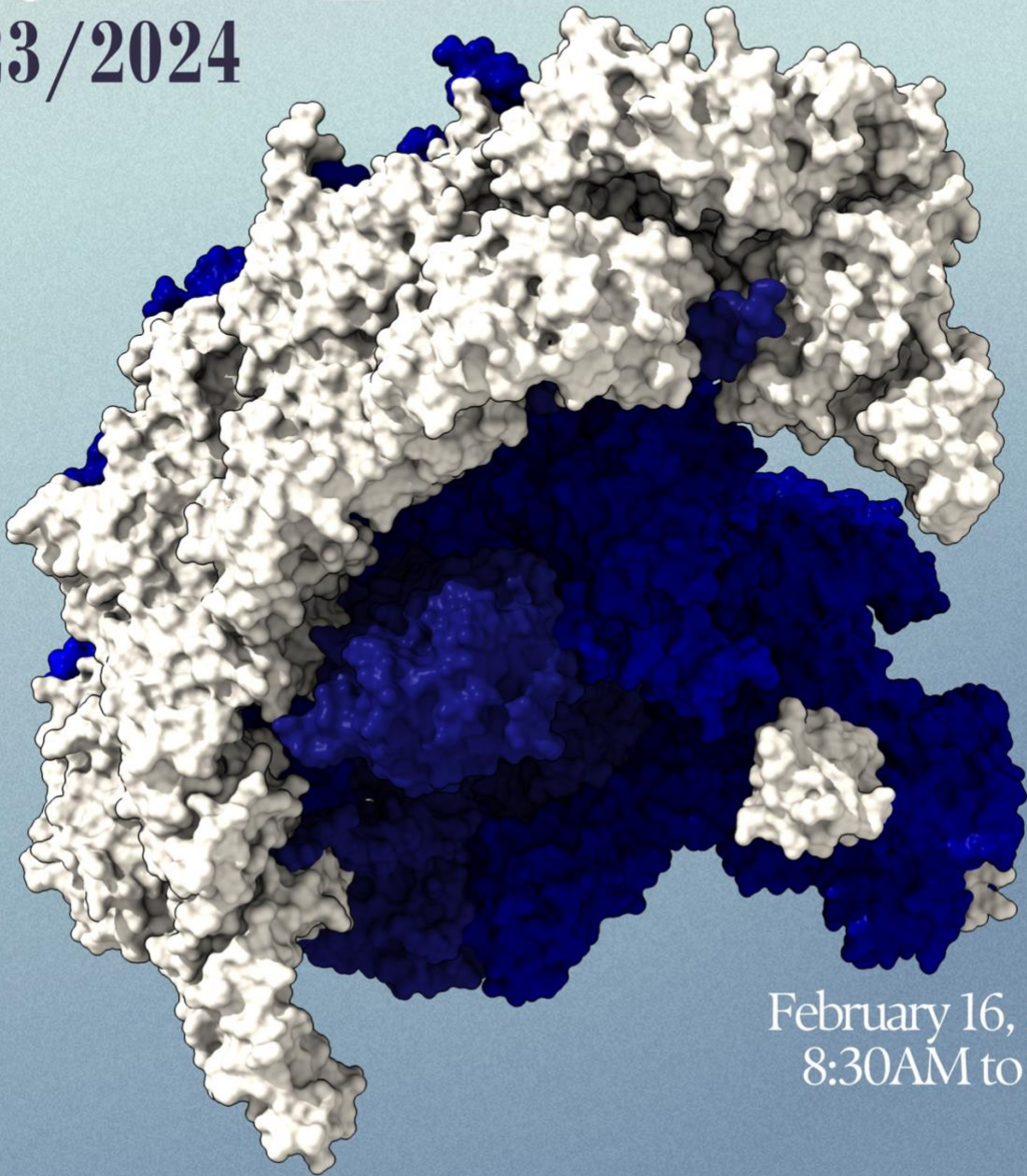


University of  
Houston

# CNRCS Annual Symposium

2023/2024



February 16, 2024  
8:30AM to 7PM

Center for Nuclear Receptors and Cell Signaling  
Science and Engineering Research Center



