

UNIVERSITE OUAGA I Pr Joseph KI-ZERBO  
Office du Baccalauréat

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Séries C - D

Année 2017  
Session Normale  
Epreuve du 1<sup>er</sup> tour  
Durée : 2 heures  
Coefficient : 2

## EPREUVE ECRITE D'ANGLAIS

**Cette épreuve comporte deux (2) pages**

### Bas-Congo virus

In 2009, two teenagers in the Democratic Republic of Congo showed up at their village health clinic, vomiting and with blood in their noses and mouths – hemorrhagic symptoms of the notorious Ebola viruses. In three days they were dead. Yet it took three years for researchers to unmask the likely culprit: a brand-new virus called Bas-Congo, which is not related to Ebola or any other virus known to cause severe hemorrhagic fever.

It can take weeks or months to identify a novel virus, and much longer if the sample must be sent to a specialized lab, as the Bas-Congo virus was. Such latenesses are too long, says virologist Charles Chiu, director of the Viral Diagnostics and Discovery Center at the University of California in San Francisco. Deciphering a virus's genetic code is the critical first step in determining how fast it might spread, identifying possible treatments and even finding vaccines. Viruses like the one that killed the Congolese teens can quickly go global, and traditional methods for identifying viruses, which only test for one pathogen at a time, could mean sacrificing untold lives.

But Chiu and his colleagues have found a way to speed up virus identification—a method they hope will one day help health care workers in remote areas identify new viruses as soon as they appear, as long as they are able to access the Web.

Typically, it takes three months to piece together a complete viral genetic code. The new process can identify an unknown virus in less than two hours, and Chiu's team can put together the entire genetic code of a virus in a single day.

Chiu and his team hope to put their virus-identifying system on the Web so health workers anywhere can access it.

Chiu's vision: when patients show up at a clinic with an unknown pathogen, health care workers could take blood samples and run DNA sequences onsite, then use smartphones or laptops to feed the results to an online network that would deliver results in minutes.

Adapted from Cameron Walker, "The Race to Peg a Virus" in Discover, December 2013, p. 20.

Guided commentary

- 1) Relying on the text, enumerate two symptoms of the disease which killed the Congolese teenagers. (2 points)
  - 2) Basing on the text, say, in your own words, why it took three years to identify the Bas-Congo virus. (3 points)
  - 3) According to the text, how do scientists proceed when they discover a new virus? (4 points)
  - 4) Referring to the text, what are the benefits of Chiu's findings for health professionals? (5 points)
  - 5) In your opinion, how can transmissible diseases be prevented in your country? (6 points)
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