

DNA Investigations: Computer-based Case Studies

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Your students need to know about DNA sequencing and bioinformatics (DNA analysis). Why? Any student considering a career in biology will use DNA sequencing as a tool to answer biological questions. But it isn't just biology students who will need to understand the power and subtleties of DNA sequencing and analysis. It will not be long before DNA sequencing becomes routine when visiting the doctor. Further, many inexpensive services will sequence your DNA for you, giving you ancestral and medical information directly from your genome. In this mini-workshop, you will work through a computer-based case study using DNA sequences to answer biological questions. You will be introduced to several other case studies and learn how to teach them in your classes. These case studies (<http://www.stcnm.org/resources/>) can be presented in the classroom with any device with a browser and internet access. Though we have successfully run some of these case studies in the K-12 environment, this workshop will be targeted to undergraduate education. Come examine DNA sequences to figure out which microbes are hanging out at school, whether Parmesan cheese made in Parma is really different from other Parmesan cheeses, identify fish fraud, and track murder!

Keywords: case studies, DNA bioinformatics, DNA sequencing

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