

THE  
NOBEL  
PRIZE

# CHEMISTRY PRIZE 2020

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Genetic scissors: a tool  
for rewriting the code of life

# The Nobel Prize in Chemistry

“to the person who made the most important chemical discovery or improvement”



# Who is rewarded with the Chemistry Prize?

People who have made discoveries or improvements that have given us knowledge about the structure of various substances and how they are created and changed.



## 2020 Chemistry Prize

The prize is awarded for the discovery of one of gene technology's sharpest tools.



# The 2020 Chemistry Laureates

"for the development  
of a method for  
genome editing"



Emmanuelle Charpentier  
Born: 1968, France



Jennifer A. Doudna  
Born: 1964, USA

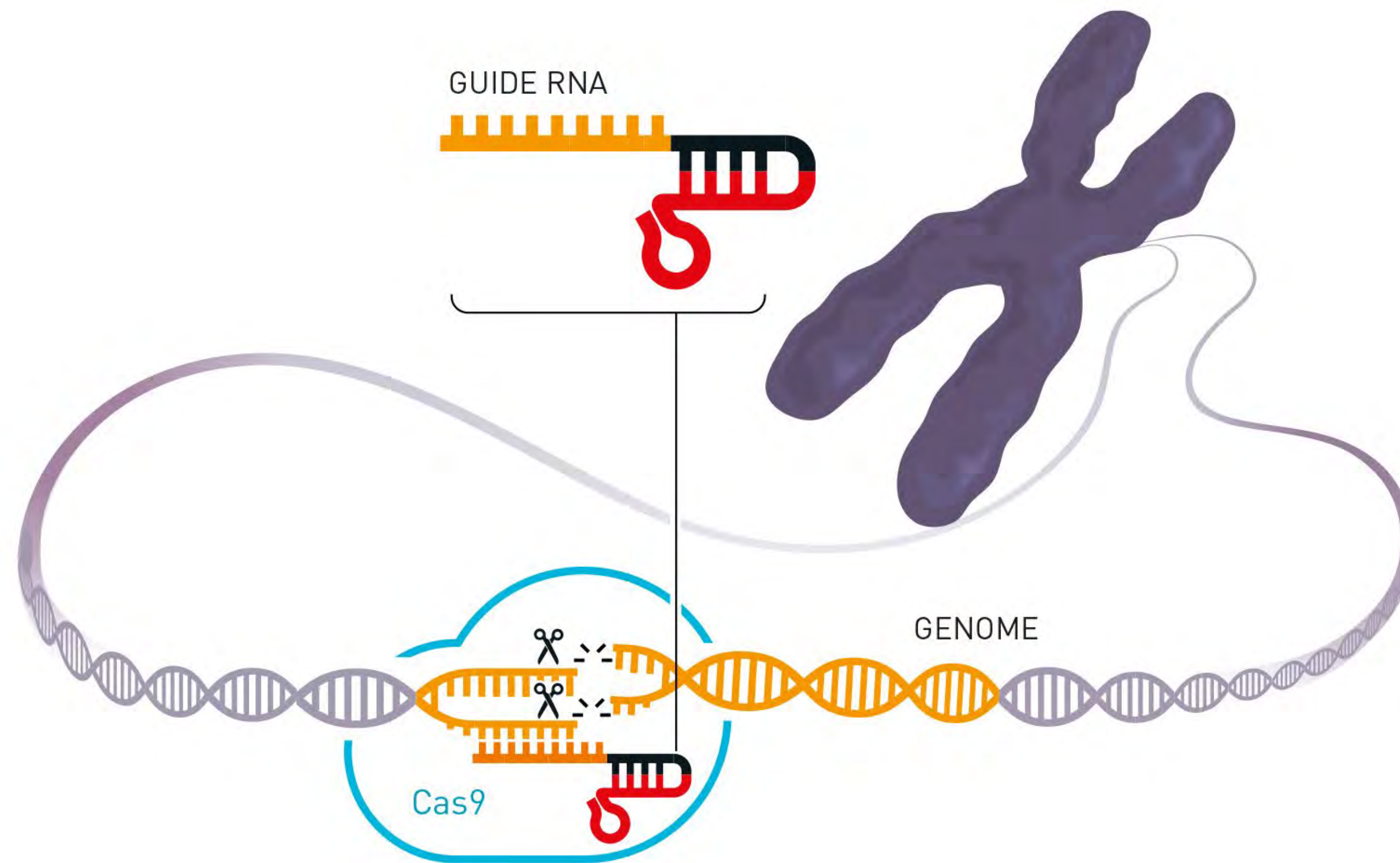
# Bacteria have an ancient immune system

Emmanuelle Charpentier, one of the laureates, in her laboratory.

