

Consortium Membership Highlights

Student Training

Members Access Students with Skills in Electromagnetics

- VT MEEP student(s) are trained by the consortium
 - Electromagnetics Boot Camp
 - RF/Microwave Boot Camp (option)
- VT MEEP student(s) can be certified
 - Consortium will develop additional course work
 - Keysight Industry Ready (option)
- VT Academic Courses specifically designed to support the program

Undergraduate Student Interaction

Members Interact Directly with Undergraduates

- Deliver technical seminars to student groups
- Deliver guest lectures to student groups
- Mentoring with individual students
- Guide and advise multi-year, multidisciplinary student research team(s)

Consortium Graduate Student(s)

Members Assist Mentoring Consortium Graduate Students

- Mentor graduate student(s)
 - Participation in reviews
 - Participation in presentations
- Receive preview and final copies of the thesis or dissertation

Workforce Upskilling

Member Workforce Training Opportunities

- Introductory boot camp training for new employees, managers, business development: electromagnetics, RF/Microwave with more to be added
- Short course participation with discounts
- Technology reviews and assessments

Consortium Advantages

Member Networking and Recruiting Opportunities

- Members are given multiple recruiting opportunities
- Consortium member meetings organized once a year
- Advisory board meetings organized once a year
- Networking: Large membership for government and industry collaboration

Short Courses

Several short courses are under development. These courses will be offered at the Blacksburg campus but may be periodically offered at the Arlington, VA location

- Electromagnetic Material Modeling and Characterization
- Low-cost and Improvised Range Techniques
- Arrays, FSS and Radomes
- Composite Mechanics
- Additive Manufacturing for RF Devices

Shared Benefits for all Students and Members

RECRUITING

Student Recruiting

Consortium Student Recruiting

- Secondary schools:
 - Pilot efforts performed in Southwest VA
 - Successful efforts will be transitioned to additional regions
- VT Undergraduate Engineering: guest lectures, seminars, focus groups, open house
- VT Physics: Guest Lectures, seminars

Outreach

Consortium Outreach Support

- Outreach to secondary schools in collaboration with the Virginia Tech CEED program (<https://eng.vt.edu/ceed.html>)
- Outreach to VT freshmen through numerous available programs in collaboration with the Virginia Tech CEED
- Grants that help generate STEM programs serving secondary schools: Serving the local community and transitioning to the national community

UNDERGRADUATE STUDENTS

Boot Camps

All MEEP Students Are Exposed to Electromagnetics Regardless of Discipline

- Electromagnetics Boot Camp
 - All VT MEEP students will be required to attend this course
 - Offered twice a year: beginning of Fall and Spring Semesters
- RF and Microwave Boot Camp
 - Select students are required to attend, others are eligible
 - Offered twice a year: beginning of Fall and Spring Semesters
- Keysight Industry Ready Certification, select students

Classroom

The Consortium Creates New Academic Courses and Seminars

- Technical electives supporting the consortium
- Freshman seminar series: for-credit or an informal course depending on approvals
- Guest lectures in appropriate courses: freshman and sophomore general, electrical engineering and physics
- Development of a demonstration series supporting recruiting events
- Members may participate in instruction delivery

GRADUATE STUDENTS

Selection

Consortium Supported Graduate Students

- Spreads the cost of graduate students that help support the consortium
- Consortium will begin recruiting one or more graduate students during the 2021/2022 school year where the number will be determined by membership participation
- Consortium graduate student(s) will be supported by a Graduate Research Assistant (GRA), positions beginning Fall 2022

Concentration

Graduate Student Purpose and Responsibilities

- Graduate student(s) support the undergraduate teams
- Graduate student(s) shall pursue a consortium-related research project as their research work
- Members may attend reviews, help mentor students
- Members have access to reports and early access to the thesis

Membership Tiers

1: Tier 1	2: Tier 2	3: Tier 3	4: Government (Basic)	5: Government (Full)
9/2021 to 8/2023	9/2021 to 8/2023	9/2021 to 8/2023	No Mandatory Fees	9/2021 to 8/2023
\$25K*	\$50K*	\$75K*		\$75K*

*Initial Period is extended to 2 years to allow for program ramp-up
Annual renewal after initial period expires 7/2023

1: Tier 1	2: Tier 2	3: Tier 3	4: Government (Basic)	5: Government (Full)	
Student Teams					
	1	2	3	4	5
Full Access* to one team**					
Full Access* to two teams**					
Full Access* to three teams**					
Access to all student team meetings					
Access all teams' technical reports					
Access al teams design products and design reviews					
Boot Camps					
	1	2	3	4	5
Access to synchronous virtual boot camps for current employees					
Access to in-person boot camps					
Independent Student Researchers					
	1	2	3	4	5
Topic selection, guidance and access for technology literature reviews					
Topic selection, guidance and access for technology assessments					
Access to prior year's library of research products (except proprietary work)					
Access to entire library of research products (except proprietary work)					
Opportunities for individual student mentoring proprietary (dependent on student availability)					
Other					
	1	2	3	4	5
First access to nominate student(s) for available clearance billets					
Advisory Board representation					
Seat on the Advisory Board					
Short Course Discount (\$250)					
Opportunities to sponsor/direct research					

*Full Access: suggest topic, mentor design, test and manufacturing, attend meetings/design reviews, full access to design products and reports

**Teams will often be shared depending on participation by students and members

Seeking consortium lifecycle endowments to support strategic items, examples listed below. Based on investment level, partners will receive memberships to the consortium in perpetuity and other benefits.

1. Construction of a compact antenna range
2. Endowed graduate research fellowship
3. Endowed coverage for a MEEP consortium project coordinator