



# MPGD2026 at FRIB

Marco Cortesi  
Detector System, Group Leader

**MICHIGAN STATE**  

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**UNIVERSITY**



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

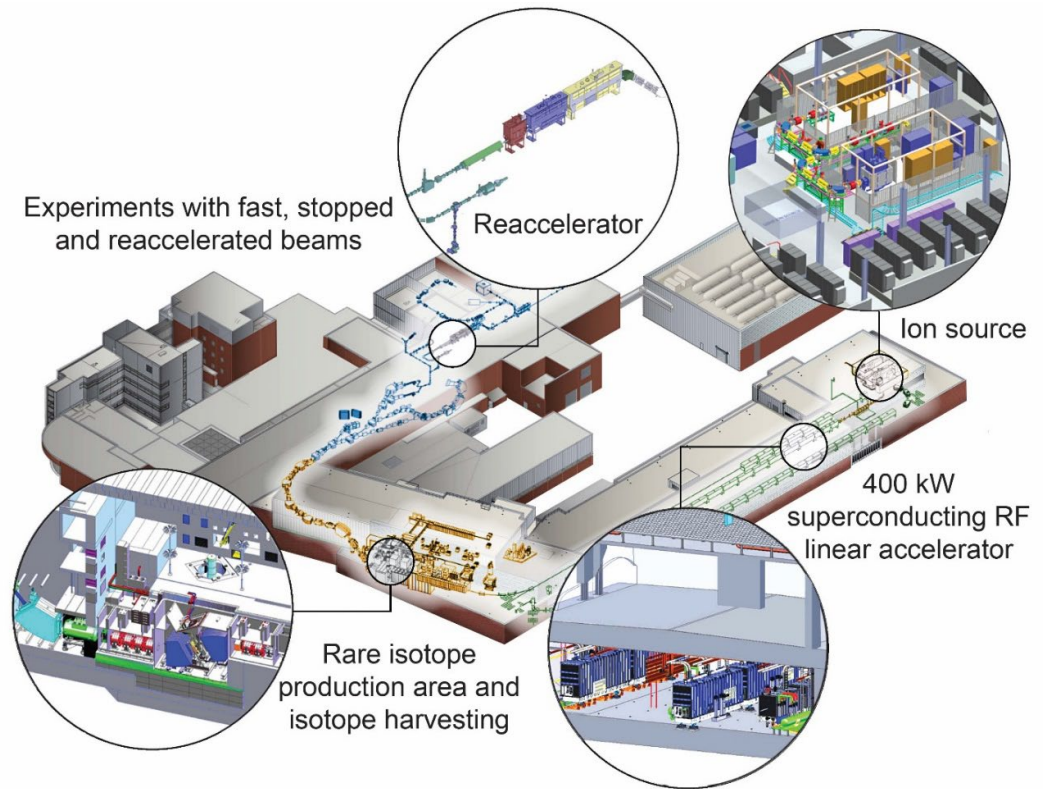
# Draft Plan

- Host: Facility for Rare Isotope Beams (FRIB), Michigan state University (MSU)
- Possible Dates: June 2026, alternatively September-October 2026
- Conference Site: FRIB, East Lansing, Michigan, USA
- Conference Hotel: Several options in East Lansing
- Reception Place: FRIB, alternative East Lansing Downtown
- Banquet Place: Several options in East Lansing
- Outing Place: Suggested: Greenfield Village and Henry Ford Museum
- Tour Place: FRIB
- Registration Fee: \$450 (student \$200)
- Estimated Number of Participants: 110-130



# Why FRIB?

- Funded by DOE–SC Office of Nuclear Physics with contributions and cost share from Michigan State University and State of Michigan
- Serving over 1,400 users
- Key feature is 400 kW beam power for all ions ( $5 \times 10^{13}$   $^{238}\text{U/s}$ )
- Separation of isotopes in-flight
  - Fast development time for any isotope
  - Suited for all elements and short half-lives
  - Fast, stopped, and reaccelerated beams

