

Biosensors and Bioreporters

Synthetic Biology Module 5
University of Rochester iGEM 2020

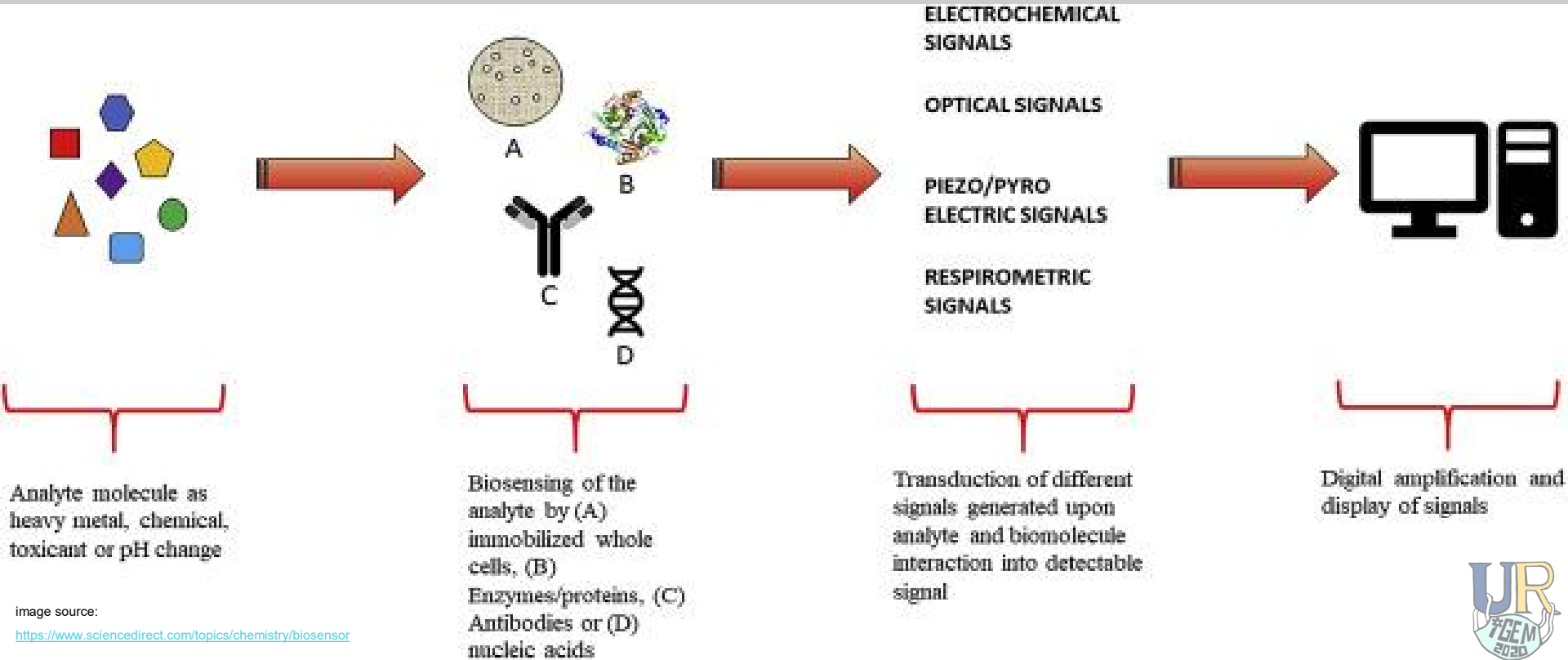
Checklist for Module #5

- Read article #5 Biosensors and their applications- A review
- Open Google form #5

