it to degrade inside the body
  o Avoid inflammations
  o Tests in rabbits
  o The sensors were inside the rabbits for 3 months.
  o Previous process it was important to decalcified bone. New methods have been developed.

● Details:
  o Osteoblast: Bone formation.
  o Used different methods to study how the new bone regenerate around the sensor.

● Questions:
  o 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).
  o What material was used for the pill sensor?
    ■ Not sure.
  o Do we care about roughness in this design?
    • Not important.

● Conclusion
  o Implant successfully compatible with the body
  o Well tolerated - no inflammation
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
Jaseph Soto Perez
I’Jaaz Muhammad