February 22, 2022

Dear Ms. Pepe,

Thank you very much for the opportunity to participate in this program for mentoring faculty at Minority Serving Institutions (MSI) as they prepare a proposal to the National Science Foundation (NSF). The following is my contact information:

Researcher Belinda Román, PhD, Assistant Professor
Contact Information: Department of Economics,
Charles Francis Hall #211,
St. Mary's University,
One Camino Santa Maria, San Antonio, Texas 78228
Email: broman@stmarytx.edu
Field of Interest : Economics (Social and Economics Sciences)

I have not made application to the NSF, and a version of this project was submitted to the Russell Sage Foundation Trustee Grants program on Social, Political, and Economic Inequality. I have positioned this research as both innovative in its perspective and methodology. It is also designed to address the pressing equity and equality needs of minority populations. This, I believe, fits with the NSF Social and Economics Sciences goal to broaden and build research at MSIs as well as understand the rules of economic life.

The contact information for my dean who can attest to the institutional support for my grant application should I be selected, are as follows:

Dean: Leona Pallansch, PhD,
Contact Information: Interim Dean College of Arts, Humanities and Social Sciences,
Box 48
St. Mary's University,
One Camino Santa Maria, San Antonio, Texas 78228
Email: lpallansch@stmarytx.edu

As per the call for participants, a copy of my CV is included. I look forward to working with the NSF on this and other future opportunities.

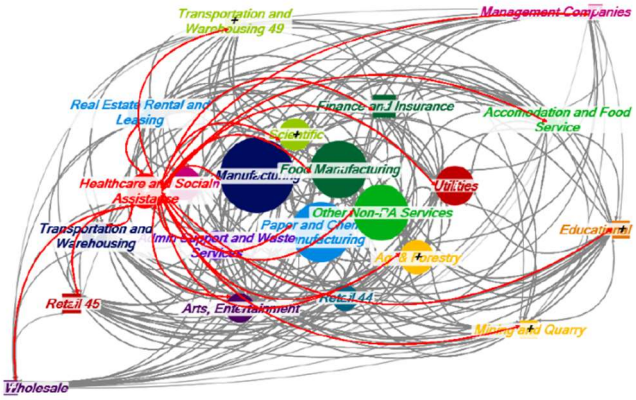
Regards,

Belinda Román, PhD
Assistant Professor
Economics Department
College of Arts, Humanities and Social Sciences

Summary - Using Network Analysis to understand outcomes and opportunities in labor markets

Project Description: This project uses network analysis and complexity in economic systems as it theoretical anchor. This framing implies that simple relationships can lead to emergent, complex outcomes, such as those we are seeing in current labor markets or overall economic growth. The method is used to construct a network model of a large urban area like San Antonio, Texas. An early version of the research was presented at the 10th International Conference on Complex Systems (held virtually), where significant positive feedback was received. The material presented was a ground-level look at a segment of the City of San Antonio (COSA) - Inner West Side Neighborhood. Tthe working idea was that COSA and its neighborhoods operate as a complex networked system and can be represented and analyzed as such. Since the focus is on economic relationships and outcomes, the analysis used industry production and output flows measured in dollar values as basic units of analysis to construct the nodes and connections of the network. The intent of my proposal is to add further layers of data using an innovative consolidation of public and proprietary data about the local population to include labor concentration in each industry and wage data using occupational structure and where available gender composition of each industry in each ZIP code).

Figure 1 Network Representation of Industry Relationships for



Broader Impacts: The preliminary research area represented in **Figure 1** consists of six ZIP codes: 78201, 78207, 78227, 78228, 78237, and 78238. These are the primary ZIP codes of the Inner West Side neighborhood as provided by the West Side Development Corporation (WDC) of COSA. Each ZIP code consists of industries and cash flows retrieved from IMPLAN and cross-walked to their corresponding identifier within the North American Industrial Classification System (NAICS) codes.

