

SFU

Christopher Ng, P.Eng

McDonald Institute Introduction - July 28, 2026



- **BIO**
- **DEAP 3600**
- **ICECUBE UPGRADE**
- **CURRENT: P-ONE**

BIO



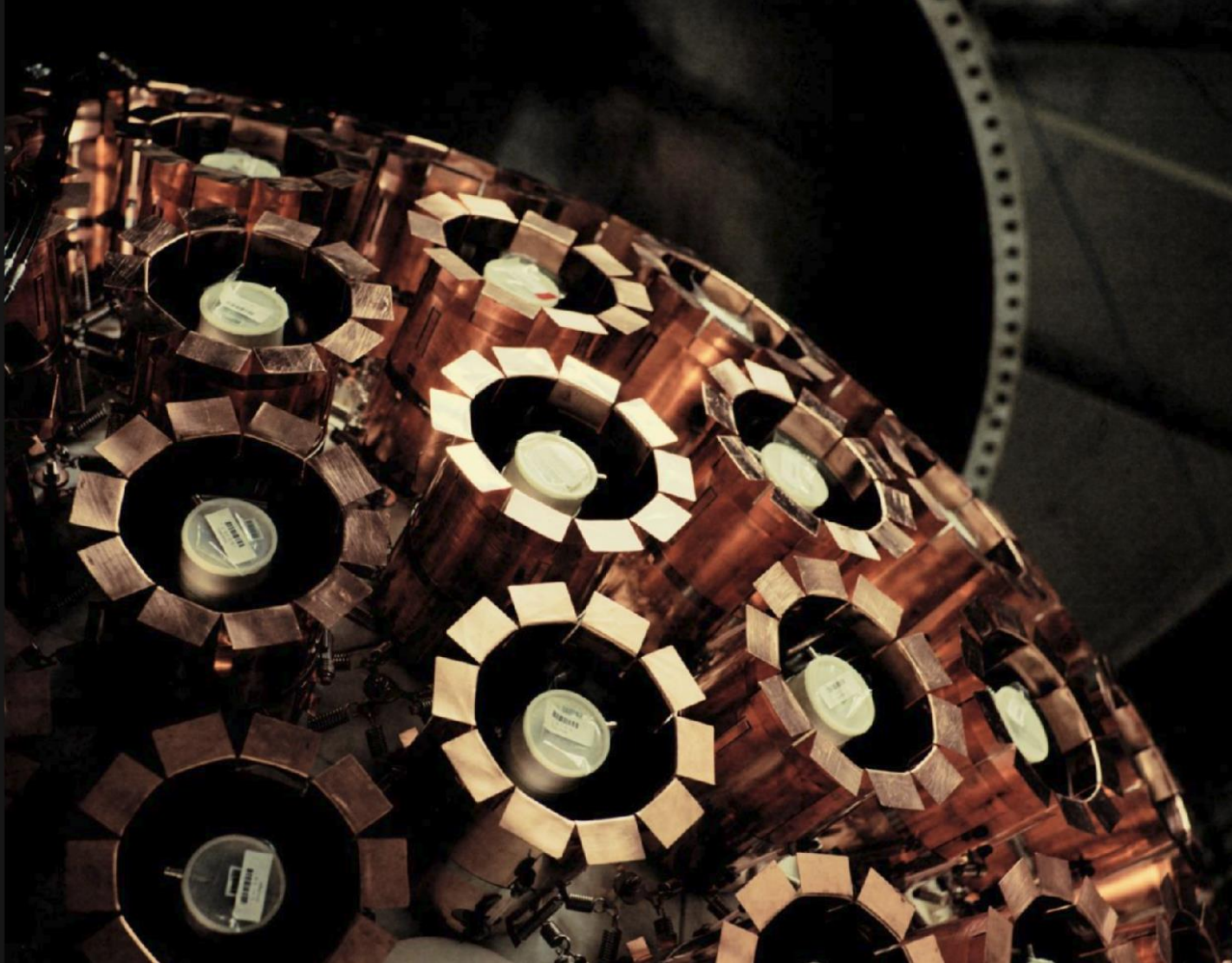
Christopher Ng, P. Eng

- Mechanical Engineering Degree from University of Alberta (2006)
- Professional Engineer (2011)
- Over 15+ years of experience

Expertise in:

- Finite Element Analysis
- Project Management
- Procurement
- Engineering Design

