

- I. Intro
  - A. Bac. of interest chosen because it produces one of the most poisonous substances known, botulinum toxin.
  - B. Given forward and reverse reads of *Clostridium botulinum* genetic material. I want to use a high-quality assembly so that I can annotate the genome.
- II. Methods
  - A. Assemble genome with two different assemblers
    - 1. Abyss and Spades
    - 2. Take the reads and try to put them together into one big piece
  - B. Assess quality using Quast
    - 1. Run scaffold output from Abyss and Spades
  - C. Annotate the genome using two different annotators
    - 1. Use scaffold output from Abyss and Spades
- III. Results/Conclusions
  - A. Compare quality of our two different assemblers

	Quality assessment using QUAST					Genome Annotation	
	N50	L50	Largest contig	# contigs	GC%	CDS Prokka	CDS Rast
<b>Abyss</b>	550,747	3	1,095,256	24	27.78	4,100	4,242
<b>Spades</b>	467,820	4	993,415	26	27.75	4,096	4,258

- B. Even though Abyss had slightly better metrics for alignment completeness and contiguity, Spades had about the same number of coding sequences (CDS). Additionally, we see that Rast was able to identify slightly more CDS than Prokka, regardless of data input.