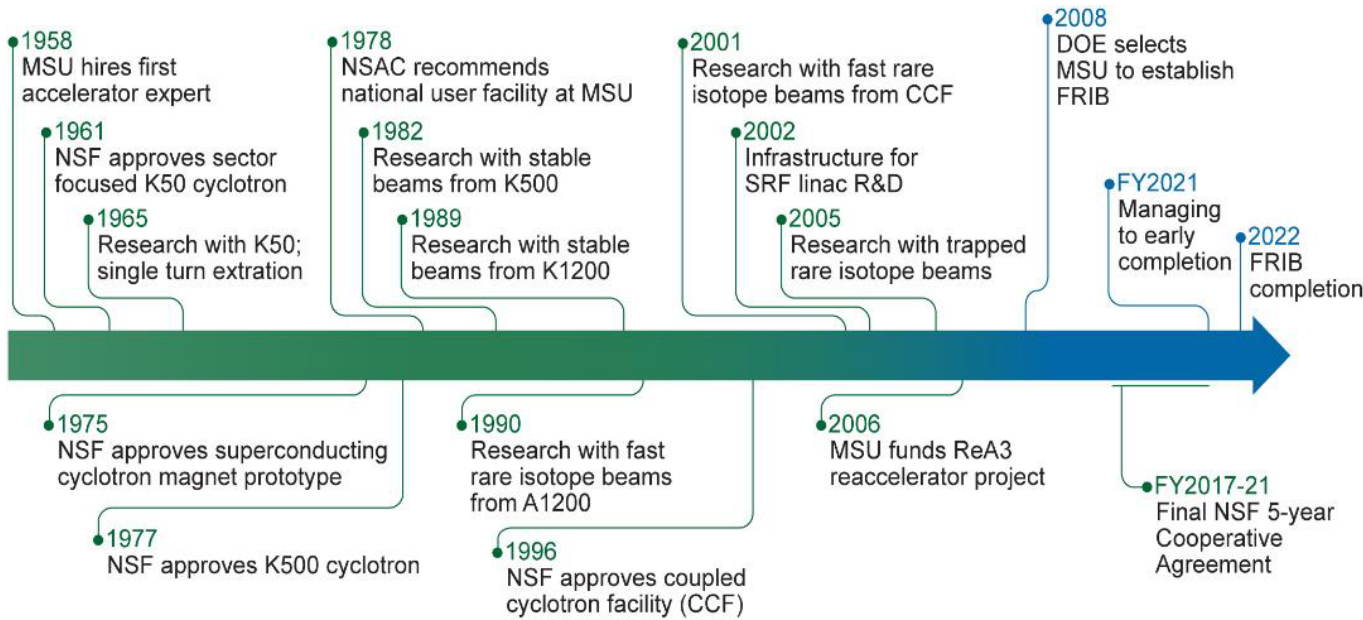


# Long and Proud History of Experimental Nuclear Physics at MSU



#1 ranked  
nuclear physics  
graduate program  
*-U.S. News & World Report*

MSU awards  
10% of nuclear  
physics PhDs  
earned annually



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# FRIB Design



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# FRIB Today

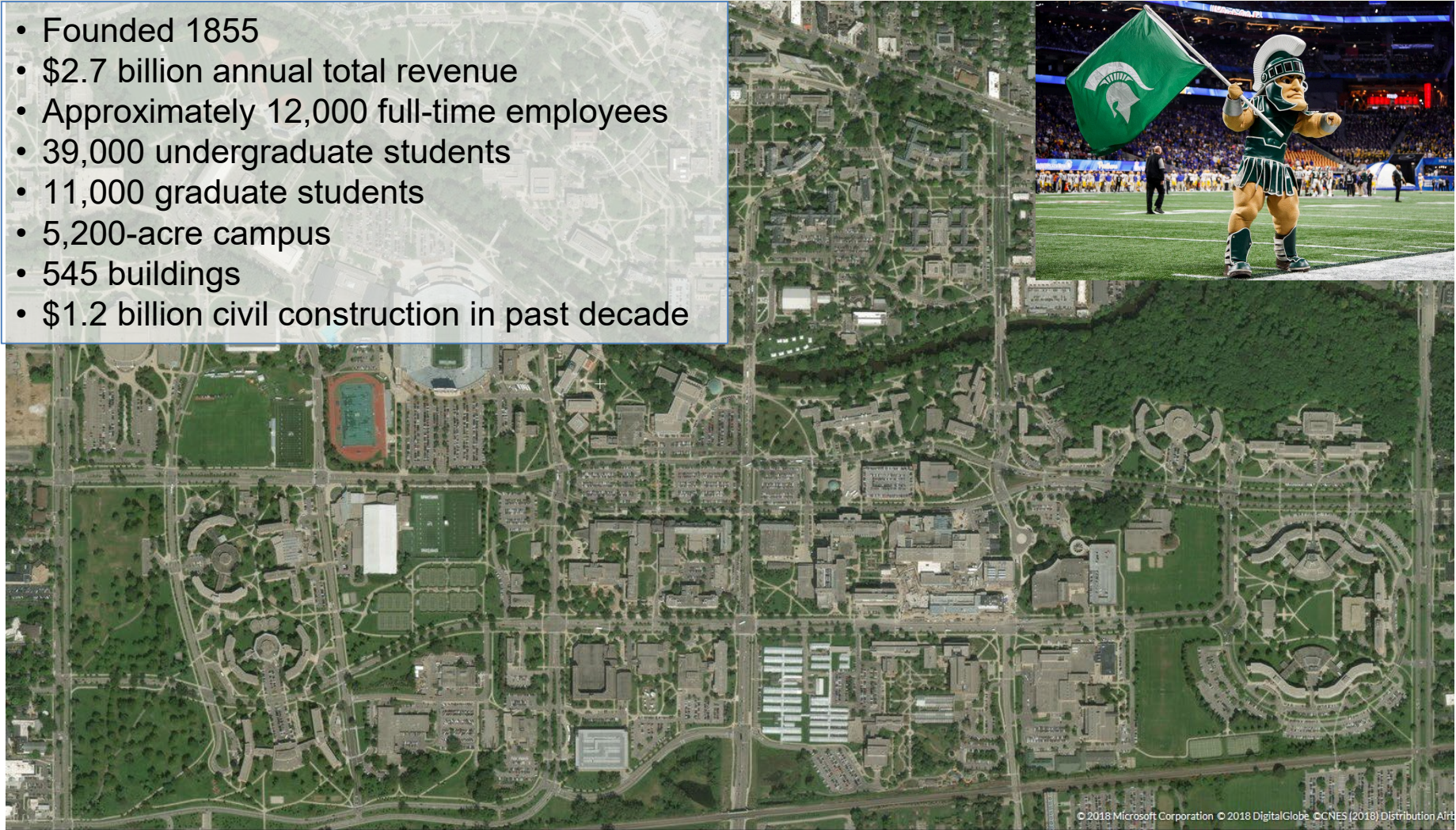
- FRIB will be a one-of-a-kind science facility designed, built, and operated by Michigan State University in support of the U.S. Department of Energy's Office of Nuclear Physics
- Completed project with civil construction having achieved beneficial occupancy in March 2017, operation started in 2022
- FRIB is a game changer for nuclear science
  - World's most powerful rare isotope research facility
  - Users are engaged and ready for science
- FRIB will benefit the region
  - Job creation
    - » Construction jobs now
  - Knowledge economy
    - » FRIB will attract top scientists and scholars
  - Talent and technology spinoff in the future





# Michigan State University (MSU)

- Founded 1855
- \$2.7 billion annual total revenue
- Approximately 12,000 full-time employees
- 39,000 undergraduate students
- 11,000 graduate students
- 5,200-acre campus
- 545 buildings
- \$1.2 billion civil construction in past decade



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# Working With the Best Around the World

- ANL
  - Liquid lithium stripper
  - Beam dynamics verification;  $\beta=0.29$  HWR design; SRF tuner validation



