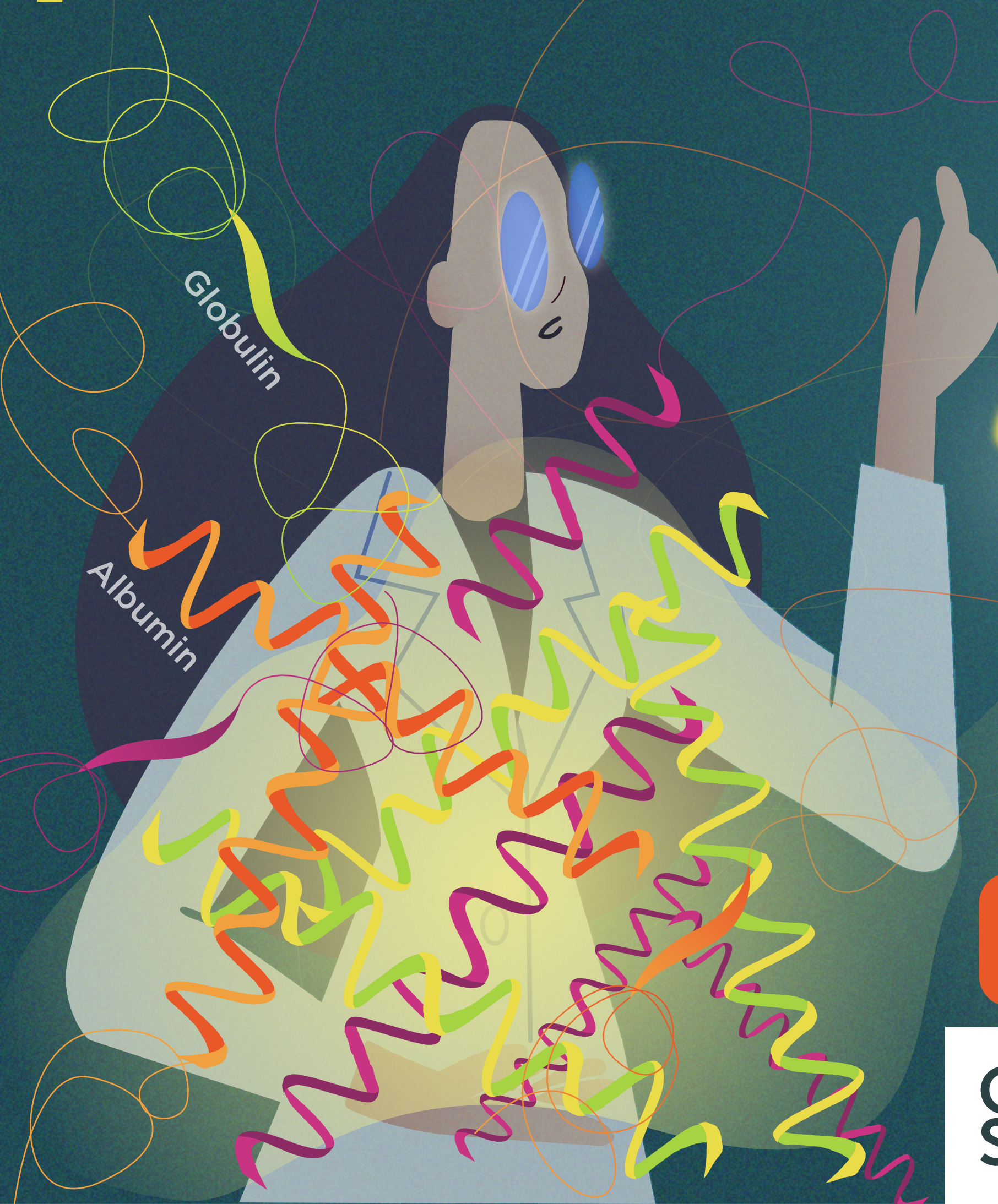
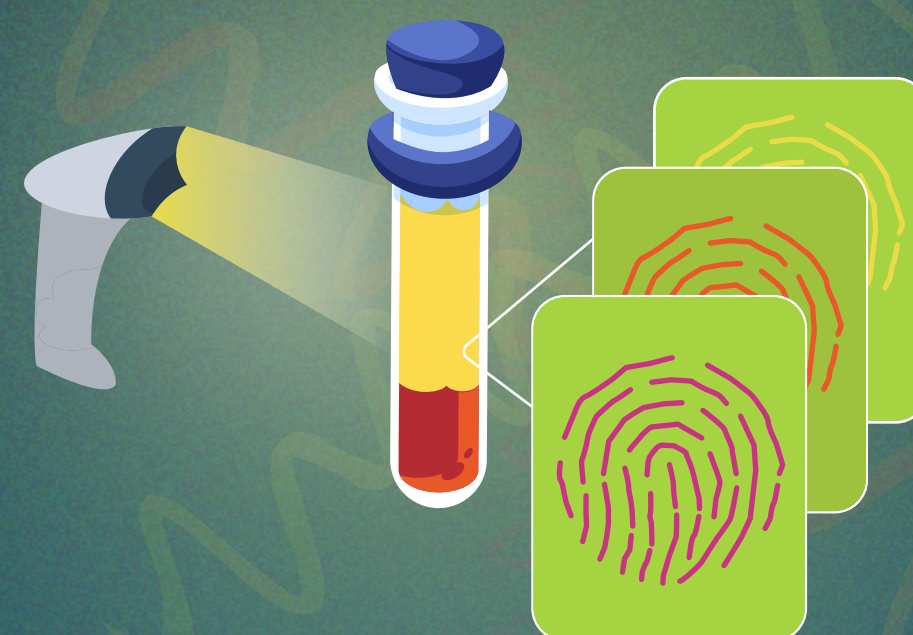


