

# Enhancing International Research and Cross Border Collaboration in Innovative and Unexpected Ways

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2018 AIEA Annual Conference  
The Internationalization Imperative in Turbulent Times



## Session Take-Aways:

Proven strategies for designing and implementing programs, support structures, and resources that effectively incentivize and sustain international research engagement.

Participants will have the opportunity to discuss ideas, innovations, and lessons learned regarding building capacity around globalized research endeavors.



# How do we, as SIOs, incentivize and support international research among key stakeholders?

- Undergraduate Students
- Graduate Students and Post-Docs
- Faculty
- Staff (research administrators, unit administrators, support staff)
- Partners (Industry, other IHEs, NGOs, and other external groups)

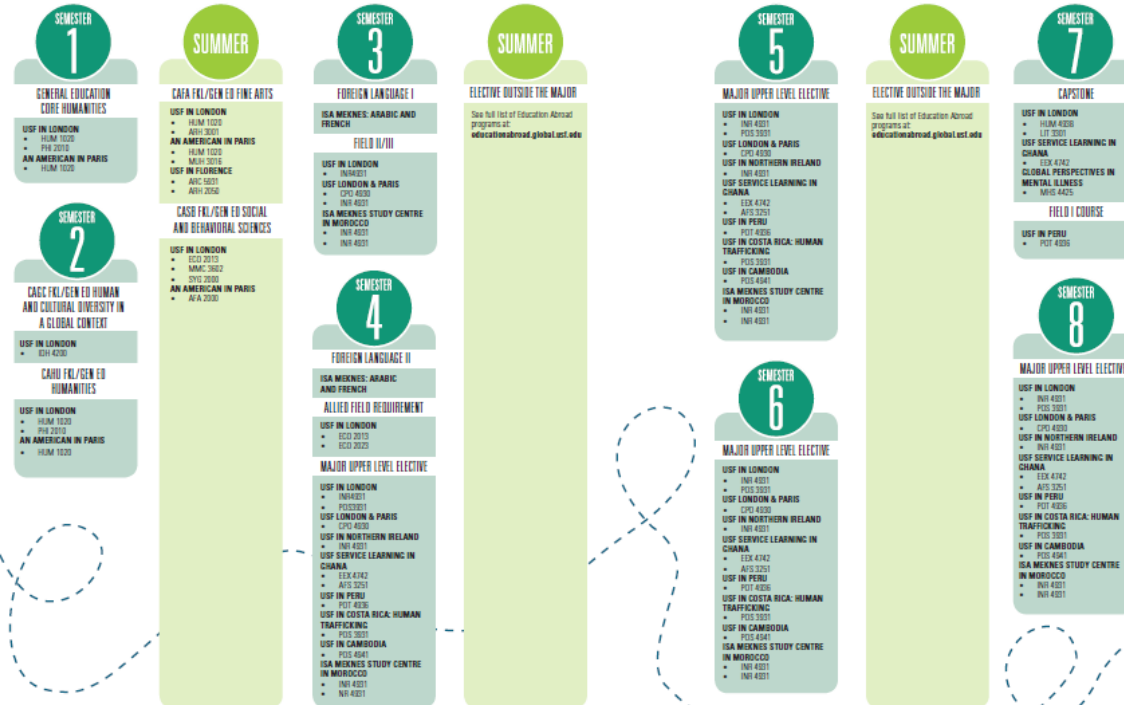


# Integrating High Impact Practices into the General Education Curriculum and 4 and 8 Semester Program Course Sequencing



## EDUCATION ABROAD 4 YEAR GLOBAL ROADMAP

### EIGHT SEMESTER PLANS



- Study Abroad
- Undergraduate Research
- Community Engagement
- Internship Experience





# Synching Peace Corps Programming and Global Student Research

USF Graduate students travel internationally with undergraduate students to conduct research and learn from international development practitioners in the field: Panama, Costa Rica, and Ecuador



Peace  
Corps

PREP



Peace  
Corps

COVERDELL  
FELLOWS



# Bringing High Caliber Scholars to USF



- Applied Anthropology
- Applied Physics
- Cell, Micro and Molecular Biology
- Chemistry
- Computer Science and Engineering
- Criminology
- Integrative Biology
- Marine Science
- Psychology



## University of South Florida

The Fulbright Postdoctoral Award at the University of South Florida, in honour of President Judy Genshaft, enables qualified UK postdoctoral researchers to pursue research at the university for up to two years.