- BNL
  - Plasma window and charge stripper, physics modeling, database



- FNAL
  - Diagnostics, SRF processing



- JLab
  - Cryoplant; cryodistribution design & prototyping
  - Cavity hydrogen degassing; cryomodule design



- LANL
  - Proton ion source for Li test

- LBNL
  - ECR coldmass; beam dynamics\*\*



- ORNL
  - Diagnostics, controls



- SLAC
  - Cryogenics\*\*, SRF multipacting\*\*, physics modeling\*\*



- RIKEN (Japan)
  - Helium gas charge stripper
- TRIUMF (Canada)
  - Beam dynamics design, physics modeling \*\*
  - SRF, QWR etching\*
- GSI (Germany)
  - Materials
- INFN (Italy)
  - SRF technology
- KEK (Japan)
  - SRF technology, SC solenoid prototyping
- IMP (China)
  - Magnets
- Budker Institute, INR Institute (Russia)
  - Diagnostics
- Tsinghua Univ. & CAS (China)
  - RFQ
- ESS (Sweden)
  - Accelerator Physics\*

\* Under discussion or in preparation; \*\* Completed



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# FRIB Amenities

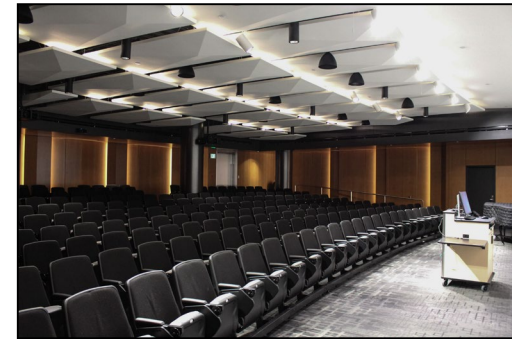
- FRIB's lecture halls and seminar rooms are fully equipped to handle a wide variety of needs
  - All lecture halls, seminar rooms and breakout rooms have the ability to switch between different video outputs using Crestron technology
  - The lecture halls have the ability to tape conferences
  - All rooms have HD projectors and dedicated workstations for presentations
- Breakout rooms are set up to handle smaller groups and discussions and provide an excellent addition to FRIB's hosting abilities.
  - Lecture halls can stream to breakout rooms and other lecture halls
  - The two breakout rooms can be combined into one larger room to handle more people or larger group
- FRIB also has an open, airy atrium for discussion and socializing
- Just outside FRIB is a new courtyard for people to relax and take a break from the indoors



