

Ariana Teleaga

ariana.teleaga@live.warwick.ac.uk

Alex N. Baker

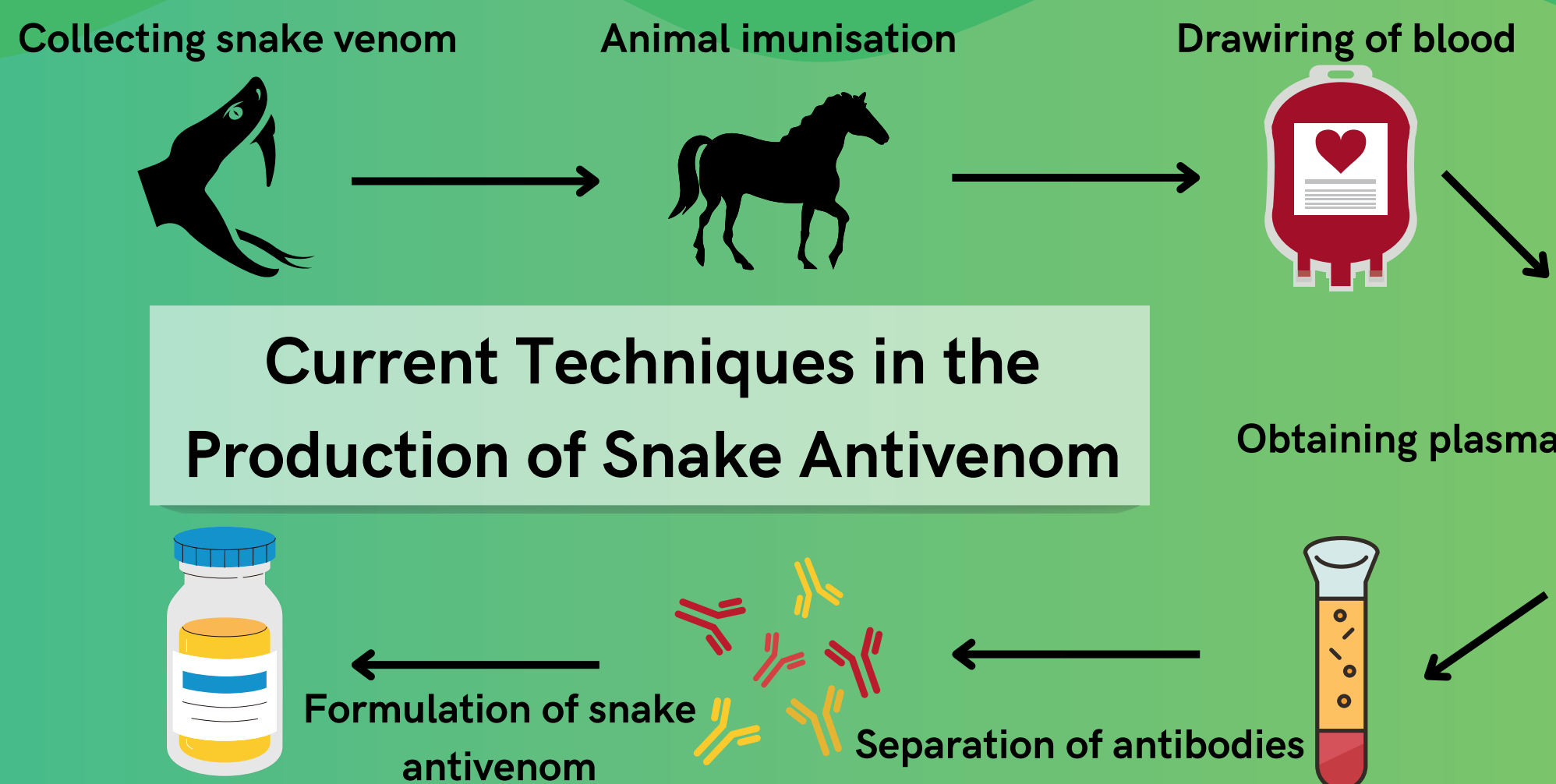
## Current issue and our solution

**81,000 - 138,000 deaths annually due to snake bites**

Impoverished populations living in rural tropics are particularly vulnerable

The current method of producing snake antivenom is costly, time-consuming, and unaffordable for those in poverty

