

Report Information				
Award Type	Award Number	Prime DUNS	Calendar Year / Quarter	Final Report
Grant	0947832	066470972	2010 / 4	No

Award Recipient Information	
Recipient DUNS Number 066470972	Recipient Address 1 107 SAMFORD HALL
Recipient Account Number 219043	Recipient Address 2
Recipient Congressional District 02	Recipient City AUBURN
Parent DUNS Number 066470972	Recipient State AL
Recipient Type 2U.G6.M8.OH.VW	Recipient ZIP Code + 4 368490001
Recipient Legal Name AUBURN UNIVERSITY	Recipient Country USA
Recipient DBA Name	

Project / Award Information	
Funding Agency Code 4900	Total Number of Sub Awards less than \$25,000/award 0
Awarding Agency Code 4900	Total Amount Sub Awards less than \$25,000/award 0.00
Program Source (TAS) Code 49-0101	Total Number of Sub Awards to Individuals 0
Sub Account Number for Program Source	Total Amount of Sub Awards to Individuals 0.00
CFDA Number 47.082	Total Number of Payments to Vendors less than \$25,000/award 0
Amount of Award 100000.00	Total Amount of Payments to Vendors less than \$25,000/award 0.00
Award Date 08/28/2009	
Award Description ECCS/PCAN/EAGER: Biologically Inspired Resource Harvesting in Mobile Wireless Networks - This research will provide techniques to harvest and manage two of the most important resources required by a wireless mobile device: energy and computing power. Research on the energy efficient design and operation of mobile computing and communication devices using biologically inspired resource harvesting and management techniques.	

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Project Information

Project Name or Project/ Program Title	Activity Codes (NAICS or NTEE-NPC) (up to 10)
<p>Project Name or Project/ Program Title ECCS/PCAN/EAGER: Biologically Inspired Resource Harvesting in Mobile Wireless Networks</p> <p>Quarterly Activities/ Project Description To test the performance of our proposed computational model, we have implemented ABC?s - System Architecture, Tag Structure as well as Ant Agents in the popular network simulator, ns-2. To prove that many distributed applications can be written using Ant Agents, we implemented a simple user application belonging to the Bag-of-Tasks (BoT) paradigm. The bag-of- tasks paradigm is widely used in many scientific computations. Our experiments with this paradigm were based on a Monte Carlo simulation of a model of light transport in organic tissue. The simulation runs as follows: once launched, a photon is moved a distance where it may be scattered, absorbed, propagated undisturbed, internally reflected or transmitted out of the tissue. The photon is repeatedly moved until it either escapes from or it is absorbed by the tissue. This process is repeated until the desired number of photos has been propagated. Because the model assumes that the movement of each photon in the tissue is independent of all other photons, this simulation fits the description for the bag of tasks paradigm. The experiment results present a near-linear speedup for each additional Ant Agent injected into the network.</p>	<p>Activity Code 1 B43 - NTEE</p> <p>Activity Code 2</p> <p>Activity Code 3</p> <p>Activity Code 4</p> <p>Activity Code 5</p> <p>Activity Code 6</p> <p>Activity Code 7</p> <p>Activity Code 8</p> <p>Activity Code 9</p> <p>Activity Code 10</p>
<p>Project Status Completed 50% or more</p>	

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Total Federal Amount ARRA Funds Received/ Invoiced	90609.93
Number of Jobs	0.00
Description of Jobs Created	None this reporting period
Total Federal Amount of ARRA Expenditure	90609.93
Total Federal ARRA Infrastructure Expenditure	0.00
Infrastructure Purpose and Rationale	

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Infrastructure Contact

Name	Street Address 1
Email	Street Address 2
Phone	Street Address 3
Ext	City
	State
	ZIP Code + 4

Primary Place of Performance

Address 1	200 Broun Hall
Address 2	
City	Auburn University
Country Code	US
State	AL
ZIP Code + 4	36849 - 5201
Congressional District	03

Recipient Highly Compensated Officers

Prime Recipient Indication of Reporting Applicability	No	Officer 3 Name	
Officer 1 Name		Officer 3 Compensation	
Officer 1 Compensation		Officer 4 Name	
Officer 2 Name		Officer 4 Compensation	
Officer 2 Compensation		Officer 5 Name	
		Officer 5 Compensation	

Report Audit Trail

Created By	Cindy Selman
Date Created	01/02/2011 02:48 PM
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Last Updated On	01/05/2011 03:06 PM