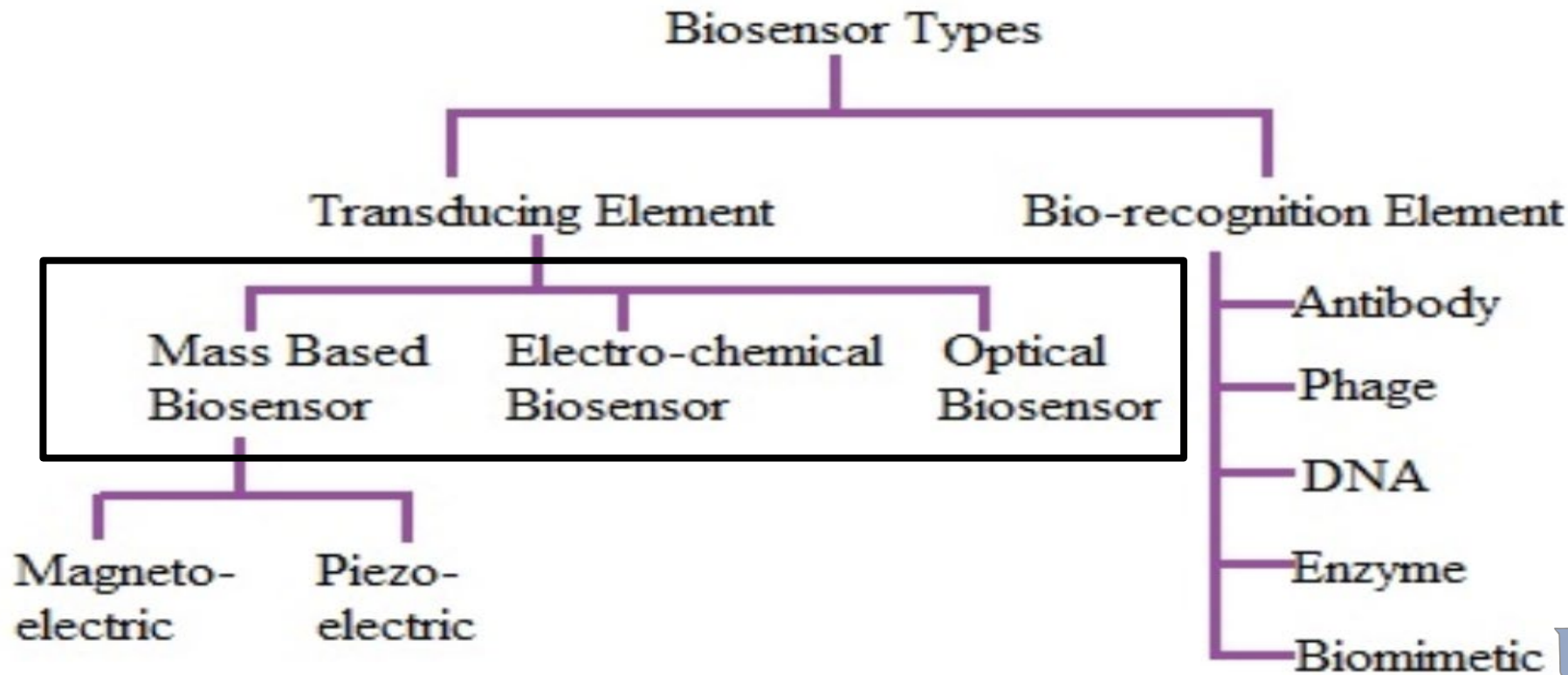
Module Overview

- ❑ What are biosensors?
- ❑ How are biosensors used in synthetic biology?
- ❑ What are bioreporters?
- ❑ What are applications of biosensors and bioreporters?

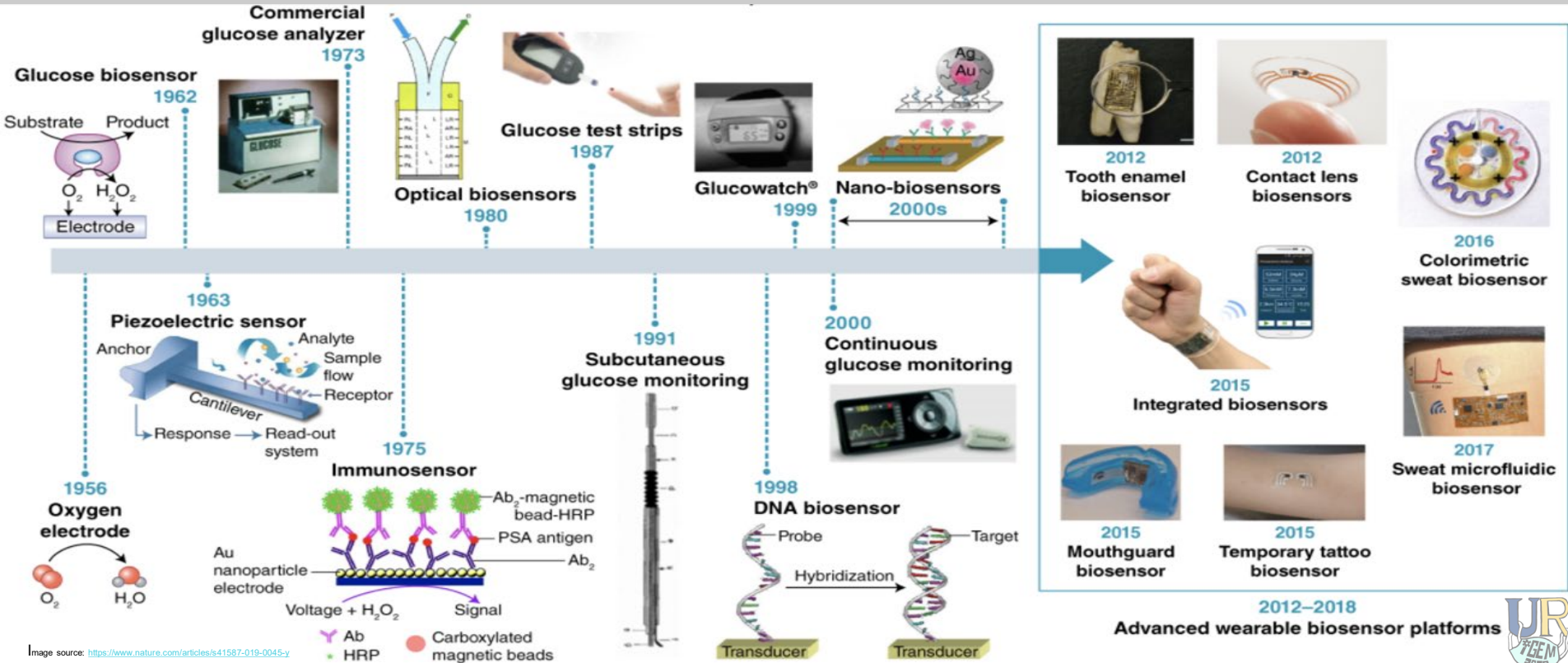
What are Biosensors?