- Applied Anthropology
- Applied Physics
- Business PhD programs
- Cell Biology, Microbiology & Molecular Biology
- Chemistry
- Computer Science & Engineering
- Engineering
- Criminology
- Integrative Biology
- Marine Science
- Psychology

**POSTGRADUATE  
FELLOWSHIP** AT THE  
University of South Florida

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IN HONOR OF  
President A.P.J. Abdul Kalam

**APPLICATIONS  
NOW OPEN**  
Due March 15, 2018



# Leveraging Global Partnerships for Collaborative Faculty Research

- Joint Funding
- Match-Making (Researchers and Disciplines)
- Mentoring and Professional Development
- Institutional Recognition and Resources



University of Ghana + University of South Florida

Building a New Generation of Academics in Africa" (BaNGA-Africa)

# An Online Resource for the University Community

**G**LOBALRESEARCHTOOLKIT.COM

HOME

MEET THE TEAM

CONTACT US

DISCUSSION

TOOLKIT



## Managing the Start-Up Process

Nothing is more frustrating than receiving funding and later discovering that something in your project was not taken into account that now threatens its sustainability. Find resources here to assist in preventing roadblocks and navigating them successfully when they do occur.

## Communication, Culture, and Ethics

Communication, culture, and ethics should all take center stage when working on an international collaboration. Not only do you need to be able to communicate effectively with your project researcher, but you should also be able to communicate with other administrators on the project as well as carry realistic expectations on project progress.



## Human Resources, Payroll, and Taxes (Labor and Tax Laws)

Many global research activities involve faculty, students, and/or staff working for various periods of time in the country of project operation. Some initiatives may involve transferring an employee abroad or relocating an employee for an extended period of time outside his or her home country. Still others may also necessitate hiring foreign nationals to work in their home countries in support of the project and/or hiring foreign nationals to work in the U.S. These issues can all present a range of legal, financial, risk management, and logistical considerations that can create complications and add expenses. Explore some of these issues and charts to help navigate the complexity in this section.

## Intellectual Property and Commercialization

Intellectual property and commercialization are two issues that are especially salient at the international level – especially when industry partners are involved. They are a central issue in international research collaborations and should be addressed by a legal professional at the earliest chance in a burgeoning project.



YOUR ROLE

GETTING STARTED

COMPLIANCE AND LEGAL MATTERS

DOING BUSINESS

TRAVEL AND SAFETY

FUN WIDGETS

THE GOOD, THE BAD, AND THE UGLY





# Connecting the Dots Across Campus Stakeholders





## YOUR HOSTS

**KIKI CARUSON**, AVP for Research, Innovation and Global Affairs, USF World

**JENNIFER CONDON**, AVP and Controller, USF Business and Finance

**REBECCA PUIG**, Senior AVP, Research & Innovation

**TERRY CHISHOLM**, Vice Provost for Strategic Planning, Performance, & Accountability

# GLOBAL GRAND CHALLENGES

- Global Health
- Conflict and Governance
- Environment & Energy
- Access to Education
- Food Security
- Poverty
- Financial Inclusion
- Social Justice
- Population Growth





# Mapping Curriculum

## Partner Programs

- by Semester
- by Class
- by Major

## College of Engineering Education Abroad Programs

The College of Engineering: Education Abroad Programs Grid provides an overview of the education programs sponsored by the College of Engineering. There is information on each program related to the semester the program is offered, the "ideal" class standing when a student might participate on the program, and the best suited major for each program. One will find the list of programs down the left-hand side of the grid, and one will find the semester, class standing, and majors across the top of the grid.

