

Who am I?

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GROUP ACTIVITY

Best practices and recommendations for genomics research in wildlife diseases.



2017: Horizon Scan



**American
Genetic
Association**

Journal of Heredity, 2019, 261–274

doi:10.1093/jhered/esz001

Perspective

Advance Access publication January 12, 2019

Perspective

The Expectations and Challenges of Wildlife Disease Research in the Era of Genomics: Forecasting with a Horizon Scan-like Exercise

Robert R. Fitak^{*}, Jennifer D. Antonides, Eric J. Baitchman, Elisa Bonaccorso, Josephine Braun, Steven Kubiski, Elliott Chiu, Anna C. Fagre, Roderick B. Gagne, Justin S. Lee, Jennifer L. Malmberg, Mark D. Stenglein, Robert J. Dusek, David Forgacs, Nicholas M. Fountain-Jones, Marie L. J. Gilbertson, Katherine E. L. Worsley-Tonks, W. Chris Funk, Daryl R. Trumbo, Bruno M. Gherzi, Wray Grimaldi, Sara E. Heisel, Claire M. Jardine, Pauline L. Kamath, Dibesh Karmacharya, Christopher P. Kozakiewicz, Simona Kraberger, Dagan A. Loisel, Cait McDonald, Steven Miller, Devon O'Rourke, Caitlin N. Ott-Conn, Mónica Páez-Vacas, Alison J. Peel, Wendy C. Turner, Meredith C. VanAcker, Sue VandeWoude, and Jill Pecon-Slaterry



2018: Best Practices



Retroviral resistance in a re-discovered tarsier species



Vector-borne bacterial outbreak in indigo snakes

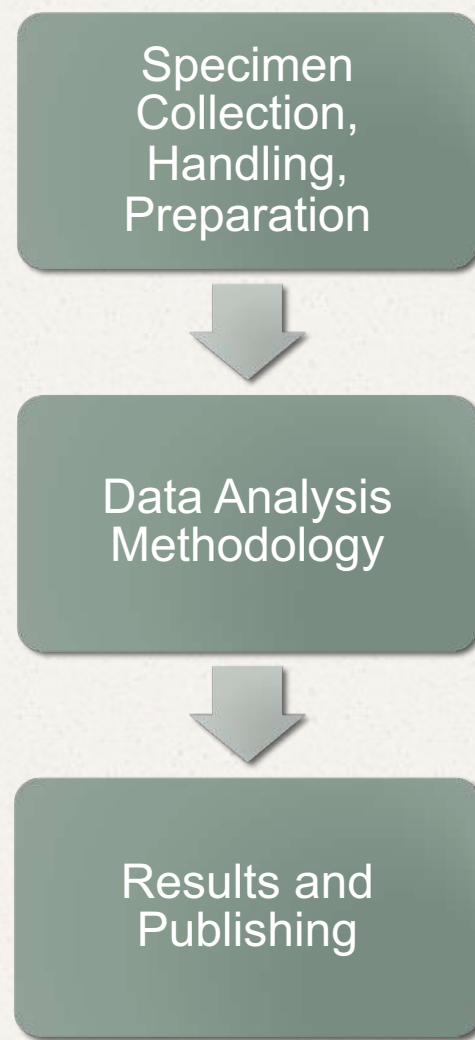


Permafrost pathogen outbreak!



Viral biocontrol of an invasive rat species

2018: Best Practices



2019: PROJECT ROULETTE



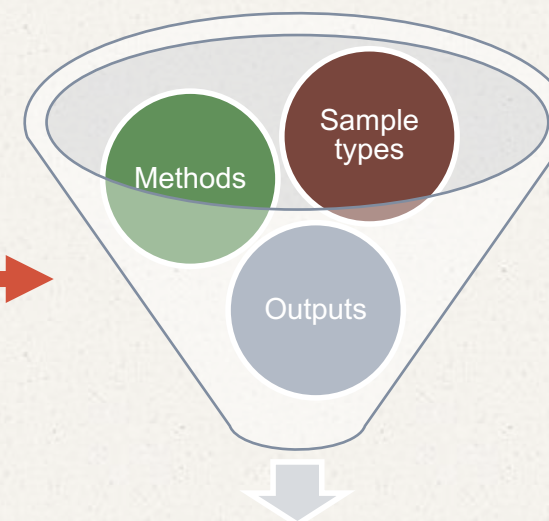
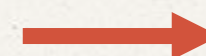
Pathogen resistance in a re-discovered tarsier species



Vector-borne disease outbreak in indigo snakes



Permafrost pathogen outbreak!



