

Report Information				
Award Type	Award Number	Prime DUNS	Calendar Year / Quarter	Final Report
Grant	0915045	066470972	2010 / 2	No

Award Recipient Information	
Recipient DUNS Number 066470972	Recipient Address 1 107 SAMFORD HALL
Recipient Account Number 219046	Recipient Address 2
Recipient Congressional District 02	Recipient City AUBURN
Parent DUNS Number 066470972	Recipient State AL
Recipient Type 2U.95.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 1
Amount of Award 175777.00	Total Amount of Payments to Vendors less than \$25,000/award 3000.00
Award Date 09/14/2009	
Award Description The investigator and his students will study poromechanical models analytically (existence and uniqueness), develop and rigorously analyze finite element based methods for approximating solutions of various model problems in poromechanics, and derive a-priori and a-posteriori error estimates. They will advance the underlying mathematical theory and the science of computer simulation of large-scale, complex, coupled, multi-scale phenomena. Deliverables may include scientific reports, journal publications, conference presentations, and computer programs.	

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Project Information

Project Name or Project/ Program Title	Studies in Poromechanics and Electro-Poromechanics	Activity Codes (NAICS or NTEE-NPC) (up to 10)
Quarterly Activities/ Project Description	<p>Working with Y. Cao on the analysis and numerical analysis of a stationary poroelasticity model (we are studying the existence and uniqueness of solutions, and their numerical approximation). Writing a research paper with Y. Cao: "Steady Flow in a Compressible Porous Medium".</p> <p>Writing a research paper with L. W. Wolf, M.-K. Lee and G. Dyer "PFLOW: A 3-Dimensional Time-Dependent Pore-Pressure Diffusion Model".</p> <p>The first version of the Matlab program PFlow has been released, L. W. Wolf (Geology and Geography) has been handling its distribution to researchers and educators.</p> <p>I gave a special session talk titled: "Steady Flow in a Deformable Porous Medium" in the Special Session on Recent Progress in Numerical Methods for Partial Differential Equations (organized by A. Demlow and X. Feng) at the 2010 Spring Southeastern Sectional Meeting of the AMS, held March 27-28, 2010 in Lexington, KY.</p> <p>I am a co-organizer with Y. Cao of a minisymposium on flow through porous media and related topics at the 2010 SIAM Annual Meeting, to be held July 12-16, 2010 in Pittsburgh, PA. I will also give a minisymposium presentation at this conference.</p> <p>I am working with three Ph.D. graduate students (see above)</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>

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and will continue with their training during the next quarter.

Project Status Less than 50% completed
Total Federal Amount ARRA Funds Received/ Invoiced 19027.24
Number of Jobs 0.52
Description of Jobs Created Faculty and Graduate Assistants
Total Federal Amount of ARRA Expenditure 44111.72
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	Department of Mathematics and Statistics
Address 2	221 Parker Hall
City	Auburn University
Country Code	US
State	AL
ZIP Code + 4	36849 - 0001
Congressional District	02

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

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