PROGRAMS	SEMESTER				CLASS		MAJORS											
	FALL	SPRING	SUMMER	WINTER	Freshman & Sophomore	Junior & Senior	Applied Engineering Sciences	Bio/Mems Engineering	Chemical Engineering	Civil Engineering	Computer Engineering	Computer Science	Electrical Engineering	Environmental Engineering	Material Science Engineering	Mechanical Engineering		
Ecole Catholique d'Arts et Metiers (France)			●		●	●	●						●				●	
Ecological Engineering in the Tropics (Costa Rica)				●	●	●	●	●	●	●	●	●	●	●	●	●	●	
*Energy Tomorrow: Summer Program (Australia)			●		●	●	●	●	●	●	●	●	●	●	●	●	●	
Engineering in Hannover, Germany			●			●			●				●				●	
Hong Kong University of Science and Technology	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	
ICT for Development in Tanzania			●			●	●	●	●	●	●	●	●	●	●	●	●	
John Cabot University (Italy)			●		●	●	●	●	●	●	●	●	●	●	●	●	●	
Monash University (Australia)	●	●			●	●	●	●	●	●	●	●	●	●	●	●	●	
National Taiwan University	●	●				●					●		●					
RWTH-Aachen University (Germany)			●			●											●	
Summer in Madrid			●			●									●		●	
STEM in Paris			●		●		●	●	●	●	●	●	●	●	●	●	●	
Technical University in Denmark	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	
Tohoku University (Japan)	●	●			●	●											●	
University College Dublin: Physics Summer			●		●		●	●	●	●	●	●	●	●	●	●	●	
University of Edinburgh	●	●				●											●	
University of Polit�cnica de Madrid	●	●	●		●	●		●				●			●		●	
University of New South Wales (Australia)	●	●			●	●	●	●	●	●	●	●	●	●	●	●	●	
University of KwaZulu-Natal (South Africa)	●	●				●	●				●		●				●	
10 Trending Technologies in Engineering (Spain)			●		●	●	●	●	●	●	●	●	●	●	●	●	●	

● = indicates that this program is possible for the semester, class standing, and major identified across the top of the grid.

\* = check with the College of Engineering Study Abroad Coordinator to determine if this program is running during the current academic year.

- MSU's STEM Partners identified global pathways for students.
- Students can now find an experiential learning opportunity that fits in their degree program and fulfills needed experience and credits.
- [MAPS](#)

### FRESHMAN YEAR

Fall	Credits
CEM 141	4
EGR 100	2
MTH 132	3
ISS 2XX	4

Spring	Credits
EC 201	3
EGR 102	2
MTH 133	4
WRA 101	4
CEM 161	1

Summer Abroad at University College Dublin	Credits
PHY 183 and PHY 191	5
PHY 184 and PHY 192	5

### SOPHOMORE YEAR

Fall	Credits
ME 280	2
MTH 234	4
ACC 230	3
IAH 201-210	4
EC 202	3

Spring	Credits
AESC 210	3
Bioscience	3
MTH 235	3
IAH 211 or >	4

### JUNIOR YEAR

Fall	Credits
AESC 310	3
CE 221	3
Concentration Course	3
MKT 317	3

Spring Semester Abroad at University of New South Wales (Australia)	Credits
ISS 3XX	4
ENE 280	3
Elective	3
MSE 250	3

### SENIOR YEAR

Fall	Credits
Concentration course	3
Concentration course	2
Bioscience	3/4
ME 201	3
MGT 325 or COM 225	3

Spring	Credits
Concentration Course	3
Concentration Course	3
AESC 410	3
ECE 201	3
Elective	3



# EDUCATION ABROAD

for Mechanical Engineering Majors

## ME EDUCATION ABROAD PROGRAMS

STUDY   INTERNSHIP   RESEARCH   SERVICE-LEARNING

### STEPS FOR CHOOSING AN EDUCATION ABROAD PROGRAM

- 1 Visit the Education Abroad Advising Center (International Center Room 108) and attend Education Abroad 101.
- 2 Talk with your academic adviser to discuss your interest in studying abroad and how it can fit into your degree plan.
- 3 Meet with the College of Engineering Education Abroad Coordinator to talk about program details and application process.
- 4 Fill out a Course Approval Form (CAF) to determine how courses taken abroad will count toward your degree.



Engineering Abroad in France



- 5 Complete an online application with the MSU Office for Education Abroad and apply for scholarships and other sources of funding.

