



Mais informações:

<https://labbces.cena.usp.br/project/sagb/>

Seminário de Afinidades em Genômica e Bioinformática (SAGB)

21 de outubro de 2026



ESALQ

Introdução ao seminário

<https://labbc.es.netlify.app/project/sagb/>

Agenda

Periodicidade e local: Dois encontros por ano. Tentaremos realizar um encontro no CENA/USP, e outro ESALQ/USP.

Metodologia: Em cada encontro duas pessoas liderarão a discussão do artigo selecionado.

Objetivos

- Criar um espaço de conversa informal e aberto a todos os alunos (graduação e pós-graduação) e pesquisadores do campus LQ, e pessoas externas, em temas relacionados a Genômica e Bioinformática.
- Servir como um instrumento para difundir o interesse e conhecimento de Genômica e Bioinformática no campus LQ
- Fomentar as relações inter-pessoais entre pesquisadores e alunos das duas unidades do campus LQ: CENA e ESALQ

Organização

- Prof. Dr. Claudia Vitorello (ESALQ)
- Prof. Dr. Douglas Silva Domingues (ESALQ)
- Prof. Dr. Diego M. Riaño-Pachón (CENA)

“Bioinformática na selva da IA: um guia de sobrevivência”

Dr. Jorge Mario Muñoz Perez e Dr. Matheus Henrique Pimenta Zanon

PLOS COMPUTATIONAL BIOLOGY

EDUCATION

Ten quick tips for harnessing the power of ChatGPT in computational biology

Tiago Lubiana^{1*}, Rafael Lopes², Pedro Medeiros³, Juan Carlo Silva¹, Andre Nicolau Aquime Gonçalves⁴, Vinicius Maracaja-Coutinho^{5,6,7,8,9}, Helder I. Nakaya^{1,10*}

1 School of Pharmaceutical Sciences, University of São Paulo, São Paulo, Brazil, **2** Department of Epidemiology of Microbial Diseases and Public Health Modeling Unit, Yale School of Public Health, New Haven, Connecticut, United States of America, **3** TauGC Bioinformatics, São Paulo, Brazil, **4** Oxford Vaccine Group, University of Oxford, Oxford, United Kingdom, **5** Advanced Center for Chronic Diseases, Universidad de Chile, Santiago, Chile, **6** Centro de Modelamiento Molecular, Biofísica y Bioinformática—CM2B2, Facultad de Ciencias Químicas y Farmacéuticas, Universidad de Chile, Santiago, Chile, **7** ANID Anillo ACT210004 SYSTEMIX, Rancagua, Chile, **8** Anillo Inflammation in HIV/AIDS—InflammAIDS, Santiago, Chile, **9** Beagle Bioinformatics, São Paulo, Brazil & Santiago, Chile, **10** Hospital Israelita Albert Einstein, São Paulo, Brazil

PLOS Computational Biology

EDUCATION

Ten simple rules for optimal and careful use of generative AI in science

Mohamed Helmy^{1,2,3,4,5*}, Lingling Jin³, Amr Alhossary⁶, Tamer Mansour^{7,8}, Diogo Pellagrini⁹, Kumar Selvarajoo^{5,9,10,11}

1 Vaccine and Infectious Diseases Organization (VIDO), University of Saskatchewan, Saskatchewan, Canada, **2** Vaccinology and Immunotherapeutics Program, School of Public Health, University of Saskatchewan, Saskatchewan, Canada, **3** Department of Computer Science, University of Saskatchewan, Saskatchewan, Canada, **4** Department of Computer Science, Idaho State University, Boise, Idaho, United States of America, **5** Bioinformatics Institute (BI), Agency for Science, Technology and Research (A*STAR), Singapore, Republic of Singapore, **6** Chemistry Department, Wesleyan University, Middletown, Connecticut, United States of America, **7** Department of Population Health and Reproduction, University of California, Davis, California, United States of America, **8** Department of Clinical Pathology, College of Medicine, Mansoura University, Mansoura, Egypt, **9** Synthetic Biology Translational Research Program, Yong Loo Lin School of Medicine, National University of Singapore (NUS), Singapore, Republic of Singapore, **10** Synthetic Biology for Clinical and Technological Innovation (SynCTI), National University of Singapore (NUS), Centre for Life Sciences #02-07, Singapore, Republic of Singapore, **11** School of Biological Sciences, Nanyang Technological University (NTU), Singapore, Republic of Singapore