# CNRCS SYMPOSIUM 2023/2024

February 16, 2024

## Agenda

8:30 AM – 9:00 AM	<b>Breakfast &amp; registration</b>
9:00 AM – 9:10 AM	<b>Opening remarks (Dr. Shaun Zhang, CNRCS Director)</b>
9:10 AM – 10:25 AM	<b>Oral Session 1 (Chair: Roshni Jaffery)</b>
9:10 AM – 9:25 AM	<i>T01: T-cell dysfunction associated with LRRK2 mutation in the pathogenesis of Parkinson's disease – Ningbo Zheng, Peng lab</i>
9:25 AM – 9:40 AM	<i>T02: Therapeutic development of PNP-467, a newly developed ADCC-inducing monoclonal antibody against metastatic prostate cancer – Jacky Wu, Feng lab</i>
9:40 AM – 9:55 AM	<i>T03: HLA-Arena 2.0: Next-Generation Structural Modeling and Analysis for Cancer Immunotherapy – Martiela Vaz de Freitas, Antunes lab</i>
9:55 AM – 10:10 AM	<i>T04: lncRNA-Protein Interactions that Predict Response to Endocrine Therapy in HR+ Breast Cancer – Kacie Waiters, Bawa-Khalfe lab</i>
10:10 AM – 10:25 AM	<i>T05: Anti-PSMA CAR T therapy for pediatric rhabdoid tumor – Aroshi Mitra, Feng lab</i>
10:25 AM – 10:45 AM	<b>Coffee Break</b>
10:45 AM – 12:00 PM	<b>Oral Session 2 (Chair: Ashley Guerrero)</b>
10:45 AM – 11:00 AM	<i>T06: Simulation-based Determination of Molecular Fingerprints Driving T-cell Specificity – Hoa Nhu Le, Antunes lab</i>
11:00 AM – 11:15 AM	<i>T07: MTA-cooperative PRMT5 inhibitors enhance T cell-mediated antitumor activity in MTAP loss tumors – Si Chen, Peng lab</i>
11:15 AM – 11:30 AM	<i>T08: Testing AI-Predicted AR SUMO2/3 modification that Direct Constitutive Genomic AR Activity in Endocrine Resistant Breast Cancer – Ashfia Khan, Bawa-Khalfe lab</i>
11:30 AM – 11:45 AM	<i>T09: Exploring the Role of Non-Coding RNAs in Darolutamide Resistance in Advanced Prostate Cancer – Tianyi Zhou, Feng lab</i>
11:45 AM – 12:00 PM	<i>T10: Regulation of Liver X Receptor Protein Stability by Novel Ligands in Pancreatic Cancer Cells – Abhinav Bagchi, Lin lab</i>
12:00 PM – 12:40 PM	<b>Lunch Break</b>
12:40 PM – 2:15 PM	<b>Poster Session &amp; Coffee (Chair: Dr. Jiakai Hou)</b>
2:15 PM – 2:20 PM	<b>Raffle</b>
2:20 PM – 2:30 PM	<b>Sponsor Talk 1 (GenoBioTX) – Juan (Jane) Hong,</b> Title: Decoding the Mystery of Life by Gene Editing
2:30 PM – 2:50 PM	<b>Sponsor Talk 2 (Avantor/Eppendorf) – Ginny Moon and Rose Mikulski,</b> Title: Deliver the Difference
2:50 PM – 3:10 PM	<b>Sponsor Talk 3 (10X Genomics) – Andrew Warren,</b> Title: <i>Access the full richness of biological complexity with single cell and spatial multiomics</i>
3:10 PM – 3:30 PM	<b>Sponsor Talk 4 (MilliporeSigma) – David Ahmed,</b> Title: <i>MilliporeSigma - Following the Journey of the Molecule</i>
3:30 PM – 3:35 PM	<b>Raffle</b>
3:45 PM – 4:45 PM	<b>Keynote - Aria Vaishnavi, PhD,</b> Title: <i>Early ERBB Support Signaling Reveals Actionable Vulnerabilities in NTRK1+ and BRAF+ Adenocarcinomas.</i> <i>Assistant Professor, Department of Cancer Biology, Division of VP, Research, MD Anderson Cancer Center, Houston, Texas</i> <b>(Chair: Dr. Quentin Vicens)</b>
4:45 PM – 4:50 PM	<b>Closing remarks (Dr. Shaun Zhang, CNRCS Director)</b>
4:50 PM – 5:00 PM	<b>Award announcements (Dr. Aria Vaishnavi, Dr. Dan Wells – Dean, NSM)</b>
5:15 – 7:15 PM	<b>Reception (Elizabeth D. Rockwell Pavilion, UH MD Anderson Library)</b>