#### University of New South Wales Sydney, Australia

**Terms:** Fall and Spring

**Required GPA:** 3.00

**Courses Offered In:** ME, MTH, STT, PHY, MSE, BS, ISS 3XX, IAH 211+



#### Hong Kong University of Science and Technology Hong Kong, China

**Terms:** Fall, Spring, and Summer

**Required GPA:** 3.00

**Courses Offered In:** ME, MTH, STT, PHY, MSE, CE, ISS 3XX, IAH 211+



#### École Catholique d'Arts et Métiers (ECAM) Lyon, France

**Terms:** Summer (Early June - Mid July)

**Required GPA:** 3.00

**Courses available:** ME 201; FRN GCU



#### CEA STEM in Paris Paris, France

**Terms:** Summer (Late May - Early July)

**Required GPA:** 2.5

**Courses Offered:** CE 221; MTH 234; ISS 3XX



#### RWTH Aachen University Aachen, Germany

**Terms:** Summer (Mid May - Late July)

**Required GPA:** 3.00

**Courses Offered:** ME 490; GRM 102 or higher



#### Leibniz University Hannover, Germany

**Terms:** Summer (Mid May - Early August)

**Required GPA:** 3.00

**Class Standing:** Junior minimum

**Courses Offered:** ECE 490



#### University College Dublin: Summer Physics Dublin, Ireland

**Terms:** Summer (Late June - Early August)

**Required GPA:** 3.00

**Courses Offered:** PHY 183, 184, 191, 192



#### John Cabot University Rome, Italy

**Terms:** Summer 1 (Mid May - Late June)

Summer 2 (Late June - Early August)

**Required GPA:** 2.75

**Courses Offered In:** ME, MTH, ITL, IAH 211+, ISS 3XX



#### University of Edinburgh Edinburgh, Scotland

**Terms:** Fall and Spring

**Required GPA:** 3.00

**Courses Offered in:** ME, ISS 3XX, IAH 211+



#### Pentatech: 5 Trending Technologies in Madrid Madrid, Spain

**Terms:** Summer (July - August)

**Required GPA:** 2.00

**Courses Offered:** ME 222; EGR 291; SPN 290 (no pre-req)



Department of Mechanical Engineering  
MICHIGAN STATE UNIVERSITY



MICHIGAN STATE  
UNIVERSITY

Note: The online version of this document has links (in green font) to program applications and course equivalencies.





# College of Engineering

## Sophomore Rising Education Abroad

### Summer Options

#### John Cabot University

Rome, Italy

Courses:

Summer 1 (Mid May - Late June): ME 201; MTH 132; ISS 320 or IAH 209/221A

Summer 2 (Late June - Early August): ME 201; MTH 135; IAH 211+

#### CEA Paris: STEM in Paris

Paris, France

Late May - Early July

Courses: MTH 234; CE 221

#### École Catholique d'Arts et Métiers

Lyon, France

Early June - Mid July

Courses: ME 201; FRN GCU

#### University College Dublin: Summer Physics

Dublin, Ireland

Late June - Early August

Courses: PHY 183, 191; PHY 184, 192

#### 10 Trending Technologies in Engineering

Madrid, Spain

Early July - Early August

Courses: EGR 291; SPN 290 (no pre-req)

#### Hong Kong University of Science and Technology (HKUST)

Hong Kong, China

Mid June - Mid August

Courses: MTH 235; IAH 211B or ISS 330B

### Fall or Spring Options

#### University of New South Wales

Sydney, Australia

Courses:

Fall: MTH 132, 133, 235; PHY 183, 184; STT 315, 351; MSE 250; CSE 231; CHE 201; EC 201, 202; ISS 3XX; IAH 211+

Spring: MTH 132, 234; PHY 183, 184; STT 315; CSE 231; ME 201; ME 222; BS 161; EC 201, 202; ISS 3XX; IAH 211+

#### Hong Kong University of Science and Technology (HKUST)

Hong Kong, China

Courses:

Fall: MTH 133, 234, 235; PHY 183; CSE 231, 232; ME 201; EC 221; MSE 250; EC 201, 202; STT 315; IAH 211+; ISS 3XX; BS 161

Spring: MTH 133, 234; PHY 184; STT 315; CSE 231, 232; CE 221; ME 222; EC 201, 202; IAH 211+; ISS 3XX

#### University of KwaZulu-National

Durban, South Africa

Courses:

Fall: MTH 133, 235; PHY 184; CE 221; MSE 250; EC 202; IAH 211+; ISS 3XX

Spring: MTH 132, 234; STT 351; PHY 183; CHE 201; ME 201; ME 222; CSE 231; EC 201; IAH 211+; ISS 3XX

#### Monash University

Melbourne, Australia

Courses:

Fall: MTH 132, 234, 235; PHY 184; ME 201; CSE 231; EC 201, 202; CHE 201; STT 351; IAH 211+; ISS 3XX

Spring: MTH 132, 234; PHY 183; ME 201; ME 222; MSE 250; CSE 231; EC 201, 202; STT 351; IAH 211+; ISS 3XX

### Education Abroad 101

EA101 sessions provide an overview about education abroad at Michigan State. Topics covered include using the online program search, navigating the application process, finding funding opportunities and more.