Project Design

Project Roulette

Samples

fresh tissue

non-invasive

Technology

MiSeq

NovoSeq

Oxford
Nanopore
(Gridion/Minion)

Output

\$\$\$ for data and
open access
publication costs

no \$\$\$

Etiological Agent

bacterium

virus

fungus

it's a PRION!



Tentative Schedule

- Sunday June 2
 - Meet your group
 - Vote on Projects
 - Pick project attributes
- June 3, 4, 5
 - Break into groups
 - ~30 minutes to discuss and outline your project
- Saturday morning, June 8
 - Group Presentations
 - Assess recommendations 'shared' across projects, and those unique to different projects



Randomly Assigned Groups

Group 1

- Borland, Neddermeyer, Johnson, Kuthyar, Goldsmith

Group 2

- Verdugo, Anderson, Bruce, Garwood, Crane

Group 3

- Mistrick, Lee, Maly, Yates, Valdivieso

Group 4

- Barandongo, Wright, Diss, Wild, Calatayud



2019: Project Roulette



Pathogen resistance in a re-discovered tarsier species



Vector-borne disease outbreak in indigo snakes



Permafrost pathogen outbreak!

Presentations (essentially, a study proposal)

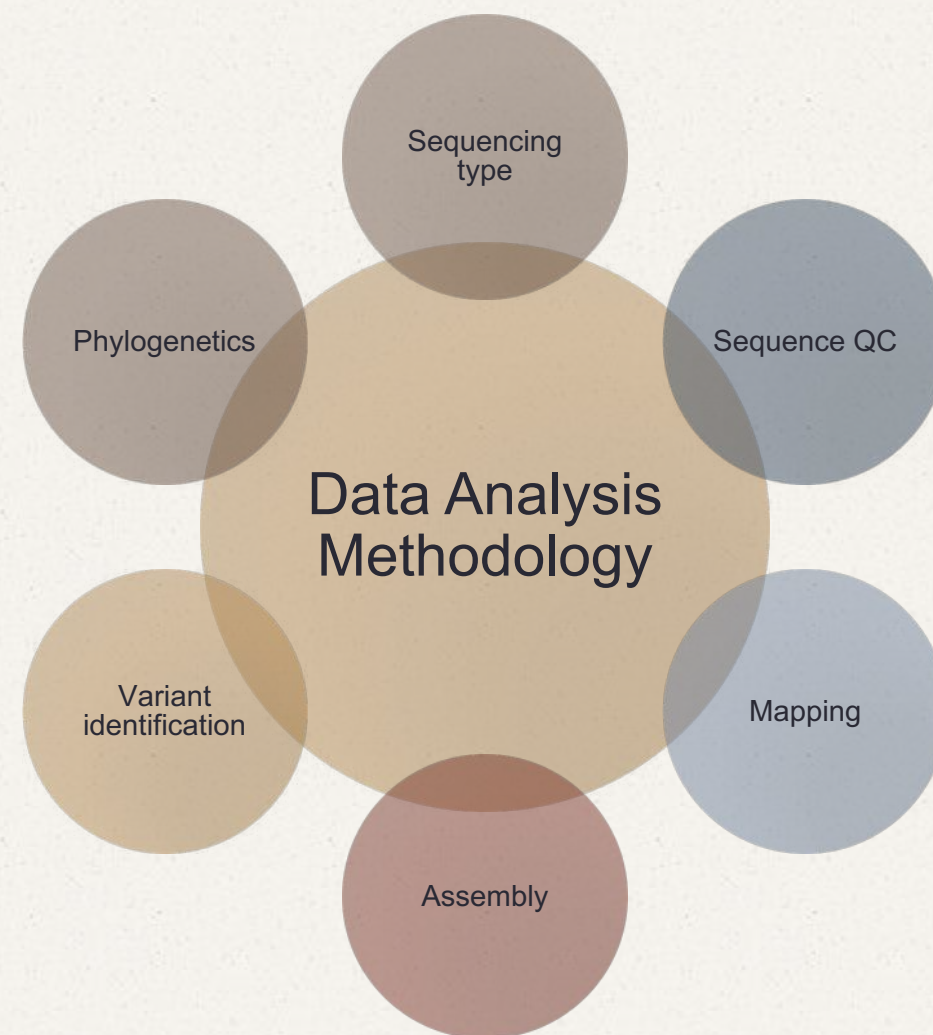
- What is your group's specific scenario?
- What are your questions?
- Study design
 - Sample types
 - Sequencing
 - Types of analyses?
- Research dissemination
 - Where will you publish?
 - How will you make your data and analyses available?



Day 1



Day 2



Day 3