### CNRCS SYMPOSIUM COMMITTEE:

**Dinler Antunes**, Asst. Professor, Biology and Biochemistry, CNRCS  
**Quentin Vicens**, Asst. Professor, Biology and Biochemistry, CNRCS  
**Qin Feng**, Assoc. Professor, Biology and Biochemistry, CNRCS  
**Ashley Guerrero**, Graduate Student, Biology and Biochemistry, CNRCS  
**Anthony Peidl**, Graduate Student, Biology and Biochemistry, CNRCS  
**Carissa Codd**, Department Business Administrator, CNRCS

## SPONSORS

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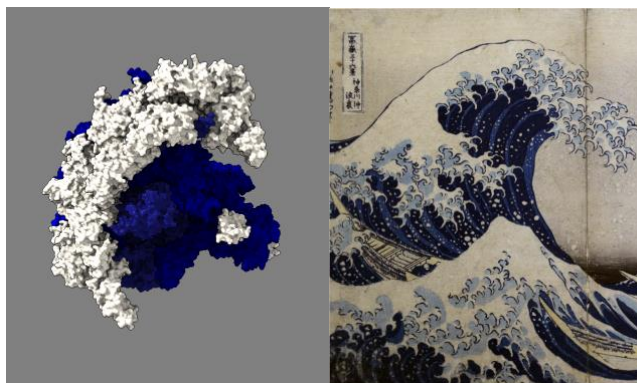
## Event Website

<https://uh.edu/nsm/cnr/cs/news-events/symposium/>

### Cover Image

Anaphase-Promoting Complex/Cyclosome (APC/C PDB), PDB code 5G04.

Image design by CNRCS graduate student Finn Beruldsen, and CNRCS Asst. Professor Dinler Antunes.



This wave like structure is part of the Anaphase-Promoting Complex / Cyclosome (APC/C), a key player regulating ubiquitin-dependent proteolysis during the cell cycle. It is as part of the Really Interesting New Gene (RING) type-3 ligases, polyubiquitinating cyclins and other regulatory proteins, ultimately allowing replicated chromosomes to separate to their respective daughter cells. Its adaptor protein, Cdc20 (central, violet-indigo) is over expressed across a host of cancer types, allowing the anaphase to proceed prematurely or erroneously without proper chromosomal alignment. This makes Cdc20 and APC/C attractive therapeutic targets and the subject of intense research. This structure, PDB code 5G04, was solved by Lei-Fu Chang as part of a 2016 publication titled “*Molecular Mechanism of Apc/C Activation by Mitotic Phosphorylation*” by David Barford et al., using CryoEM. This structure was later featured on the PDB website as the Molecule of the Month for their March issue in 2023. This image was produced with UCSF ChimeraX, with all colors applied at a protein chain level. We took inspiration from the wood block print “The Great Wave off the Coast of Kanagawa” (Katsushika Hokusai 1831) for the composition and coloration.

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Wang, X. S., Cotton, T. R., Trevelyan, S. J., Richardson, L. W., Lee, W. T., Silke, J., & Lechtenberg, B. C. (2023). The unifying catalytic mechanism of the RING-between-RING E3 ubiquitin ligase family. *Nature Communications*, 14(1), 1-17. <https://doi.org/10.1038/s41467-023-35871-z>

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March 2023, Zara Bukhari, Eduardo Chaparro-Barriera, Casey H. Greenberg, Verna Van, David S. Goodsell, Shuchismita Dutta [http://doi.org/10.2210/rcsb\\_pdb/mom\\_2023\\_3](http://doi.org/10.2210/rcsb_pdb/mom_2023_3)

Wyeth, Andrew. The Great Wave off the Coast of Kanagawa. 1831 Reading Public Museum Pennsylvania. Google Arts & Culture, <https://artsandculture.google.com/asset/the-great-wave-off-the-coast-of-kanagawa/fAFp7yddSAtcTQ>