ONLINE: Coming Soon

GROUP PRESENTATION: Every Friday at 2:00 pm in the EA Advising Center (International Center Room 108)

INDIVIDUAL SESSION: By appointment, email abroad@msu.edu to schedule

### Can I afford to study abroad?

Yes, there are a variety of ways students can finance their education abroad program.

#### Scholarships:

Students are highly encouraged to apply for scholarships through the Office for Education Abroad, the College of Engineering, and other sources.

\*For Engineering specific scholarships:  
See Maggie Blair-Ramsey, EGR Education Abroad Coordinator

#### Financial Aid:

Students can use financial aid to help pay for their programs. Students who complete a FAFSA for the term they will be abroad, should be able to use the financial aid to fund their programs.

### Do I need a passport and visa?

• **Passport:** All students studying abroad must have a passport to participate on a program.

• **Visa:** Whether or not a visa is required depends on the country and the length of the program. Students are responsible for determining if a visa is required for their program.

### Do I need a foreign language?

No, knowing a foreign language is not a requirement on all programs.

To determine if a program has a language requirement, check in the description found in the MSU EA online program search.

### Can International students study abroad?

Yes, international students and resident aliens are welcome to participate on education abroad programs at MSU. Students must apply for and obtain a visa for their intended program as soon as possible.

For more information visit:

[educationabroad.isp.msu.edu](http://educationabroad.isp.msu.edu)

### How Is health and safety addressed?

The Office for Education Abroad works with the Office of International Health and Safety (OIHS) to oversee health, safety, security of students while they are participating on education abroad programs.

OIHS supports MSU students by:

- Offering a 24/7 International Emergency Assistance Line: +1 (517) 353-3784
- Monitoring international events and global public health concerns
- Collaborating with the Office for Education Abroad to offer comprehensive pre-departure orientation to program participants
- Coordinating international health and political unrest/natural disaster evacuation insurance
- Providing specialized training to Education Abroad Program Directors and Assistants.

For more information on health and safety visit:

[oihs.isp.msu.edu](http://oihs.isp.msu.edu)

### #SPARTANSABROAD



**MICHIGAN STATE UNIVERSITY** College of Engineering

Maggie Blair-Ramsey, EGR Education Abroad Coordinator  
blairram@egr.msu.edu  
Engineering Building, Room 1108D  
(517) 432-2012

**MICHIGAN STATE UNIVERSITY** Education Abroad

abroad@msu.edu  
International Center, Room 108  
(517) 353-8922



**MICHIGAN STATE UNIVERSITY**

\*Note: The course offerings are subject to change without notice. Students need to check with their advisers to make sure courses are offered and equivalent.

# Dual PhD Degree Programs to Attract Elite Graduate Students: Growing the Research Enterprise

Develop strong research collaborations with key partners, share students between institutions in labs of collaborating faculty.







