## MOLECULAR COMMUNICATION IN BIOLOGICAL CELLS: FOUNDATIONAL STUDY AND DEVELOPMENT OF COMPUTATIONAL TECHNIQUES

by

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### ACKNOWLEDGMENTS

Your ack

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## Introduction

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## Background

## 2.1 Motivation

Your Motivation

## 2.2 Biological Pathways

Your Details

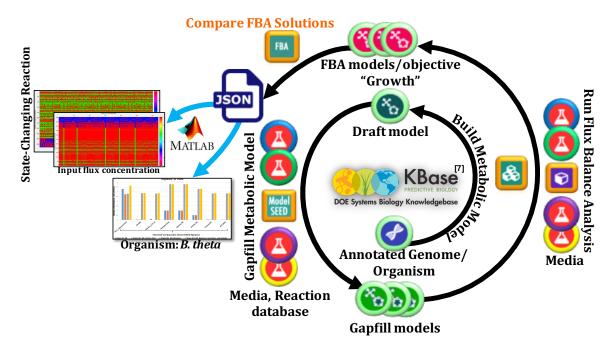


Figure 2.1: Graphical representation of the interconnection of signal transduction, gene regulation and metabolic pathways.

### 2.2.1 Signal Transduction

#### Your subsection

ll's internal biological pathways. The main challenges in achieving this goal is a follows:

- AAA
- BBB

# Molecular Communication in Cell Metabolism

Reference [?].

$$r_i \simeq \beta H ([TF^*] - K_d)$$
 if activation, (3.1)  
 $r_i \simeq \beta H (K_d - [TF^*])$  if repression;

equation reference (3.1).

## Conclusion

## 4.1 Proposed Timeline

The future research is planned in a 16-20-month timespan, and consists of the following five phases as shown in Table 4.1. This plan may be subject to changes based on the circumstances.

Table 4.1: Proposed Timeline.

rimeline				2	20	18	3	2019										
proposed Timeline	May	Summer	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Revising and submitting the papers in submission																		
Releasing and testing the performance of the app developed in the summer 2017 internship work at Dr. Henry's lab. Also coordinating with Dr. Pierobon and Dr. Henry to work on a paper based on the work completed at Dr. Chris Henry's lab																		
Works related to Signal transduction pathway will be combined and a journal paper will be submitted																		
Working on integrating signal transduction, gene regulation and cell metabolism into one cohesive abstraction and preparing a journal																		
All work completed will be assembled together, and the doctoral dissertation will be completed																		

# Bibliography