

1ST COLLOQUIUM ON BIOINFORMATICS, LEARNING AND TEACHING COBLET 2022, ISTANBUL

Online Introductory Bioinformatics Training for Microbiologists in Turkey

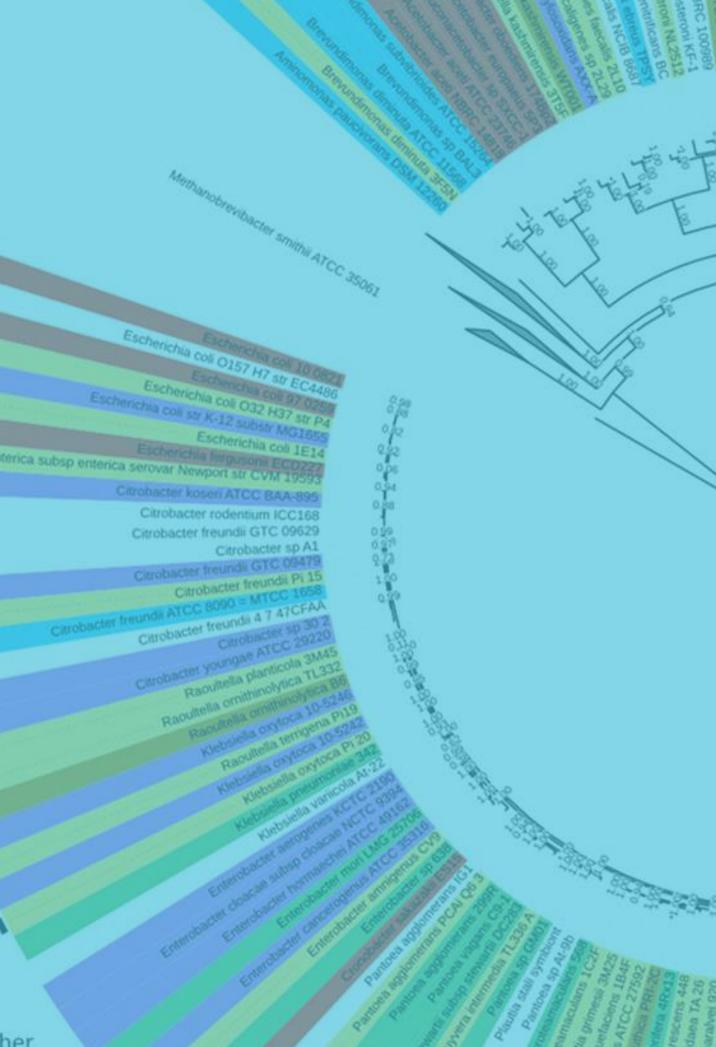
M.Sc. Vet. Med. Gültekin Ünal



Training

Main Focal Point = Microbiologists

other



WHAT IS NEEDED FOR BIOINFORMATICS ANALYSES for Microbiologists?





Computer Skills

Genomics



Data Analytics

Training Packages

Introduction to Microbial Bioinformatics	Introduction to Databases	Introduction to Com line

Data Visualisation and FAIR

Data Principles



nmand-

Introduction to R and Python



Annotation

Where can we find the training package?

https://cinnetcrash.github.io/



2 Updeciti Marcal Talasi Malasia (Scheduly (Schlarap)) - Ange Acade

A. Phosphorylation of glucose

Phosphorylated sugar moleculas do not readily penetrate cell membranes, because there are no specific transmembrane cartiers for these compounds, and because they are too potar to diffuse through the lip/d core of membranes. The irreversible phosphorylation of glucore (Figure 8.12), therefore, effectively traps the sugar as cytosolic

> ous committing it to further metabolism in the reral isozymos of the enzyme *hexokinase* that lation of glucose to glucose 6-phosphate.