# Spaces at FRIB



Breakout Room  
20 seats



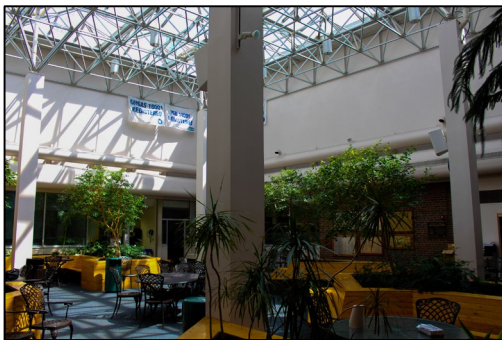
Lecture Hall #1  
200 seats



Breakout Room  
about 50 seats



Lecture Hall #2  
100 seats



Atrium  
about 30 seats

Courtyard



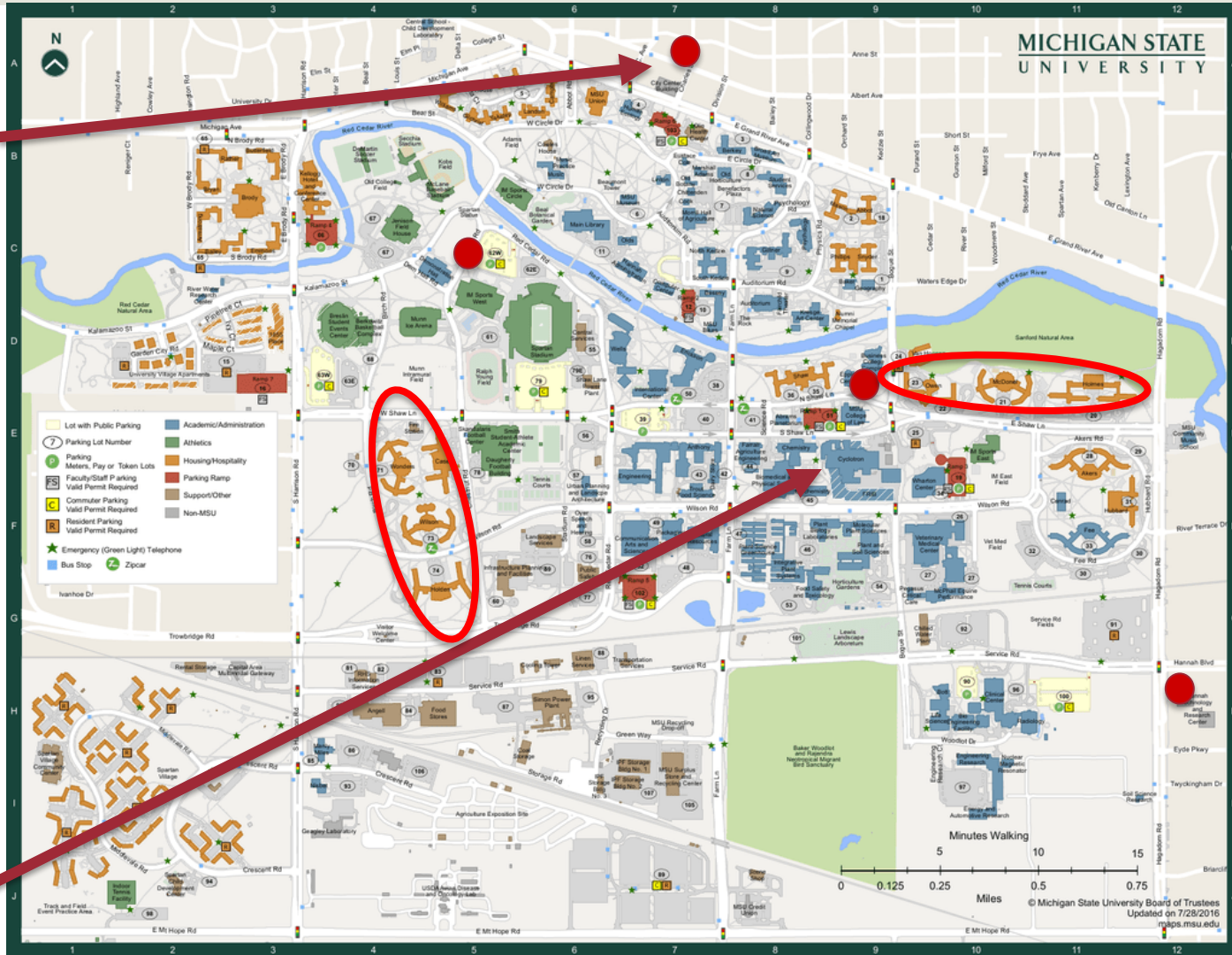
# Logistics



East Lansing downtown

- Hotels
- Student House

FRIB



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# Lodging Near MSU

- There are several hotels around MSU campus and East Lansing  
Cost: 100\$-150\$ / night



