**Communicating Science (Abstract)**

Trainer: Dr. Segun Fatumo

**Task 1**

* Approx. 700 million people go to bed hungry every night
* Say, you are interested in solving a bit of this hunger pandemic
* In your PhD/postdoc, you have developed a “powerful salt-like content” - if a small content is added to a glass of water, it can make people not to be hungry for 3 days.
* This is really exciting for you, as you are contributing to knowledge
* ..but you were only able to make a few content of your magic (scientific) discovery enough for the neighbouring villages around your university.
* ..you are clear that your work is able to solve hunger problem in a small scale for a short time, but there are limitations (eg number of days)
* **Write an abstract (150 to 250 words) on this your exciting work. Please provide background, method, finding and significance/conclusion.**

Breakout room 9

Powerful salt-like content solves hunger problem in Zimbabwe

Authors: BM; RN;

Write your abstract right here (1 abstract for each breakout group). List the names of your colleagues as uthors and write your abstract eg.

**Salt-like novel content solves hunger problem in Entebbe**

**Breakout room 1**

Chisom Ezenwa Soremekun, Adebayo Glory, Tendai Washaya, Mamy Ngole, Brenda Muthoni, Pamela Emefa Selormey, Sophia Osawe,

**Background.**

**Methodology**

**Results**

**Conclusion**

Brenda Smith, Verena Kim, Jane Stone, Ralanda Chris and **Breakout Room4**

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Breakout room 10

Participants: Stephen Kanyerezi, Mariam Nakabuye, Maram Suliman, Thato Regonamamanye, Christopher Kintu, James Myers-Hansen

Title: Powerful salt like content: A solution to hunger

Background:

Globally, over 700 million people go to bed hungry daily

**Breakout room 6**

Chaimae Samtal, Clement Mlay, Fouzia , Simeon Hebrew, Tendai Muronzi, Wainjiru, Zizolusiki

**Background:**

Approximately 8.9% of the world’s population sleep hungry daily due to lack of access to food. This results in poor nutrition and inability to undertake day-to-day activities which have severe economic implications. To eradicate this phenomenon, our study proposes a novel salt-like content which upon addition to water and consumption, allows an individual to be rid of hunger for three days. This agent ,once made accessible on a global scale, will aid in the fight to eliminate world hunger.

**Method:**

Using combined research studies in food sciences and nutrition, we have developed an formula for a salt-like content

**Finding:** We developed a powerful salt-like content

**Conclusion:**

**Task 2**

Lafora disease (LD) is an autosomal recessive, fatal progressive myoclonus epilepsy caused by the abnormal buildup of insoluble glycogen, called Lafora bodies. Mutations in the gene encoding the protein laforin lead to LD. Laforin is a dual-specificity phosphatase with a carbohydrate-binding module. This enzyme is necessary for proper glycogen metabolism, but its role in the development of LD is not yet fully understood. In this study, we established a purification scheme to purify recombinant laforin and analyzed laforin to determine whether the monomer or dimer species is more physiologically relevant. Our ultimate goal is to crystallize laforin to determine its three-dimensional structure and use these insights to understand the enzyme. Human laforin is difficult to purify due to its tendency to be sequestered into inclusion bodies when expressed in E. coli. Therefore, we cloned the gene for laforin from the Gallus gallus (red rooster) genome into a bacterial expression vector and purified laforin from E. coli using a two-step purification procedure. We subjected monomeric Gallus gallus laforin to gel electrophoresis, mass spectrometry, dynamic light scattering, phosphatase and starch-binding assays. We conclude that laforin is present mainly as a monomer, remains monomeric, and has phosphatase and carbohydrate-binding activity comparable to human laforin.  Therefore, Gallus gallus laforin is an appropriate model for human laforin, and any insights we gain from it can be directly applied to human laforin. With this information we can move forward in understanding the role of laforin in the body and eventually develop treatment options for LD.“

* **Type you group number first and list the strength and limitations of this abstract.**

**Task 3**

“Biomedical experiments often require the use of live or recently deceases tissue samples. However, these tissue samples do not always get used in the experimental process, and thus go to waste. A cost effective, efficient means of best preserving skeletal muscle tissue for biophysical research is the goal of the research. Cryopreservation, or significantly dropping the temperature of a sample to essentially stop all cell function, is believed to be the best means of storing specimens. Freezing tissue samples exists as an intricate and delicate process in order for samples to maintain structural integrity. A major barrier is the formation of ice within cells. Intracellular ice will expand when frozen, tearing the cellular structure apart. Therefore, rates of freezing, level of cryopreservants and tying muscles to capillary tubes were studied. Working in Dr. Kenneth Campbell's laboratory in the Department of Physiology with Senior Lab Technician Ben Lawson, a cryopreserving solution which appears to maintain the structure of the tissue sample was search for. Also, finding a means of insulating the specimen vials to control freezing rate was performed. The samples were determined effectively stored if mechanical assays of stored tissue had no significant difference in physical properties than recently excised tissue. Results suggest that a slow freezing rate with a high rate of thawing in high concentrations of cryopreservants and being tied to capillary tubes allows for the best structurally sound samples. Finding a method of preserving tissue samples allows decreases the amount of waste due to degraded muscle tissue.”

* **Type you group number first and list the strength and limitations of this abstract.**