It issues, the phosphorylation of glucose is *inuse*, one of three regulatory enzymes of *phosphotructokinuse*, and *pyruvate kinase*), ad substrute specificity and is able to phosexersis in addition to glucose. *Hexekinase* is *action* product, glucose 6-phosphate, which urther metabolism of this hexese phosphate ise has a low K₆ (and, therefore, a high affinicose. This permits the efficient phosphorylait metabolism of glucose even when tissue lucose are low (Figure 8.13). *Hexekinase*, v V_{max} for glucose and, therefore, cannot utar phosphate in the form of phosphorylated rylate more supars than the cell can use.

parenchymal cells and β cells of the panuse called beroking a $\Pi_{\rm cell}$ have $\Pi_{\rm cell}^{\rm out}$ is the

100 model of the permute material properties, a material and a second strain permute material properties and the permute material properties of the permute material permute materia

reactions is near presiduat protocol rate is presiduat a solidy based or a proper based in being ease framily. The popular Mobile Control is being overcontage of Mobile Control as to be protocol but with

TRAINING

Menü

Search

ANASAYFA

EGITIM MATERYALLERI

ALT BAŞLIKLAR

HAKKINDA

İrtibat İçin

İrtibat için mail adresini kullanabilirsiniz. Eğitimle ilgili katkı yapmak isterseniz github üzerinden pull request oluşturarak siz de eğitime katkıda bulunabilirsiniz. Bioinformatics for Microbiologists by Gültekin Ünal

Hoş Geldiniz...

BU SITE ÜCRETSIZ BIR ŞEKILDE SIZIN MIKROBIYAL BIYOINFORMATIK DERSLERINE ERIŞEBILMENIZ IÇIN TASARLANMIŞTIR.

Bu sitede yararlanılan tüm kaynaklar bilimsel olarak kanıtlanmış kaynaklardır. Referanslar kısmında yararlanılan makalelerin bir listesini bulabilirsiniz..

DAHA FAZLA

Ξ

Q

MIKROBIYOYAL BIYOINFORMATIK





TRAINING

cinnetcrash / Biyoinformatik_TR Public					
<> Code	⊙ Issues 🕻	່ງ Pull requests	 Actions 	🗄 Projec	
	ያ mas	ster 🚽 දී 2 k	oranches 🔊 0	tags	

Bash Scripting ile Basit Otomasyon ve Sık Kullanılan Komutlar

Komut Satırı

Kabuk, bilgisayarınızı bir grafik kullanıcı arabirimi (GUI) aracılığıyla kontrol etmek için farenizi ve klavyenizi kullanmak yerine bir klavye ile kontrol etmenizi sağlayan bir komut satırı arabirim programıdır. İlk başta garip ve zor görünebilir, ancak kabukta ustalaşmanın birçok nedeni vardır.

- erişilebilir.

 Çoğu biyoinformatik programı yalnızca komut satırından çalıştırılabilir. Dolayısıyla, genomik veya transkriptomik çalışmak istiyorsanız kabuğa aşina olmanız gerekecektir.

• Kabuk, işinizi daha verimli ve daha hızlı yapmanız için size güç verir. Bu, tekrarlanabilir bir araştırma programı geliştirmeye yönelik ilk adımdır.

Bulut bilgisayarlarına yalnızca komut satırı arabirimleri üzerinden

Challenges

This training package, prepared in line with the needs of these researchers who do not have a computer science background, will also be published on GitHub, a platform that can be easily followed and accessed at any time for those who want to work in this field. This free online program package includes training for these topics as follows;

Introduction to Microbiological Bioinformatics, Introduction to Databases, Introduction to Command-line, Introduction to R and Python, Sequencing Technologies and Outputs, Quality Control, Assembly/Mapping, Annotation, Data Visualization, interpretation, and FAIR principles.

CONCLUSIONS

It has been observed that the number of individuals/institutions that can use some end user-systems that can convert the data obtained from studies in the field of microbial bioinformatics into reliable, reproducible and analytical results in Turkey is insufficient and the number of those who want to conduct such research in the field of microbiology and training for those researchers should be increased.

All materials will be published in Turkish to make education more accessible, especially in Turkey (late this year).

References

- 1. Maria Victoria Schneider, James Watson, Teresa Attwood, Kristian Rother, Aidan Budd, Jennifer McDowall, Allegra Via, Pedro Fernandes, Tommy Nyronen, Thomas Blicher, Phil Jones, Marie-Claude Blatter, Javier De Las Rivas, David Phillip Judge, Wouter van der Gool, Cath Brooksbank, Bioinformatics training: a review of challenges, actions and support requirements, Briefings in Bioinformatics, Volume 11, Issue 6, November 2010, Pages 544-551
- 2. Hall CR, Griffin PC, Lonie AJ, Christiansen JH (2021) Application of a bioinformatics training delivery method for reaching dispersed and distant trainees. PLoS Comput Biol 17(3): e1008715

Mail Adress: gultekinnunal@gmail.com