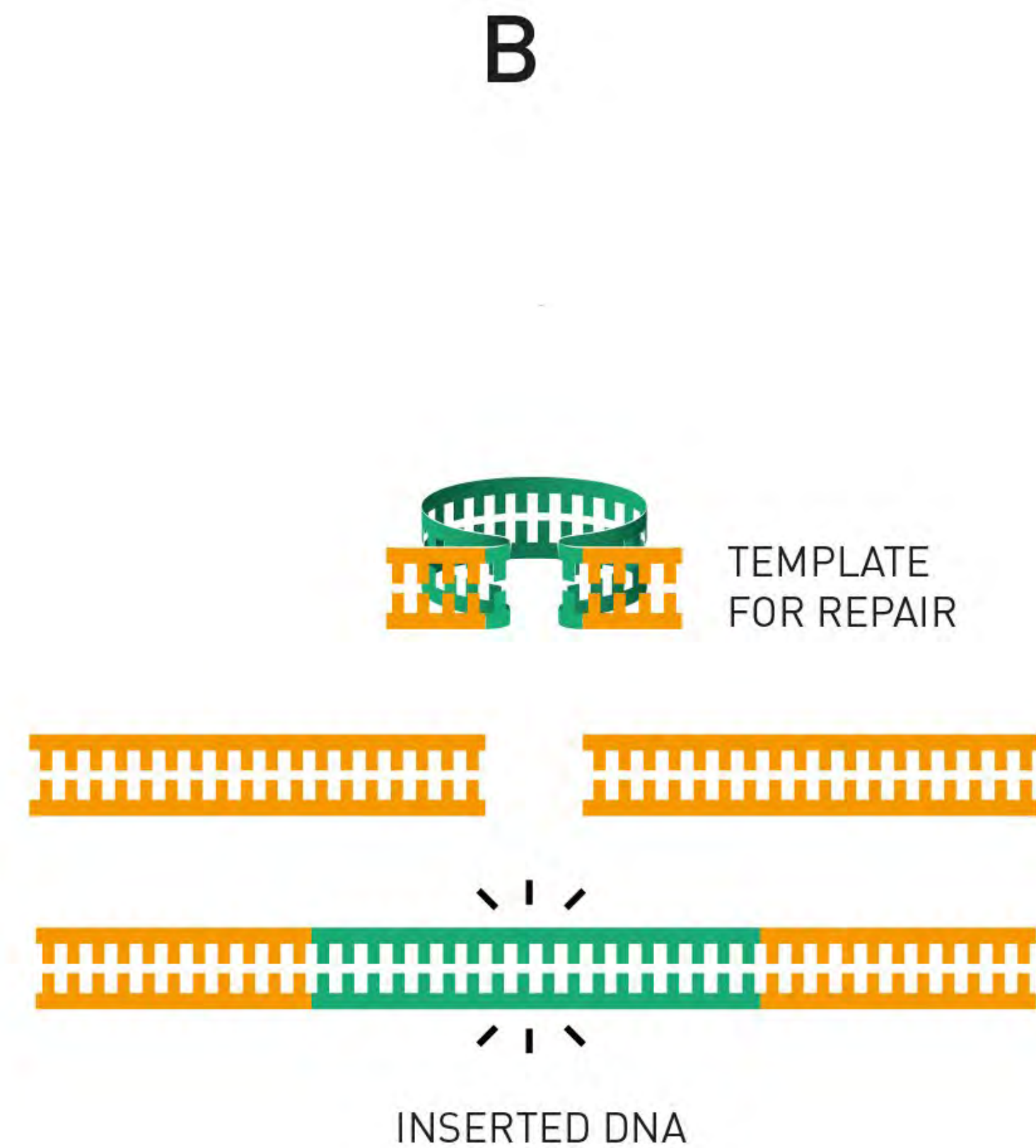
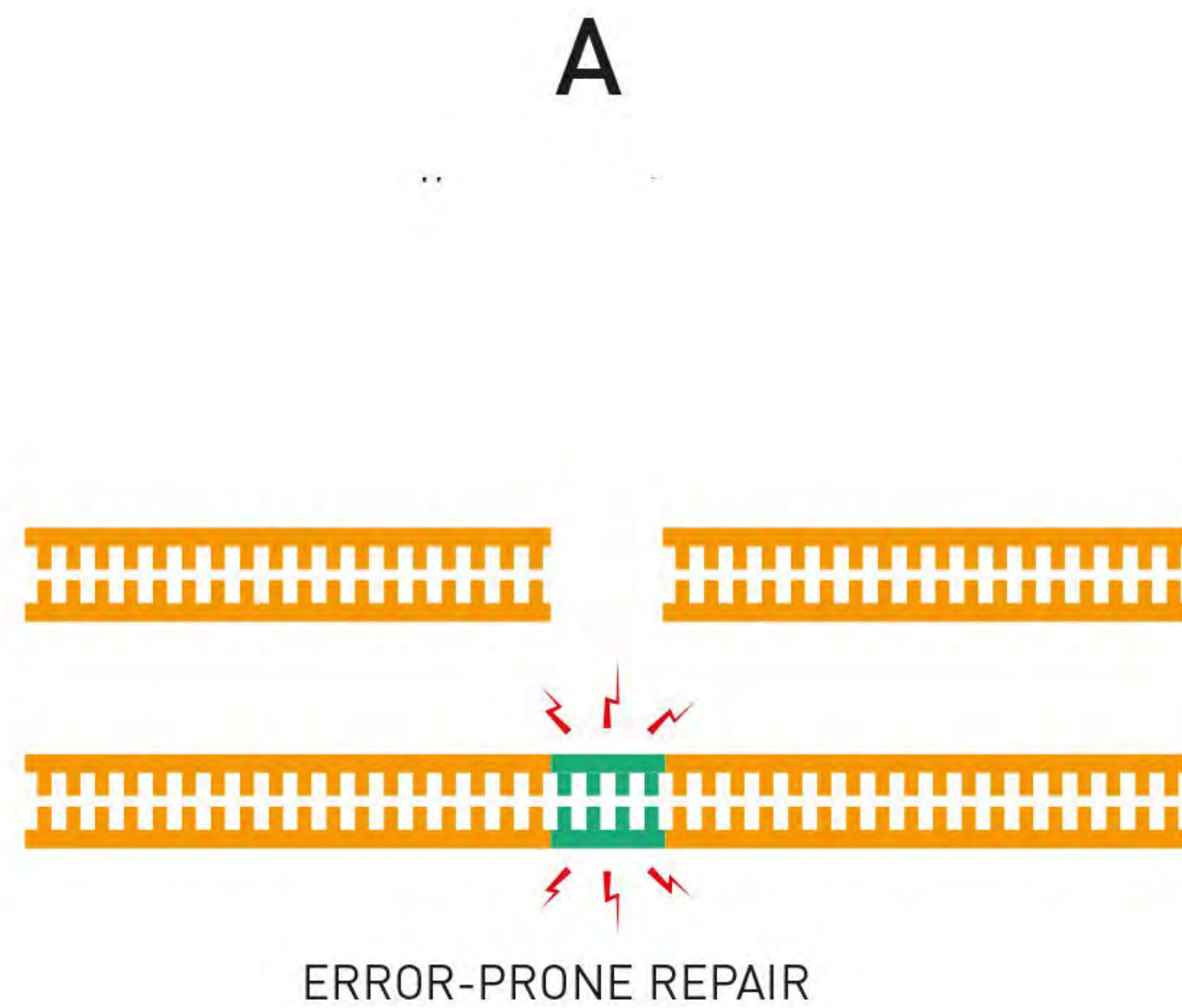


PHOTO: HALLBAUER & FIORETTI

# The CRISPR/Cas9 genetic scissors



# How do the researchers use the genetic scissors?





## New technology that affects us all



Thanks to the genetic scissors, researchers have developed varieties of rice that do not absorb poisonous heavy metals from the soil.

## Unlimited possibilities – but also risks

Jennifer A. Doudna, one of the laureates, holding a model of the genetic scissors. The laureates' discovery offers hope of curing serious diseases.





PHOTO:UC BERKELEY/KEEGAN HOUSER

“We had a sense that we were onto something big – I think we had no idea how big.”

Jennifer A. Doudna, 2020 Chemistry Laureate

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FOR THE GREATEST  
BENEFIT TO  
HUMANKIND

Nobel Prize Lessons