

## Completed Research Projects

<b>Title</b>	<b>Sponsor</b>	<b>Amount</b>	<b>Duration</b>	<b>Researchers</b>	<b>Comments</b>
NSF-EPSCoR Strategic Program to Achieve Sustainable Competitiveness	NSF-EPSCoR	\$70,000 14,532	Sept. 99 – Mar - 2000	A. González	
Extension of the proposal UPR/MIT professional development program in conjunction with the Tren Urbano Project	Frederick Harris	\$450,000	Oct. 1998 – Sept. 1999	A. González	
EPSCoR SIP	EPSCoR	\$ 15,070	1998	A. González	
Removal of contaminants from air and water using zeolites	EPSCoR: NSF - UPR	\$148,681	March 97 – March 99	I. Santiago	
EPSCoR SIP: Ingeniería Infraestructura	NSF UPR	\$150,171 220,000	Oct. 1, 97 – Sept. 30, 98	A. González	
Experimental investigation of the overall behavior of slab-on-girder bridges seated on steel bearing	NSF UPR	\$39,396 \$41,724		D. Wendichansky	

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UPR/MIT professional development program in conjunction with the Tren Urbano Project	Council of Science and Technology, Administered by	\$651,945	Oct. 1996 – Sept. 1998	A. González	
Professional development program associated with the Tren Urbano project	UPR – Adm. Central	\$330,000	Jul. 1994 – Jun. 1997	A. González	
Development of weigh probability distribution and truck factors for PR	UTRC	\$96,877	Oct. 96 – Sept. 97	B. Colucci	
<b>Research Development and Technology Transfer Program, Group of Four Proposals (\$114,593) – June 1997 – May 1998</b>					
The use of FRP tow sheets for repair and rehabilitation of PR's bridge slabs	DTOP	\$28,552	Jun. 1997 – May 1997	H. Toutanji J. Martínez Cruzado	When Prof. Toutanji left the University, Prof. Martínez Cruzado took over..

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Evaluation of the length of confinement regions in typical PRDTCPW reinforced concrete bridge column subjected to flexure and axial compression	DTOP	\$28,326	Jun. 1997 – May 1997	J. Martínez Cruzado A. Rodríguez	When Prof. Toutanji left the University, Prof. Martínez Cruzado took over
Development of guidelines for the evaluation of stability and scour problems at bridges in PR	DTOP	\$28,510	Jun. 1997 – May 1997	R. Segarra	
Características de resistencia y comprensibilidad de suelos A-2-4 y A-2-5, según AASHTO	DTOP	\$23,747	Jun. 1997 – May 1997	J. Bernal	
<b>State Planning and Research Program, Group of Five Proposals (\$150,000) – February 1996 – January 1997</b>					
Evaluation of the design-build contract for the Yabucoa bridge on PR-53	DTOP	\$15,100	Feb. 1996 – Jan. 1997	A. González	

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Development of an internet publishing & communications system for the DTPW	DTOP	\$28,468	Feb. 1996 – Jan. 1997	D. Dayton A. González	
Measurement & analysis of pavement condition & improvement of existing roughness mathematical models applied to the PR Highway Network	DTOP	\$28,461	Feb. 1996 – Jan. 1997	J.L. Pérez Berenguer	
Características de resistencia y comprensibilidad de suelos calizos	DTOP	\$22,293	Feb. 1996 – Jan. 1997	J. Bernal	
Center and contingencies	DTOP	\$26,611	Feb. 1996 – Jan. 1997	A. González	

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Title	Sponsor	Amount	Duration	Researchers	Comments
<b>Development of the University of Puerto Rico Engineering Infrastructure Research Center                      – Second Phase (Internal funds: \$720,000 for a period of 36 months; External funds:                      \$720,000 for a period of 36 months) (October 1995 – Oct. 1998)</b>					
A detailed examination of quantitative aspects of urban light rail transit systems	NSF Legislature	\$110,908		F. Luyanda J. Guitérrez	
Behavior of damage structural components		\$56,276		L. Godoy	Two-years duration.
Seismic response of R/C frames with friction composite moment connections		\$88,054		L. Rodríguez A. Saffar	
Detection of water losses in piping systems		\$56,114		W. Silva	
Methodology for development of performance and survivors curves for flexible pavements in PR		\$68,470		B. Colucci N. Ramírez	Two-years duration
Asphalt chemical characterization studies using high performance liquid chromatography		\$75,522		J. Colucci B. Colucci	Two-years duration

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Traffic signal control based on fuzzy logic		\$68,390		G. Beauchamp	
Seismic retrofitting performance and cost-effectiveness of steel bracing systems with supplemental damping devices		\$68,990		L. Rodríguez A. Saffar	
Design earthquakes for PR		\$91,963		J. Martínez	
Development of a decision support for urban watershed management in PR		\$100,312		J. Rivera R. Zapata	
Technology assessment for bridge deck condition surveys		\$91,963		H. Toutanji	
Patterns of inelastic deformation in reinforced concrete frames subjected to strong earthquakes		\$54,637		R. López	Two-years duration
Civil Infrastructure Research Center (Administration)		\$454,032			

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Development of the University of Puerto Rico Engineering Research Center – First Phase (Legislature funds: \$240,000 for a period of 24 months; NSF funds: \$700,000 for a period of 24 months)					
Civil Infrastructure Research Center	NSF Legislature	\$95,500 \$81,863 \$75,000	1992		
<b>TOTAL FUNDS</b>		<b>\$5,125,352</b>			