A fresh pair of eyes: 2D-IR spectroscopy enables accurate detection of protein levels in blood

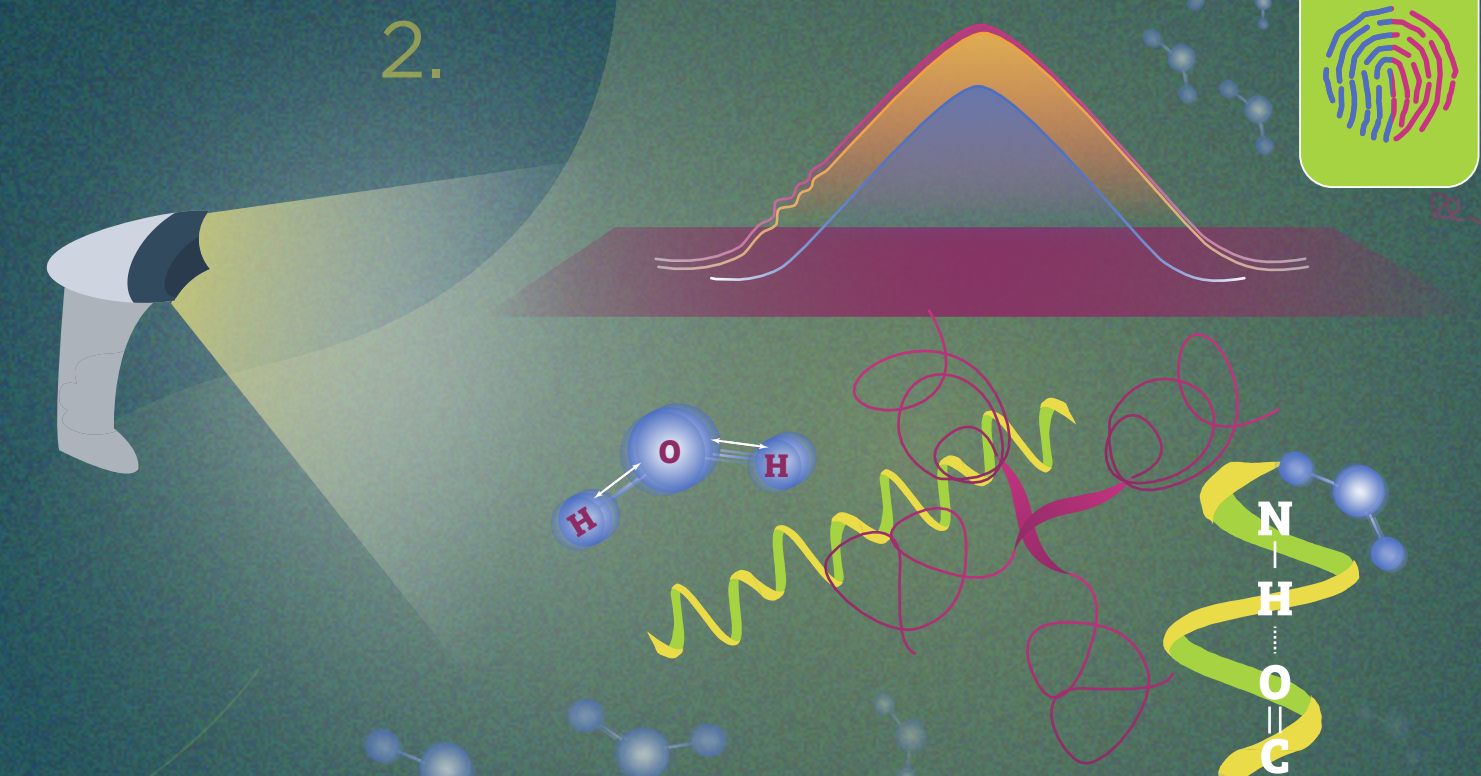


1.