# Sponsored Programs Administration

Office of Sponsored Programs | Contract and Grant Administration



Funding Opportunities

Proposal Development & Submission

Award Negotiation & Acceptance

Account Setup/ Modifications

Award Management

Award/ Closeout

Contact/ About Us

Resources/ Training

Sign In

## Resources

Forms & Templates

Tools

Frequently Required Budget and Proposal Data

Policies

Reports and Statistics

SPA Metrics

Training +

SPA Newsletters

Resources, Initiatives, and Related Units

Sponsor Information

## Additional Information and Tools for International Projects



Budget Preparations



Subrecipients

Subaward Setup Guidance

Insurance Requirements and Resources

Methods of Payment and Imprest Advance Procedures



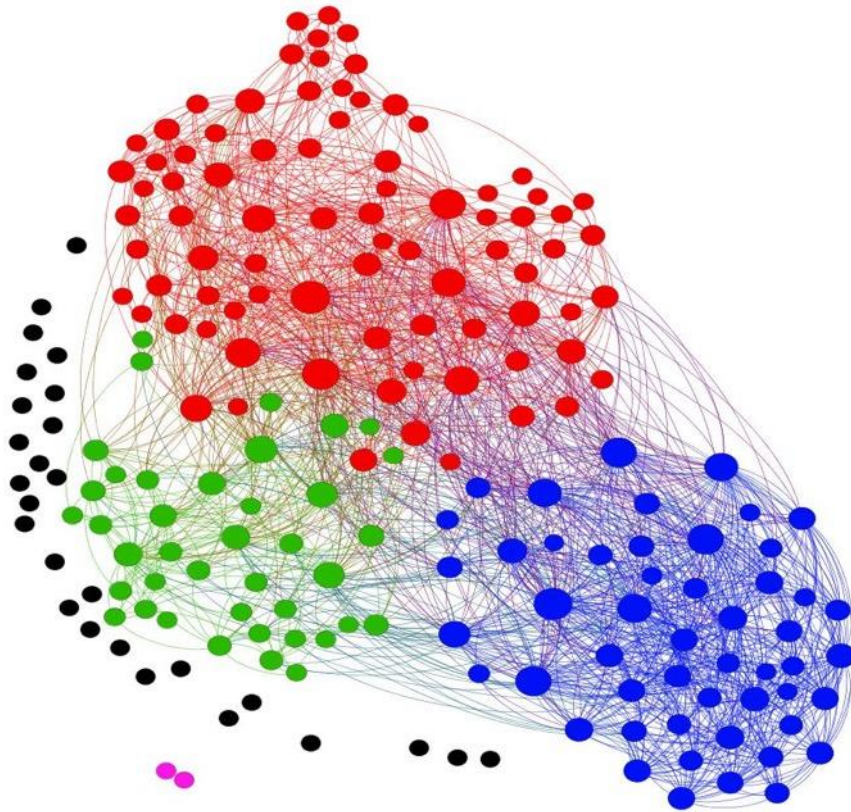
Subject Matter Experts

GRAND Forum Presentations





# The Next Evolution is Networks of Problem Solvers



- Nimble
- Responsive
- Integrative
- Collaborative
- Change Actors
- Risk Preferred
- Open

# ACADEMY FOR GLOBAL ENGAGEMENT Overview

The Academy for Global Engagement aims to:

- Build growing cohort of faculty who form global research relationships, problem-solve with partners, view scholarship through global lens
- Heighten global awareness and dialogue
- Elevate status of MSU's global mission
- Tap into campus resources in international programming
- Capitalize on opportunities to leverage external resources, partnerships
- Be a force in developing global research project priorities, influence high-level strategies to address them

# ACADEMY FOR GLOBAL ENGAGEMENT

## Mechanisms for reaching impact

AGE empowers faculty to develop networks aimed at tackling grand challenges through:



- Identifying and working with global research partners
- Effectively communicating research to diverse audiences
- Developing partnerships with program officers at agencies/ funders



# ACADEMY FOR GLOBAL ENGAGEMENT Mechanisms for reaching impact

Working with mentors, our AGE Fellows help expand on the University's expansive global footprint



# ACADEMY FOR GLOBAL ENGAGEMENT

## Mechanisms for reaching impact

The Global Academy's goal is to create a new generation of ***international research experts*** at MSU who will use their scholarship to ***contribute solutions*** to the grand challenges of the 21st century.

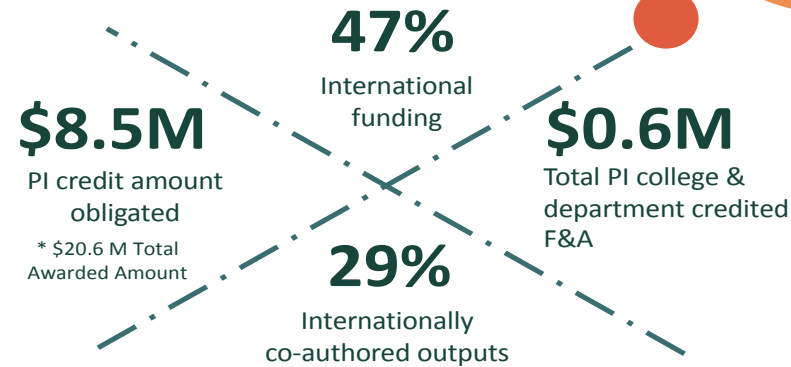




Launched in 2014, the Academy for Global Engagement (AGE) empowers early- and mid-career MSU faculty to become the next generation of global researchers.