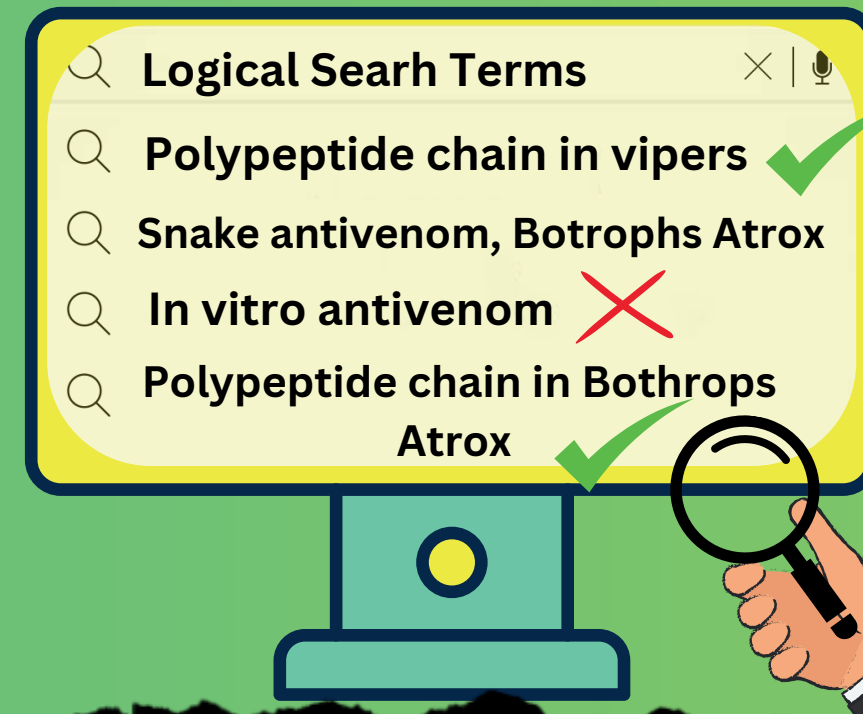
Our goal is to create a fast, affordable, cruelty-free synthetic antivenom accessible to all.



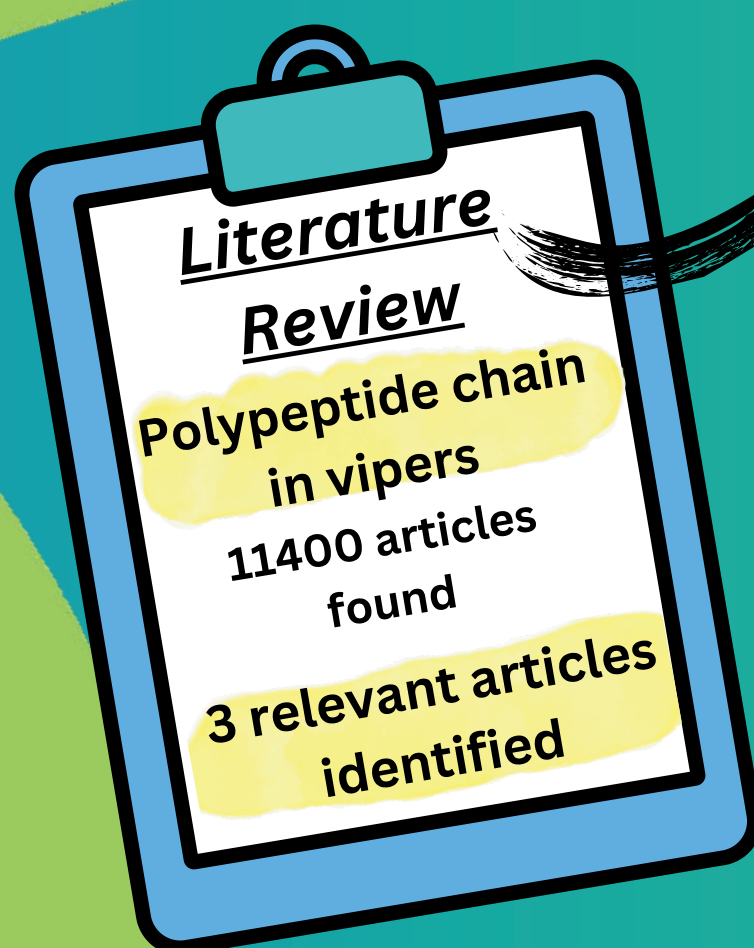
## Developing Effective Search Terms for Research on Synthetic Antivenom Production

### 1. Finding key search terms

The most important part was starting correctly, as it made the rest of the study easier. To find the most relevant information, it was necessary to identify the right search terms. Different keyword combinations were tried first, followed by a quick review of the results to assess how many relevant articles each combination produced. After selecting the relevant articles, more combinations were tested. Though it was a lengthy process, the effort proved worthwhile



### 2. Literature Review



#### Literature Review

The next step after identifying the appropriate search terms was to conduct a literature review based on the papers yielded by those key terms. This process involved three stages of selection:

1. Reviewing the titles of each paper to determine their relevance
2. Reading the abstracts of the selected papers and further narrowing down the selection by setting aside the most relevant ones
3. Thoroughly reading the full papers to decide which were fully relevant to the research

### Relevant articles

*Lomonte B, Calvete JJ. Snake venomomics' aiming at an integrative view of compositional, functional, and immunological characteristics of venoms.*



*F. Sanchez. Exploring the proteomes of the venoms of the Peruvian pit vipers Bothrops atrox, B. barnetti and B. pictus*

### 3. Significant Discovery

## Current Progress

Research has evolved from just cataloging venom components (proteomics/venomics) to a broader study of how they function in immunological antivenomics, giving us a clearer view of the dangerous proteins produced by venomous snakes. In the future, antivenomics is expected to improve further, with better techniques to pinpoint how antibodies recognize and neutralize toxins. This includes identifying key parts of toxins through methods like epitope mapping using synthetic peptides. There's still plenty of room for creative improvements, offering new opportunities and ideas.

## References

1. Lomonte B, Calvete JJ. ,2017 , J Venom Anim Toxins ,23, 26.
2. M. Kohlhoff ,M. H. Borges, C. Cabezas , 2012, J. of Proteomics, 75,2181-2195.