Instrumentation

Beau Trepp

Electrical, Electronic and Computer Engineering

University Of Western Australia

A thesis submitted for the degree of

Bachelor of Computer Science/ Bachelor of Electronic Engineering

2011 November

Abstract

Put your abstract or summary here, if your university requires it.

Acknowledgements

During work on this project, I recieved

TODO thank

ZeroMQ guys, Gumstix Guys

Ian Hooper Jonathan something?. Thomas

REV Team

Contents

List of Figures

LIST OF FIGURES

List of Tables

Glossary

DAPI 4',6-diamidino-2-phenylindole; a fluorescent stain that binds strongly to DNA and serves to marks the nucleus in fluorescence microscopy

DEPC diethyl-pyro-carbonate; used to remove RNA-degrading enzymes (RNAases) from water and laboratory utensils

DMSO dimethyl sulfoxide; organic solvent, readily passes through skin, cryoprotectant in cell culture

EDTA Ethylene-diamine-tetraacetic acid; a chelating (two-pronged) molecule used to sequester most divalent (or trivalent) metal ions, such as calcium (Ca^{2+}) and magnesium (Mg^{2+}), copper (Cu^{2+}), or iron (Fe^{2+} / Fe^{3+})

1

Introduction

1.1 Electric Vehicles

There are many motivating factors behind the development of electric cars. These vehicles utilze new technologies and are represent humanity moving forward in both imagination and respect for the environment.

1.1.1 Pollution

Electric vehicles are advantageous over traditional ICE vehicles as they operate with zero emissions. These vehicles have no exhaust, so therefore have no emissions. While this does not make them completely pollutant free, it does help limit and control the emissions being produced by the act of transport. It is important to remember when discussing electric vehicles that the components must be manufactured using industrial processes and the act of generation electricty. This does not making them truly carbon neutral, but helps limit the sources of pollution. It is much more easier to manage the pollution produced from one power plant, than that from thousands upon millions of vehicles.

Insulin stimulates the following processes:

- muscle and fat cells remove glucose from the blood,
- cells breakdown glucose via glycolysis and the citrate cycle, storing its energy in the form of ATP,
- liver and muscle store glucose as glycogen as a short-term energy reserve,

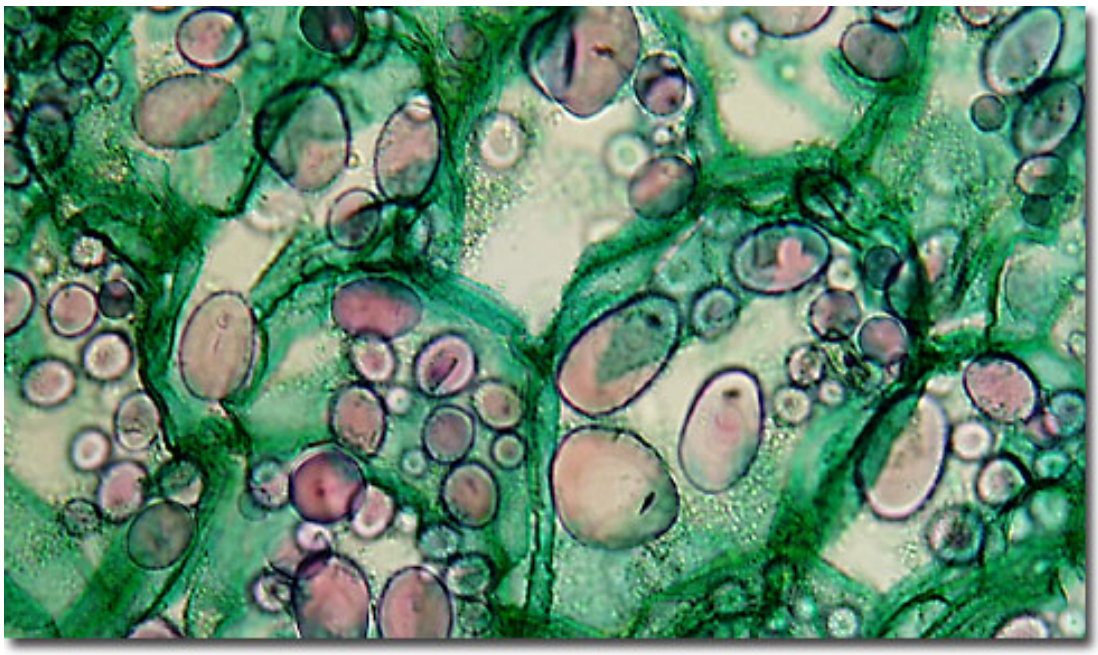

Figure 1.1: A common glucose polymers - The figure shows starch granules in potato cells, taken from Molecular Expressions.

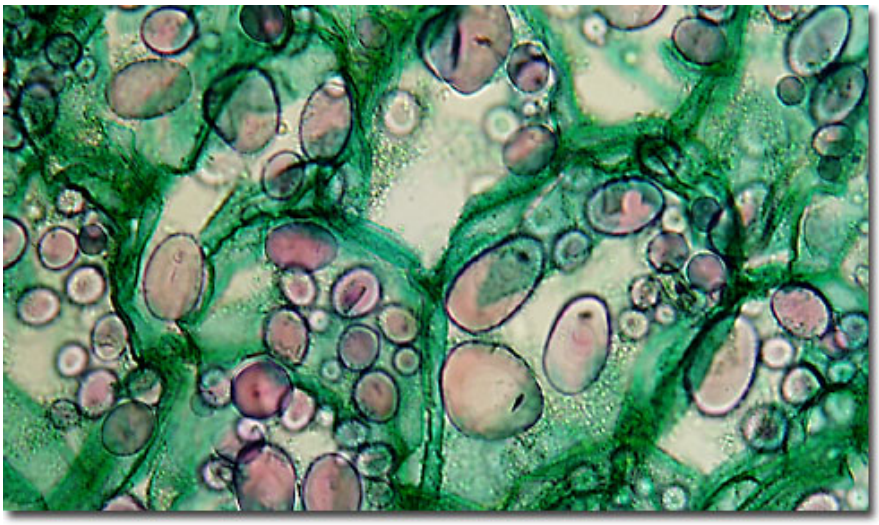

Figure 1.2: Title - Caption

- adipose tissue stores glucose as fat for long-term energy reserve, and
- cells use glucose for protein synthesis.

Gene	GeneID	Length
human latexin	1234	14.9 kbps
mouse latexin	2345	10.1 kbps
rat latexin	3456	9.6 kbps

Table 1.1: title of table - Overview of latexin genes.

2

Aims of the project

2.1 Final Aim

The Ultimate goal of the project is to investigate the viability of distrubted systems in a automotive environment. This will culminate into a completed system, provided data logging functionality and a user interface to view the live data.

2.2 Preliminary aims

Preliminary aims of the project are to.

1. Investigate messaging protocols inside a minimal embedded systems 2. Develop GPS capability 3. Develop BMS capabilty 4. Integrate this data into a user display 5. Log this data to be reviewed later

2. AIMS OF THE PROJECT

3

Discussion

4

Materials & methods

[2] Name. **Title**. *Journal of Sth*, 2006.

References

[1] Lastname. **Title**. *Journal of Sth*, 2007.

Declaration

I herewith declare that I have produced this paper without the prohibited assistance of third parties and without making use of aids other than those specified; notions taken over directly or indirectly from other sources have been identified as such. This paper has not previously been presented in identical or similar form to any other German or foreign examination board.

The thesis work was conducted from XXX to YYY under the supervision of PI at ZZZ.

CITY,