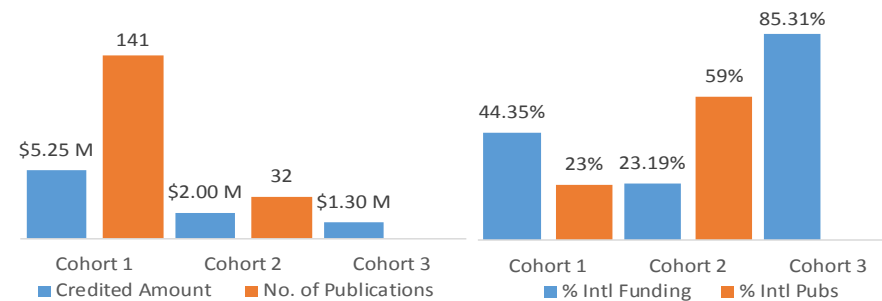


## Metrics Being Tracked (FY 2015-2017)



Partial results of survey in 2017 indicated that more than 80% (15/18) of AGE fellows reported improvements in their **communication and networking skills** because of AGE fellowship.

## Research funding received and scholarly output of three cohorts after the fellowship, 2015-2017\*.



\* A study is on-going to compare outputs of AGE faculty (participant) against a carefully assembled peer group of non-participant MSU researchers (control).



# ACADEMY FOR GLOBAL ENGAGEMENT Mechanisms for reaching impact

## Collaborating on International Solutions

Strengthen collaborative advantages by developing unique networks and innovative *partnerships* to leverage intellectual capabilities

### BEST PRACTICE

*Academy for Global Engagement Fellows Program* - faculty development mentoring to build international research capacity



## Mechanisms for reaching impact

The key is to position yourself with organizing expertise around the nexus of the Grand Challenge (large-scale) awards

Employ principles of branding, marketplace intelligence, experience and innovation





## RESEARCH

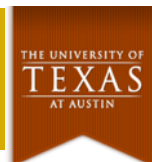
**Over \$600 million in 2017**

Top federal funding: NSF, U.S. Dept. of Health & Human Services, U.S. Dept. of Energy, and U.S. Dept. of Agriculture

International Programs that include education + research: \$60 mil



# Economic, Environment and Societal Research



# Energy Research



De-Risking and Scale-Up  
of Bio-Based Technologies



# Partnerships for Sustainable Community Development+ The Tanzania Partnership Program+

**Mission:** To find long-term solutions, build capacity and create collaborations that promote resilient and sustainable communities. To unite development, education and research that boldly pushes the frontiers of knowledge and the role universities play in transforming local communities and the lives of individuals.)

## Partners:+

- Michigan State University (multiple colleges)
- Institute of Resource Assessment (IRA), University of Dar es Salaam
- Dar es Salaam University College of Education (DUCE)
- Aga Khan Foundation (AKF) and Aga Khan University (AKU)
- Sokoine University of Agriculture (SUA)
- District Governments
- Milola Village, Lindi District, Tanzania
- Naitolia Village, Monduli District, Tanzania

## Approach:

- Addressing complex problems through an integrated and interdisciplinary approach)
- Create an iterative relationship between Development, research and education)







**RUTGERS**

The State University of New Jersey

**Eric Garfunkel**

**Global Engagement in STEM Research**





# Why engage globally in STEM research?

- Impact of research on global development– SDGs (impact on people, societies...)
- Science diplomacy ([sciencediplomacy.org](http://sciencediplomacy.org))
- Mission/vision/values, philanthropy, personal
- Increase number and diversity of minds involved in a given project
- Recruiting - future source of staffing or students (in country, or globally)
- PR for your institution
- Industry needs – new markets

# **STEM research topics of relevance to the developing world (most of the SDGs):**

- Energy (carbon, alternative)
- Sustainability/environment
- ICT (computer science, big data, telecom)
- Infrastructure – transportation, construction
- Mining/processing
- Water
- Health
- Agriculture
- Nanotech
- **Social science partnerships are essential**

# The partner (person, division, institution): chosen with thoughts of strength, sustainability, history, promise

- University (U Sao Paulo, Wits, UHavana, UGhana)
- Institute or National Laboratory (BITRI, CAS, LIPI)
- NGOs (Coral reef organizations, Engineers w/out Borders)
- UN, UNESCO and related international organization (IAEA)
- Researcher and/or Senior Administrator
- Industry
- Government
- Societies



