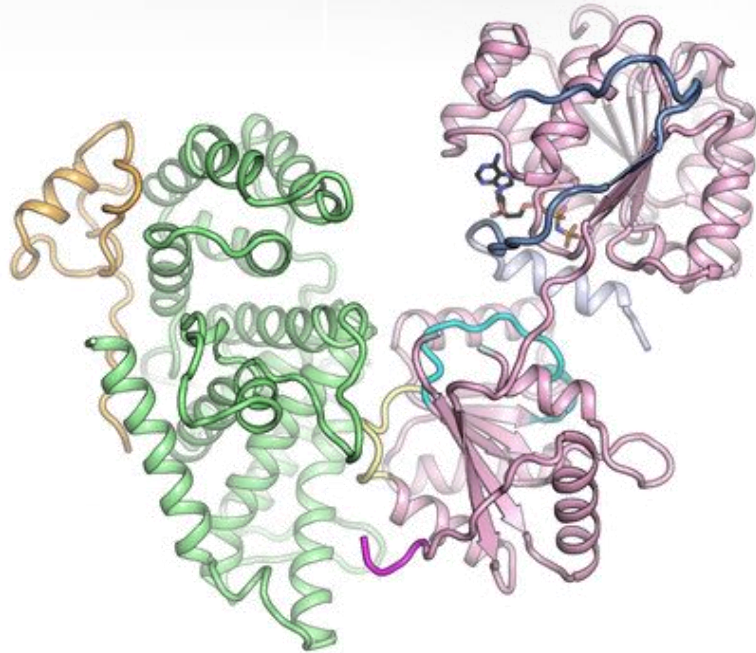


# Structure of a Nuclear Pore Complex's "Ticket System"



*The three-dimensional structures for three proteins in the human nuclear pore complex: Gle1 (green), Nup42 (yellow), and DDX19 (pink).*

D. H. Lin, A. R. Correia, S. W. Cai, F. M. Huber, C. A. Jette, A. Hoelz. *Nature Commun.* **9**, 2319 (2018)

*Work was performed in part at Brookhaven National Laboratory*

## Scientific Achievement

Scientists revealed the 3D structure of a nuclear pore complex's "ticket system," the protein complex Gle1-Nup42 from three organisms, and showed how it ensures mRNA transport in humans.

## Significance and Impact

Nuclear pore complexes (NPCs) are the "gatekeepers" between a cell's nucleus and its main chamber; defects in transfer through them are associated with many diseases.

## Research Details

- The scientists combined biochemistry and x-ray crystallography of the human Gle1-Nup42-DDX19 complex to reveal the molecular details of this step of mRNA export.