Candlewood Suites



Fairfield Inn



Marriott at  
University  
Place



Hyatt Place



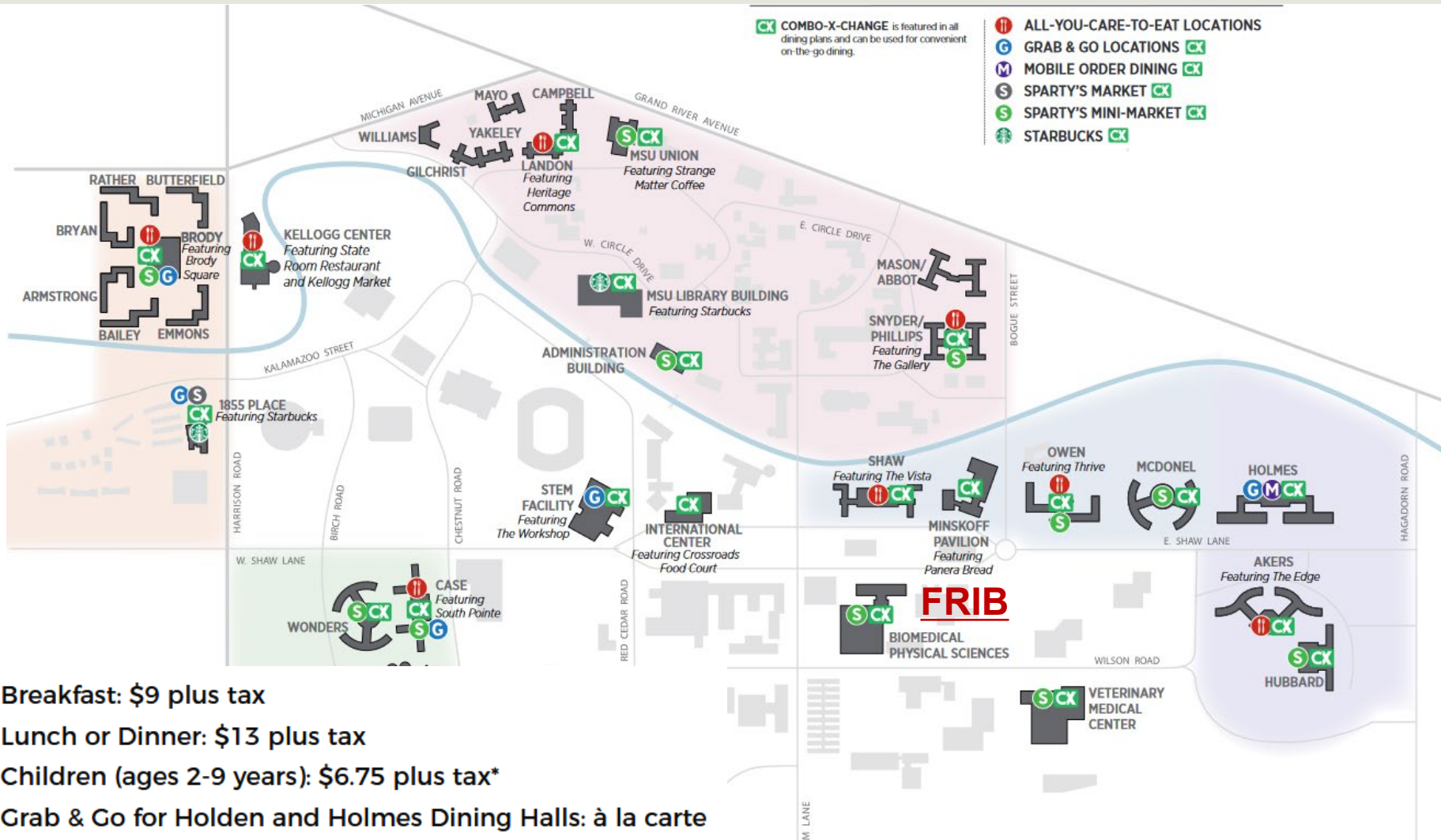
Kellogg Hotel &  
Conference  
Center



Radisson  
Lansing

and many more!

# Dining on campus



- Breakfast: \$9 plus tax
- Lunch or Dinner: \$13 plus tax
- Children (ages 2-9 years): \$6.75 plus tax\*
- Grab & Go for Holden and Holmes Dining Halls: à la carte



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# Things to see on MSU's Campus

- MSU is filled with many fun and interesting attractions



See a show at the Abrahms Planetarium

Eat some MSU Dairy Store ice cream!



