



ERCIM "ALAIN BENSOUSSAN"  
FELLOWSHIP PROGRAMME



## Scientific Report

First name / Family name	Claudia / LOPEZ ZAZUETA
Nationality	MEXICAN
Name of the <i>Host Organisation</i>	NTNU
First Name / family name of the <i>Scientific Coordinator</i>	Anders / FOUGNER, Øyvind / STAVDAHL
Period of the fellowship	01/02/2019 to 30/11/2019

### I – SCIENTIFIC ACTIVITY DURING YOUR FELLOWSHIP

Development of a mathematical model of Ordinary Differential Equations to represent blood glucose dynamics for an Artificial Pancreas. Experimental data fitting, parameter estimation and identification.

### II – PUBLICATION(S) DURING YOUR FELLOWSHIP

- Lopez-Zazueta, C., Stavadahl, Ø., and Fougner, A. L., Simple Nonlinear Models for Glucose-Insulin Dynamics: Application to Intraperitoneal Insulin Infusion, IFAC Conference on Foundations of Systems Biology in Engineering (FOSBE), Valencia, Spain, 15–18 Oct 2019.
- Lopez-Zazueta, C., Stavadahl, Ø., and Fougner, A. L., Åm, M. K., A Simple Model for Double Intraperitoneal Artificial Pancreas: Parameter Calibration and Identification. (in progress)

### III – ATTENDED SEMINARS, WORKHOPS, CONFERENCES

- Workshop: Control Engineering Concepts in Systems- and Synthetic Biology Stavanger, May 20-22, 2019 (Centre for Digital Life Norway funding)
- IFAC Conference on Foundations of Systems Biology in Engineering (FOSBE), Valencia, Spain, 15–18 Oct 2019 (ERCIM funding)

## **IV – RESEARCH EXCHANGE PROGRAMME (REP)**

Inria – Saclay

Lifeware project team

07/10/2019 – 11/10/2019