Types of Biosensors



Timeline



So why use biosensors?

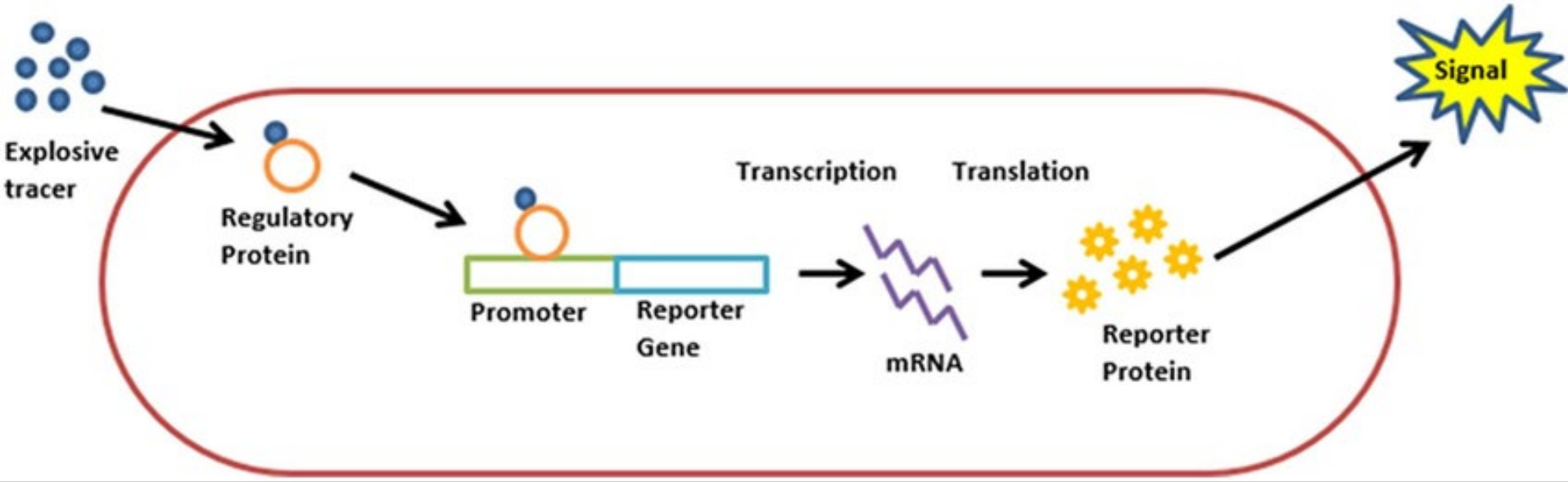
Advantages

- High sensitivity
- Eco friendly
- Simple fabrication
- Simple monitoring device in situ (locally)
- Mass production
- Very specific to analyte
- Low cost
- Fast response
- Accurate measurement

Disadvantages

- Poor reproducibility
- The system is temperature dependant
- Biosensors are sensitive to pH changes

What are Bioreporters?



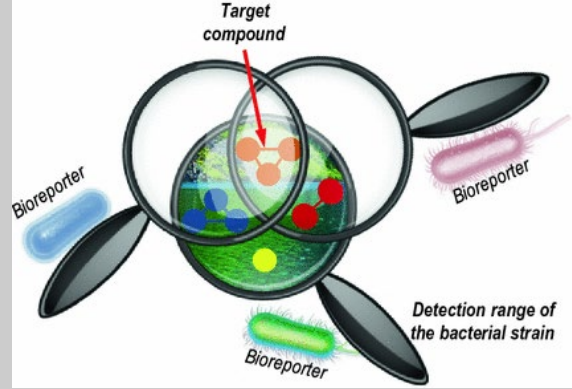
Applications of bioreporters

A



B





What's next??

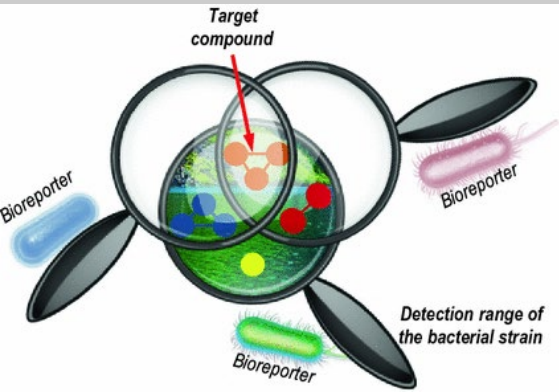


Image source: https://link.springer.com/chapter/10.1007/978-3-319-61795-4_12

Thank you!



Sources

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