Watch a performance at the Wharton Center

Visit the W. J. Beal Botanical Gardens



Visit the MSU museum, a Smithsonian Institution affiliate

Visit the Eli & Edythe Broad Art Museum (Modern art museum)





# Places to go in East Lansing and Lansing

- Lansing is full of fun things to do



Visit the  
Capitol of  
Michigan

Visit the Fenner  
Nature Center or  
the Woldumar  
Nature Center



Walk the Lansing  
River Trail

See the  
animals at the  
Potter Park  
Zoo



Eat at some of Lansing's most  
popular restaurants, including  
the Soup Spoon Café, Meat  
Southern BBQ & Carnivore  
Cuisine, Golden Harvest, and  
many more

Watch the  
Lansing  
Lugnuts  
baseball team



# Detroit



Detroit is a historic city going through a rebirth and revitalization

Home to 'Big Three' automakers: General Motors, Ford Motor Company, and Fiat Chrysler America



Detroit has several great museums to see, including the Detroit Institute of Arts, Detroit Historical Museum, Charles H. Wright of African American History and the Michigan Science Center, out of many others

Detroit is also home to many major sports venues hosting four different professional teams within the city limits





# Air Travel in Michigan

- Several Airports around Michigan provide excellent air service for people traveling to and from Michigan



Gerald R. Ford International Airport in Grand Rapids



Lansing's Capital Region International Airport



Flint's Bishop International Airport



Detroit Metropolitan Airport



# Connection DTW to East Lansing



**Michigan's Premier Motorcoach Connection  
Between East Lansing, & Detroit Metro Airport**  
-) Schedule (Bus every 90 minutes) – 2 hour trip  
from 2 am to 5:30 pm → E. Lansing to DTW  
from 6 am to 10 pm → DTW to E. Lansing  
Cost one way: about \$30

**Alternative: car rental (1.5 hours trip DTW to FRIB)**

# Social activity: Henry Ford Museum & Greenfield Village

## Henry Ford Museum of American Innovation



## Greenfield Village: an outdoor living history museum



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# Organization experience

- FRIB hosts a number of international conferences & workshops every year. Marco Cortesi & his team will be assisted by FRIB Business Support organization office in all aspects of the conference organization. Support includes:
  - Business IT: provides secure, reliable, and integrated technology solutions aligned with laboratory goals to deliver high quality technology solutions and excellence in customer service.
  - Office Management Group: provides support in event, travel, trip, and visitor coordination, as well as reception support.
  - Communications office: provides strategic communication and quality messaging.
  - Finance Group: provides financial information, processes invoices and payments while auditing for compliance, and assists in analyses and reporting for all levels of management.



# Alternative: Kellogg Hotel & Conference Center

- A central location on the campus of Michigan State University, a few minutes walk from East Lansing downtown & near Michigan's capital city (Lansing)
- More than 35,000 square feet of flexible event space with 32 event rooms that accommodate from 12 to 1,200 guests
- Free Wi-Fi access throughout the hotel and conference center
- Onsite audio/visual equipment and support team
- Covered parking

Downside: requires an high registration fee to cover the expenses!

... maybe possible for >120 attendees.





# Kellogg Conference Center: Amenities

- Just seven minutes down the road from FRIB, the Kellogg Conference Center can provide a great addition FRIB's hosting abilities or host a conference independently



Auditorium  
Capacity = 300

Heritage Room  
(Conference Room)



Big Ten Rooms  
(Banquet Hall)

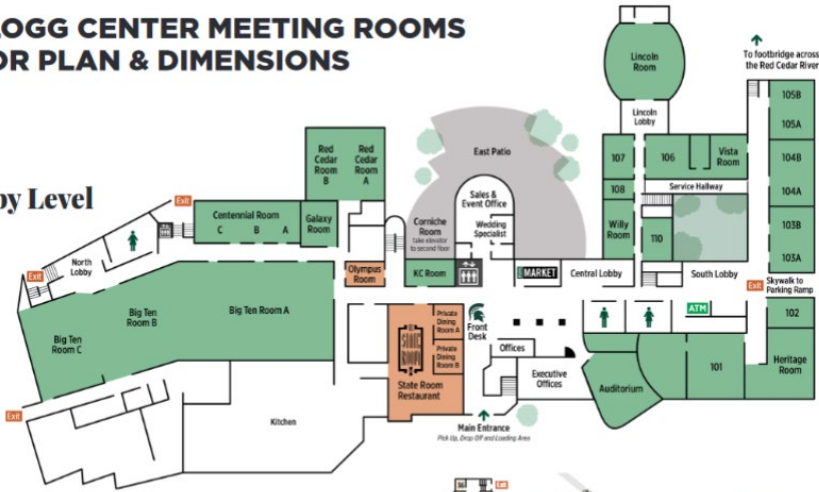
Galaxy Room  
(Conference Room)