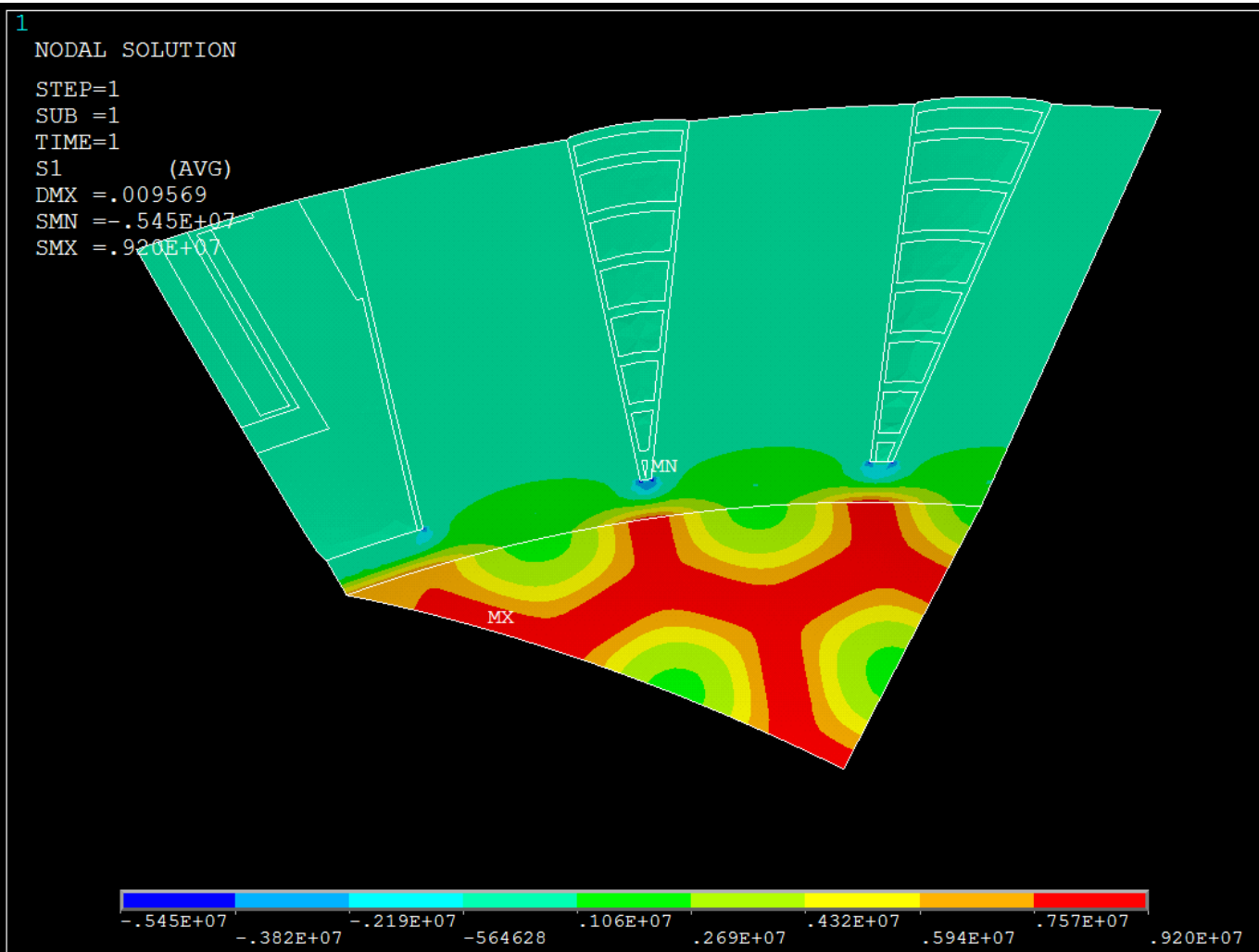
DEAP 3600



Design Engineer (Acrylic Vessel)

- Prepared Models/Drawings
- FEA
- Rotator Design
- Lifting Procedure

DEAP 3600



FEA Design

- Calculated Thermal Profile and stresses for the entire assembly
- Used this to drive design of AV