Ten quick tips for harnessing the power of ChatGPT in computational biology

Tiago Lubiana^{1*}, Rafael Lopes², Pedro Medeiros³, Juan Carlo Silva⁴, Andre Nicolau Aquino Gonçalves⁵, Vinicius Maracaja-Coutinho^{6,7,8,9}, Helder I. Nakaya^{10*}

¹ School of Pharmaceutical Sciences, University of São Paulo, São Paulo, Brazil, ² Department of Epidemiology of Microbial Diseases and Public Health Modeling Unit, Yale School of Public Health, New Haven, Connecticut, United States of America, ³ TauGC Bioinformatics, São Paulo, Brazil, ⁴ Oxford Vaccine Group, University of Oxford, Oxford, United Kingdom, ⁵ Advanced Center for Chronic Diseases, Universidad de Chile, Santiago, Chile, ⁶ Centro de Modelamiento Molecular, Biofísica y Bioinformática—CMMS2, Facultad de Ciencias Químicas y Farmacéuticas, Universidad de Chile, Santiago, Chile, ⁷ ANID Anillo ACT210004 SYSTEMIX, Rancagua, Chile, ⁸ Anillo Inflammation in HIV/AIDS—InflammAIDS, Santiago, Chile, ⁹ Beagle Bioinformatics, São Paulo, Brazil & Santiago, Chile, ¹⁰ Hospital Israelita Albert Einstein, São Paulo, Brazil

Ten Quick Tips for ChatGPT in Computational Biology

Be ready for novelty (Tip 1)

Keep an eye open for new AI tools.
Try them out. It is worth it.

For you



Check the output (Tip 7)

Don't trust ChatGPT blindly
You become responsible, forever,
for what you have generated.

Don't become dependent (Tip 10)

Watchout for outages and price surges.
Make sure people in your lab keep
interacting with other humans.

Engineer prompts (Tip 8)

Give it clear contexts and
objective tasks to make sure
you are understood.

Understand the API (Tip 9)

Consider adding GPT processing
to your bioinformatic applications.

Document scripts (Tip 2)

- Add comments to this code:
- Change variable names for clarity.

For work



Code efficiently (Tip 3)

- Extract functions where possible:
- Parallelize this loop:

Write better text (Tip 6)

- Summarize the text in 200 words:
- Rephrase this sentence:

Cleanup data (Tip 4)

- Write a regex to remove weird characters.
- Make these drug names consistent:

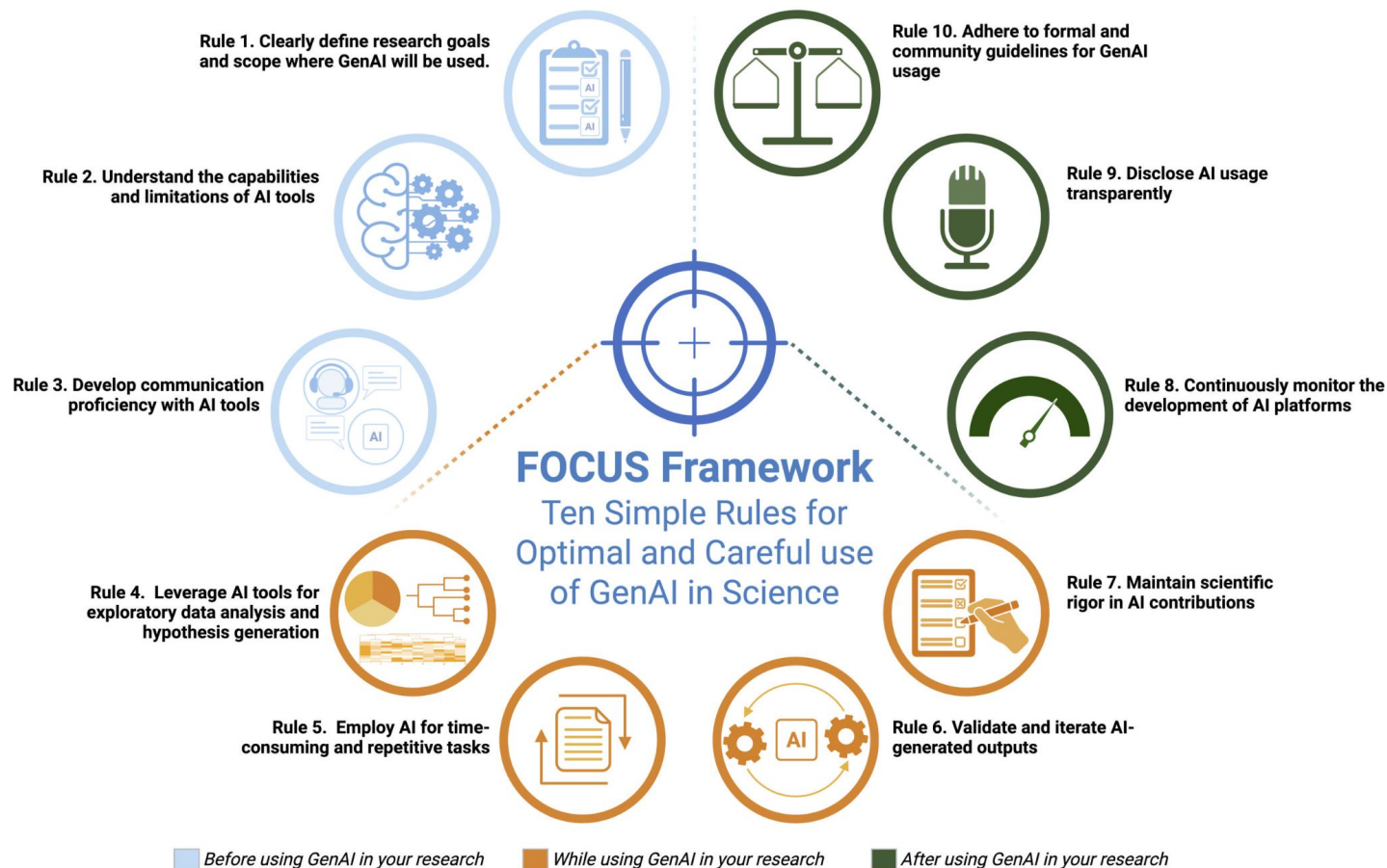
Improve dataviz (Tip 5)

- Make this plot colorblind friendly:
- In ggplot2, make X labels oblique:

Ten simple rules for optimal and careful use of generative AI in science

Mohamed Helmy^{1,2,3,4,5,6}, Lingling Jin⁷, Amr Alhossary⁸, Tamer Mansour⁹,
Diogo Pellagrini¹⁰, Kumar Selvarajoo¹¹

1 Vaccine and Infectious Diseases Organization (VIDO), University of Saskatchewan, Saskatchewan, Canada, **2** Vaccinology and Immunotherapeutics Program, School of Public Health, University of Saskatchewan, Saskatchewan, Canada, **3** Department of Computer Science, University of Saskatchewan, Saskatchewan, Canada, **4** Department of Computer Science, Idaho State University, Boise, Idaho, United States of America, **5** Bioinformatics Institute (BI), Agency for Science, Technology and Research (A*STAR), Singapore, Republic of Singapore, **6** Chemistry Department, Wesleyan University, Middletown, Connecticut, United States of America, **7** Department of Population Health and Reproduction, University of California, Davis, California, United States of America, **8** Department of Clinical Pathology, College of Medicine, Mansoura University, Mansoura, Egypt, **9** Synthetic Biology Translational Research Program, Yong Loo Lin School of Medicine, National University of Singapore (NUS), Singapore, Republic of Singapore, **10** Synthetic Biology for Clinical and Technological Innovation (SynCTI), National University of Singapore (NUS), Centre for Life Sciences #02-07, Singapore, Republic of Singapore, **11** School of Biological Sciences, Nanyang Technological University (NTU), Singapore, Republic of Singapore



Seminário de Afinidades em Genômica e Bioinformática (SAGB)

Obrigado!