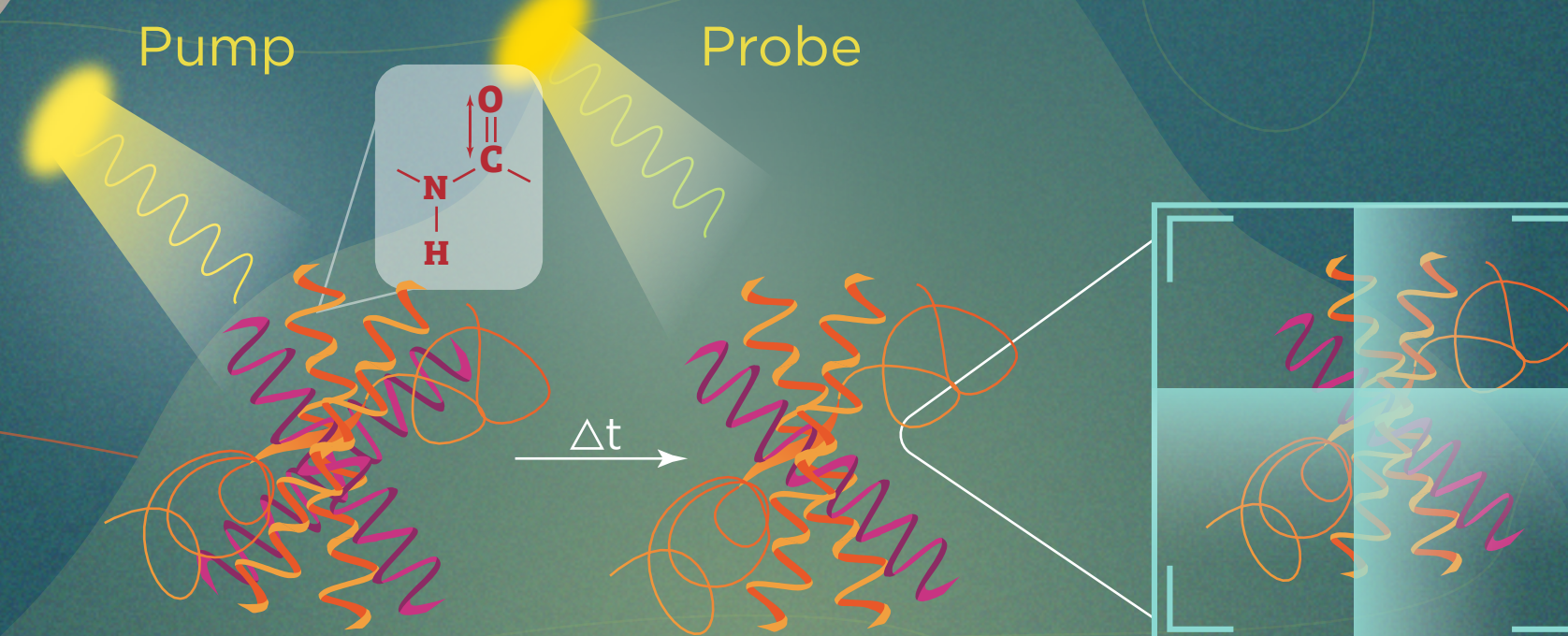
Spectroscopic investigations can detect changes in protein levels in blood, which represent unique biomolecular fingerprints for diseases.