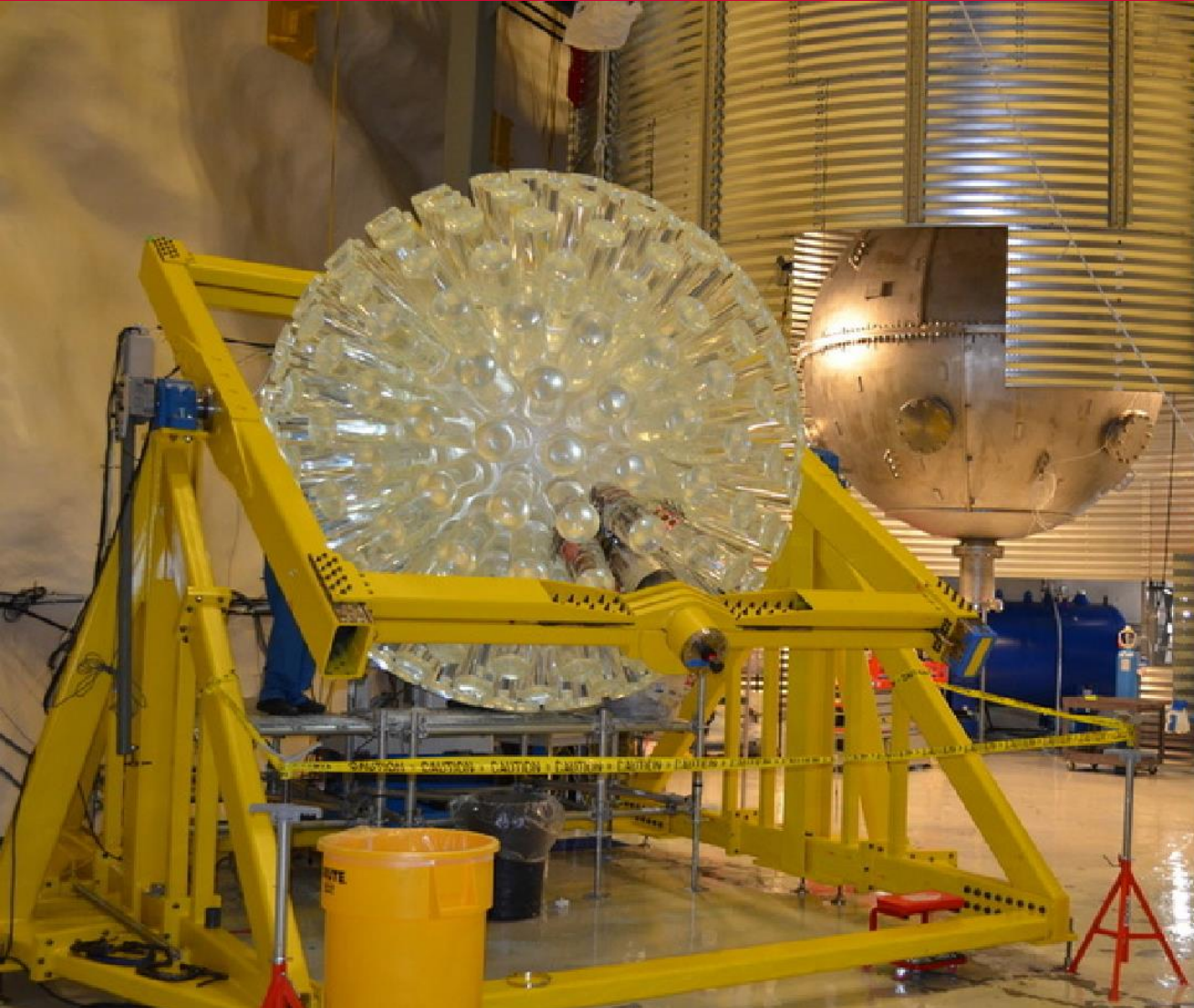
DEAP 3600



AV Machining

- Worked together with head Machinist to ensure AV design was machinable with low machining stresses

DEAP 3600



Rotator Design

- Device that rotates the AV for the purposes of Lightguide Gluing
- Designed box frame that fits onto rotator frame that enables the AV to be lifted into place
- Designed procedure for lifting

ICECUBE UPGRADE



Senior Mechanical Engineer

- Cable Sourcing
- Design/Layout of MSU mDOM Lab
- mDOM Production Supervision
- Cable Loading
- Design of DOM Assembly at pole
- On Ice Expert at Pole
- Co-Lead of one of two installation teams at pole

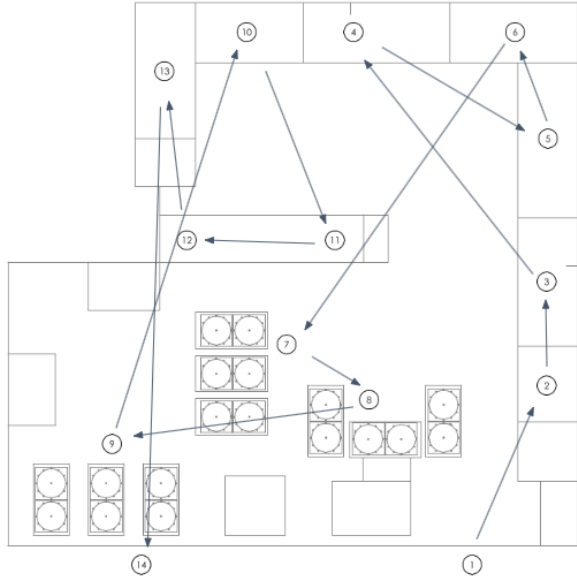
IceCube Upgrade



Cable Sourcing/Design

- Sourcing all the cables for the IceCube Upgrade
- MCA/BCA/PCA
- Calculated Cable loads for deployment to ensure safety of staff
- Balanced this with speed/cost

IceCube Upgrade



MSU Lab/Production

- Designed Lab for mDOM Production
- Supervised Production of ~25% of total modules (200)

IceCube Upgrade



On-Ice Expert and Team Co-lead

- Designed the procedure to connectorize the DOMs to the cable at pole
- Expert on the cable loading
- Co-lead of one of the installation teams for Module install at pole

P-ONE



Mechanical Engineer on P-ONE

- Frame Redesign for P-ONE-D

Thanks!