

ND NASA EPSCoR Technical Advisory Committee Business Meeting

Odegard Hall 244, 2:00 to 3:30 PM, April 28, 2011

**Santhosh Seelan
Director, ND NASA EPSCoR
Director, ND Space Grant
Chair, Department of Space Studies, UND**



Technical Advisory Committee Members

(New members for 2011 in red)

Forrest Ames
UND Mechanical Engineering

Corinne Brevik
Dickinson State University

Mike Gaffey
UND Space Studies

Victoria Gelling
NDSU Coatings & Polymeric Materials

David Givers
NDSU ND EPSCoR

Eliot Glassheim
ND Legislature

Ray Holmberg
ND Legislature

Mark Hoffmann
UND ND EPSCoR

Alan Kallmeyer
NDSU Mechanical Engineering

Larry Robinson
ND Legislature

Santhosh Seelan
ND NASA EPSCoR Director

John Webster
Minot State University

Delore Zimmermann
Red River Valley Research Corridor



Mission of ND NASA EPSCoR

- To increase the NASA-relevant research infrastructure in North Dakota, which will assist PI's in submitting competitive grant proposals through NASA's regular funding programs.
 - Applies only to the state's two research universities: UND and NDSU.
 - Two components: 1) RID program, 2) CAN (Cooperative Agreement Notice) program.
 - Two funding sources: 1) NASA, 2) ND State



Year 4 in review

- Transition to new ND NASA EPSCoR Director started in summer 2010
- Attended NASA EPSCoR meeting at NASA HQ in Aug 2010
- New Director officially started on 16 Aug 2010
- Total of five RFPs released, 3 funded during year 3
- Two NASA CAN proposals submitted
- Annual report for year 4 submitted to NASA



Year 4 budget

ND NASA EPSCoR Year 4 Budget

Description	Budget	Remarks
Admin salaries and fringe	43,178	Director (2 months) + Carla (40% time)
Admin travel, supplies	5,130	
Travel grants	20,000	
Seed grants	73,088	
Indirect costs (UND and NDSU)	33,198	
Total	174,594	125K (NASA) + 50K (State)
Research Focus Area Grants	300,000	State (originally budgeted for CAN)



Year 4 & 5, Seed Research and Travel Awards

RFPs released	Date of release of RFP	Total amount	No. of proposals received	No. of awards	Remarks
I	Aug 18, 2010	\$300,000 (seed research)	20	8	The funds used were the \$300,000 state match funds which were originally kept aside as match for NASA EPSCoR CAN.
II	Sept 30, 2010	\$73,000 Seed research)	9	5	Year 4 award
III	Sept 30, 2010	\$20,000 (travel)	3	3	Year 4 award
IV	Dec 10, 2010	\$96,000 (seed research)	9	5	Year 5 award
V	Dec 10, 2010	\$20,000 (travel)	8	5	Year 5 award



Year 4, RFP I – Research Focus Area Awards

Principal Investigator	Title of proposal	Award amount
Dr. Forrest E. Ames, Professor, Mechanical Engineering, University of North Dakota	Experimental Program to Study Aerodynamics and Flow Control in Low Pressure Turbines at Relevant Mach and Reynolds Numbers	\$50,000
Dr. Reza Fazel, Assistant Professor, Electrical Engineering, University of North Dakota	An Intelligent Medical Health Monitoring for the NDX-2 Lunar Space Suit: A Proof of Concept	\$50,000
Dr. Xiaodong Zhang, Associate Professor, Earth Systems Science & Policy, University of North Dakota	Combining Scintillometry and Eddy Covariance to Evaluate and Validate Remotely Sensed Evapotranspiration Rate at Various Spatial Scales	\$50,000
Dr. Fardad Azarmi, Assistant Professor, Mechanical, Engineering, North Dakota State University	An Image-Based Methodology for Thermo-mechanical Characterization of the Thermal Spray Coatings	\$32,888
Dr. Benjamin Braaten, Assistant Professor, Electrical & Computer Engineering, North Dakota State University	A Small Wearable Conformal Phased Array Antenna for Wireless Communications	\$34,008
Dr. Muhammet E. Kose, Assistant Professor, Chemistry & Biochemistry, North Dakota State University	Chirality Dependent Carbon Nanotube Separation for Lightweight Electronics	\$43,103
Dr. Jack Norland, Assistant Professor, School of Natural Resource Sciences, North Dakota State University	Assessing aboveground grassland vegetation contribution to soil carbon stocks by combining MODIS imagery and CASA production estimates	\$17,500
Dr. Xinnan Wang, Assistant Professor, Materials & Nanotechnology Program, North Dakota State University	Fabrication & Mechanical Testing of Nanowire Array Reinforced Nanocomposites	\$22,501



Year 4, RFP II – Seed Research Awards

Principal Investigator	Title of proposal	Award amount
Dr. Wayne Barkhouse, Assistant Professor, Physics & Astrophysics, University of North Dakota	Optimizing Galaxy Cluster Detections as a Probe of Dark Energy	\$1,800
Dr. Juergen Fischer, Senior Research Engineer, Engineered Surfaces Center, School of Engineering & Mines, University of North Dakota	Investigating the possibility to electrodeposit niobium from electrolytes containing ionic liquids and niobium salt	\$12,202
Dr. Sima Noghianian, Assistant Professor, Electrical Engineering, University of North Dakota	Miniaturized Antennas for Space Suit using Photonic Band Gap Structures	13,296
Dr. Hongxiang Li, Assistant Professor, Electrical & Computer Engineering, North Dakota State University	Flexible hybrid radio: making wireless communications cooperative and wearable	\$18,300
Dr. Yildirim Suzen, Assistant Professor, Mechanical Engineering, North Dakota State University	Computational Study of Aerodynamics and Flow Control in Low Pressure Turbines at Engine Relevant Mach and Reynolds Numbers	\$22,560



Year 4, RFP III – Travel Awards

Principal Investigator	Title of proposal	Award amount
Dr. James Casler, Associate Professor, Space Studies, University of North Dakota	Grad student travel to 42nd Lunar and Planetary Science Conference, Woodlands, TX	\$1,442
Dr. Gretchen Mullendore, Assistant Professor, Atmospheric Sciences, University of North Dakota	Collaboration with Jet Propulsion Laboratory in Convective Transport Research, Pasadena, CA	\$2,005
Dr. Sima Noghianian, Assistant Professor, Electrical Engineering, University of North Dakota	Attend 2011 IEEE Aerospace Conference, Big Sky, MT	\$1,252



NASA CAN Proposals

- In response to the recent NASA CAN solicitation, ND NASA EPSCoR made an internal selection and the following two proposals were submitted:
 1. " Evaluation of NASA GISS ModelE AR5 Simulated Global Cloud and Radiation Properties Using the MODIS-CERES Observations and MERRA Reanalysis" by Dr. Xiquan Dong, University of North Dakota
 2. "Experimental and Computational Investigation of Low Pressure Turbine Aerodynamics: Benchmark Data Set and Predictive Tool Development" by Dr. Bora Suzan, North Dakota State University and Dr. Forrest Ames, University of North Dakota



Issues that need discussion

- Potential federal budget cuts (\$25m vs likely \$9.1m for FY 2012)
- State match – what is the best way to use it?
- Too many RFPs during year 4. We should be back on track for future years.
- How do we promote collaboration among PIs and with external agencies?



Issues that need discussion

- Need for external reviewers
- Submissions by non tenure track faculty & senior faculty
- ND NASA EPSCoR web site
- Next meeting format - separate business and technical meetings?