**RUTGERS**

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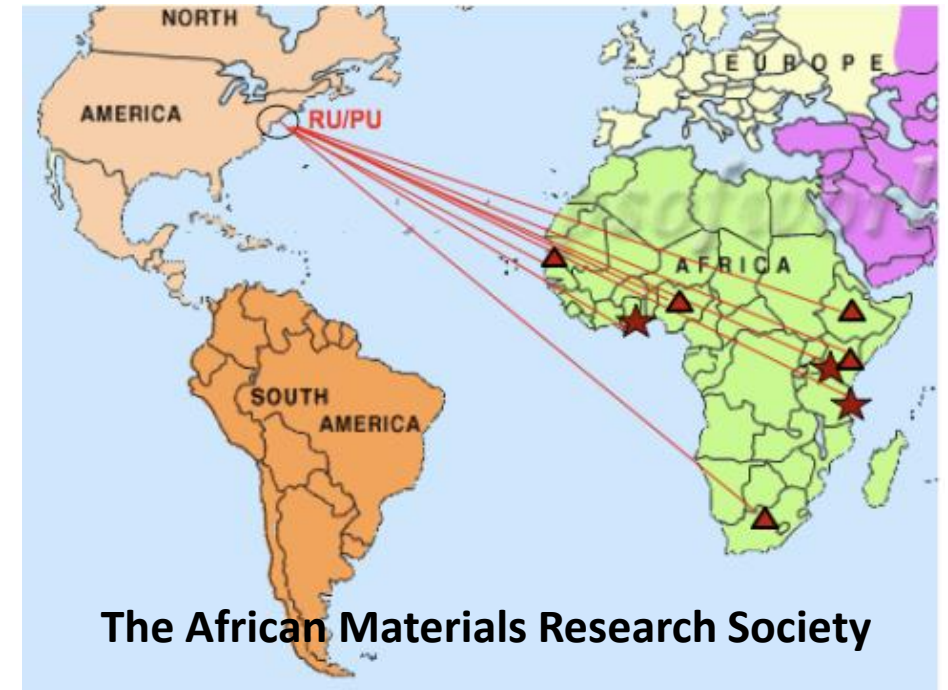




# International professional societies as partners: Help create and/or grow one!

Societies (such as AIEA) are critical for initiating and maturing partnerships. They often are underfunded or non-existent in the developing world

- Use society conferences and short courses to initiate partnerships – excellent for networking
- Organize conferences and short courses with global partners
- Grow student exchanges facilitated by society (JUAMI)
- Our programs have been funded by NSF (regular, IGERT, PEER, PIRE, etc.), Carnegie, World Bank, USAID, NIH, etc.
- Use US-based networks (Big Ten, AIEA, APLU, etc.)



# Facilitate academic mobility (of students, faculty and administrators) with a focus on research

- Students (undergraduate and graduate)
  - Conference or Summer School
  - Study/Research Abroad
- Post-doc, Visiting Scholar
- Senior Scientists
- Virtual mobility for education and research



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# **Support opportunities – public, private, international, foundation, non-profit**

- US: NSF, DOD, NIH, USAID, MRS, ACS, APS, NAS, AAAS
- CRDF Global
- Africa: AfDB, EADB, AU, South Africa, Nigeria, TWAS
- International
  - EU/EC, CNRD, DAAD, Scandanavian
  - Asian - CSC, Japan, LPDP/Indo, Taiwan
  - Latin American – Pronabec, Brazilian, Mexican....
- World Bank
- UN: UNESCO, UNDP, UNHCR...
- Foundations: Carnegie, Ford, Gates, Rockefeller, Mellon...
- Private Companies: IBM, Cisco, Siemens, l'Oreal, Sasol, Coca-Cola, BASF, Intel...



# Potential Challenges

- Legal/regulatory/compliance (IRB)
- Intellectual Property (IP)
- Cultural
- Political
- Linguistic/communications
- Freedom of speech
- Security/Health
- Publication limitations/authorship

# Science => Engineering => Business development, beneficiation, products

- Manufacturing
- Innovation
- Intellectual Property
- Translational Research
- Commercialization
- Startups and Spin-offs



*Vice President Masisi (second left) interacting with delegates at the Ninth African Materials Research Society International Conference in Gaborone on Monday. He said government was committed to ensuring the optimal utilisation of all available technologies for the benefit of its people.*



**RUTGERS**

The State University of New Jersey

# Take home messages (to help develop sustainable STEM partnerships)

- Focus on several university strengths – create teams focused on grand challenges (SDGs or other)
- Find and attract appropriate faculty and bring them together (preferably already engaged)
- Grow existing partnerships (or develop new ones)
- Attract knowledgeable administrative staff
- Funding – multiple sources, seed funds as needed
- Develop software and assessment systems
- Encourage student and faculty mobility
- Remain creative, flexible and agile