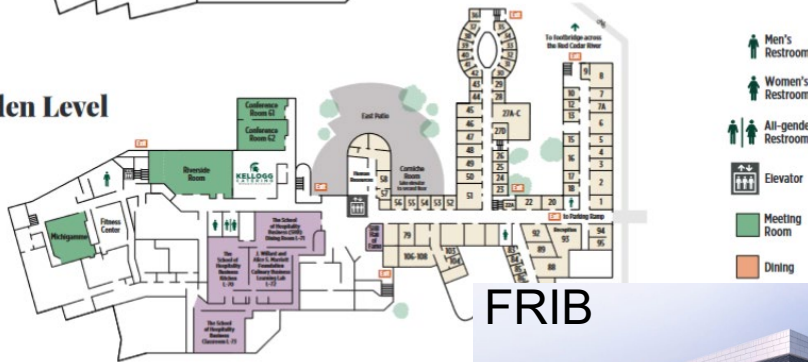
# Kellogg Center Meeting Rooms

## KELLOGG CENTER MEETING ROOMS FLOOR PLAN & DIMENSIONS

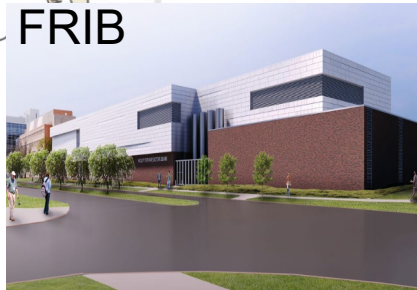
### Lobby Level



### Garden Level



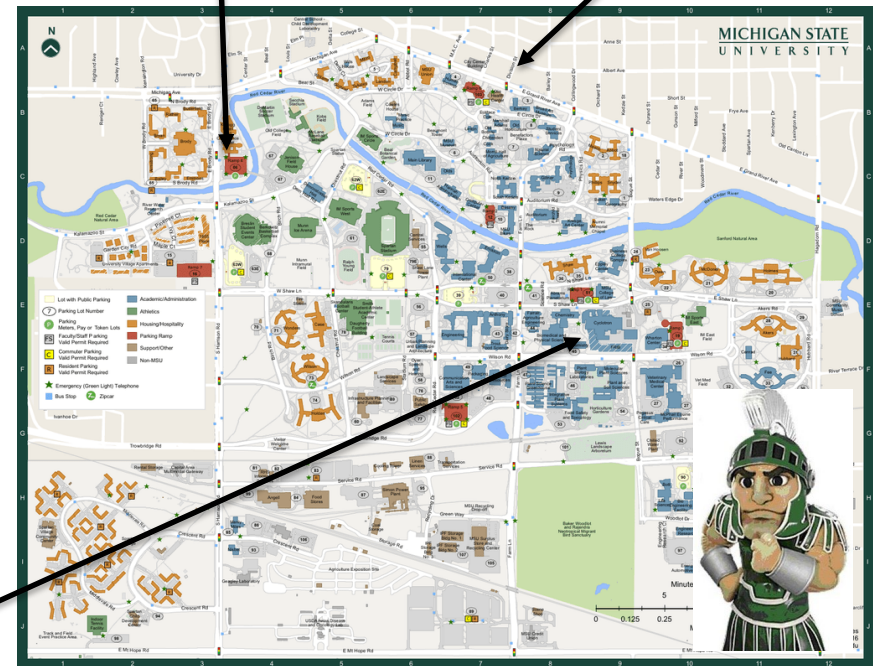
FRIB



Kellogg Center



East Lansing Downtown



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