2.



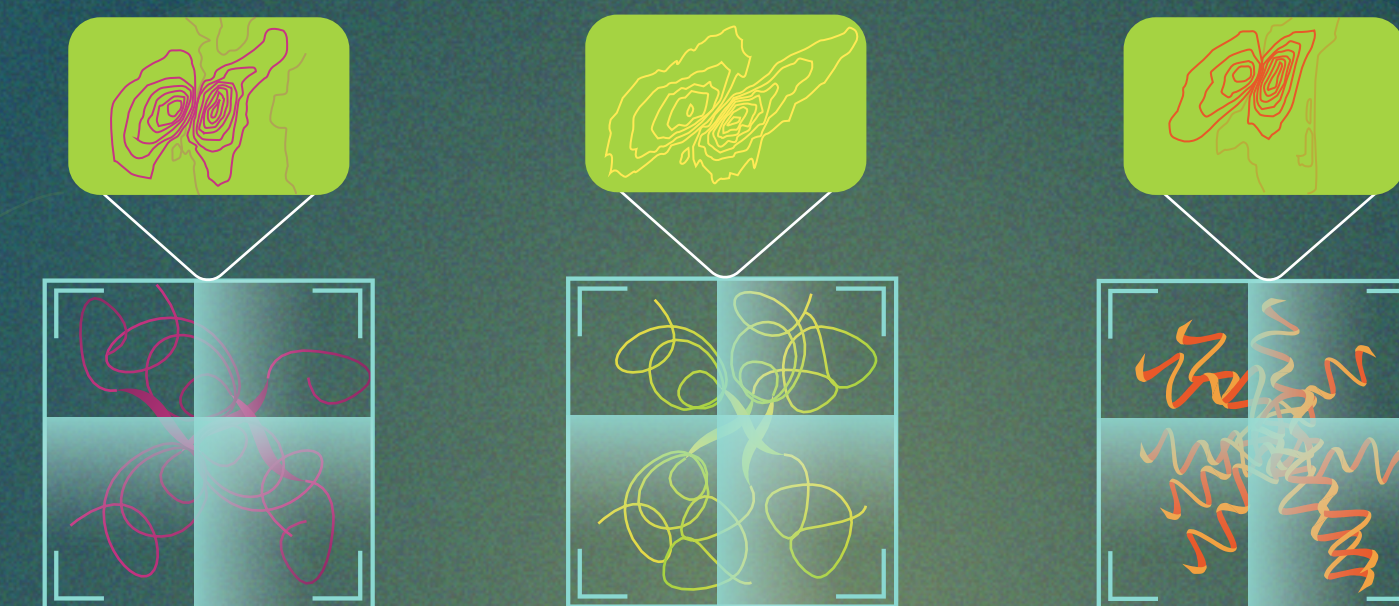
Infrared (IR) waves excite molecules based on their structure, which can help distinguish between proteins and water. But their excitation responses overlap and interfere, making differentiation ambiguous.

3.



2D-IR spectroscopy investigates response of a vibrating structure to a second incoming wave, revealing structure, distance, and orientation of chemical bonds.

4.



2D-IR suppresses water signals, enabling differentiation of proteins and study of their molecular dynamics.

2D-IR spectroscopy allows detecting and distinguishing proteins in water for advancements in both clinical and fundamental sciences.