Leonelli, S. Philosophy of Biology: The challenges of big data biology. *eLife 2019;8:e47381*. https://doi.org/[10.7554/eLife.47381](https://doi.org/10.7554/eLife.47381)

Fillinger, S., de la Garza, L., Peltzer, A. *et al.* Challenges of big data integration in the life sciences. *Anal Bioanal Chem* **411,** 6791–6800 (2019).<https://doi.org/10.1007/s00216-019-02074-9>

* In your own words, what is “big data”?

* Based on what you know about the SEA-PHAGES program, will we be using big data, why or why not?
* What limitations do you think exist for working with big data?
* Why has the analysis of big data become an important aspect of scientific research?
* What are some of the challenges of using big data in research?
* How do you think big data analysis applies to annotating a phage genome?
* In addition to genomics what are some other fields of study, either within or outside of biology, that utilizes big data?
* What are some of the challenges commonly faced when utilizing big data sets?
* What does Fillinger et al. (2019) suggest as the “true potential” of big data?
* Why does Leonelli (2019) consider data “relational”?
* Give an example of how SEA-PHAGES links its data to the physical samples from which the data were originally collected. What benefit is this link as suggested by Leonelli (2019)?
* Leonelli (2019) states that the increasing power of computational algorithms requires a proportional increase in critical thinking. Why do you agree or disagree with this ascertain? Or do you think that the power of computational algorithms is unrelated to critical thinking?
* Leonelli (2019) discusses the philosophy of science. What do you think the philosophy of science entails and have you ever thought of science from that perspective before?