This network view demonstrated a significant density of connections and important industry nodes (identified through dollar flows), which in the language of network systems meant some degree of internal stability for the neighborhood. The goal was to better understand the degree to which connections matter in this neighborhood, and to eventually expand the analysis to each of COSA's neighborhoods over time. This, in turn, would result in a network model of the urban economy in which connectivity and emergence are key elements of economic activity. Additionally, this neighborhood remains important because its six ZIP codes are characterized by a high concentration of low-income Hispanic households for whom COVID had a devastating impact. Job losses, the care economy, and a high number of female heads of household made this an important starting point for the analysis and helped better understand the many facets of Latino economic participation in COSA.

Intellectual Merit: This research contributes a better understanding of how changes in the role of labor impact a urban area, or as COVID demonstrated, the complete shutdown of an industrial sector, diffuses through a community, industry and city or metropolitan economy. This is important for urban equity and inclusiveness policies as well local economic development programs. Complexity analysis focusses on a ground-up approach consequently using a network analysis as a means of achieving this methodological perspective. As economic analysis using ideas from complex systems grows; this project demonstrates how this interdisciplinary and innovative perspective may be combined with computational tools to deepen our understanding of how individual units of our economy interact and influence each other.

Belinda Román, PhD
Department of Economics
St. Mary's University, San Antonio, Texas
Telephone: 210-436-3112 E-Mail: broman@stmarytx.edu

INTERESTS

International Economics, Borderlands Studies, Hispanic Studies, Economic History of Latin America, Gender and Indigenous Issues as related to Sustainable Growth and Development, Heterodox Economics, Teaching economics with technology and data analytics.

EDUCATION

PHD - University of Western Ontario, London, Ontario, Canada

MPHIL – London School of Economics, London, England

BA, MA - Texas Christian University, Fort Worth, Texas

ACADEMIC EMPLOYMENT

ASSISTANT PROFESSOR OF ECONOMICS
St. Mary's University, San Antonio, Texas
Fall 2019 – present

Courses: Principles of Microeconomics, Principles of Macroeconomics, Intermediate Microeconomics, Special Topics and International Economics. Principles courses are both classroom and Internet-based in Canvas

PROFESSOR OF ECONOMICS
Palo Alto College, San Antonio, Texas
Fall 2002 – May 2019

Courses: Principles of Microeconomics, Principles of Macroeconomics, Introduction to Economics, and Economic Geography. All courses were classroom and Internet-based in Canvas. Also taught via Interactive Video Conferencing and Dual Credit.

ADJUNCT POSITIONS

St. Mary's University
Department of Economics
Course: International Economics
Fall 2011 – May 2019

Courses: Introductory Macroeconomics, Introductory Microeconomics, and International Economics.

University of Western Ontario
Department of Anthropology/First Nations
London, Ontario, Canada
Course: Contacts (between First Nations and Europeans during the Age of Discovery)
Winter 2010, 2011

Trinity University
Department of Economics
Courses: Principles of Micro- and Macroeconomics, Statistics for Business and Economics
January 2002 – Spring 2007

NON-ACADEMIC EMPLOYMENT

Training Consultant
2005 – 2007; 2012 -2013
International Programs
Alamo Colleges
San Antonio, Texas

Intensive training for participants in the Scholarships for Education and Economic Development Program (CASS/SEED), A USAID-funded program administered by Georgetown University's Center for Intercultural Education and Development (CIED). This program supports economic and social development throughout Central America, Mexico and the Caribbean. Activities include: building human capital, developing change agents, training participants with skills and knowledge to strengthen local capacity.

Director of Broadcasting
April 2001 - August 2001
MSBC Europe Ltd., London, United Kingdom

For a New Media interest, a subsidiary of a NASDAQ OTCBB company interested in migrating all of its publications from print to electronic format in the form of a new product - Medical Network News (MNN). By employing satellite technology, these electronic versions would integrate PC and TV formats to create multimedia content in a web browser environment. Audio, video and PowerPoint slides and animation were imbedded in the text to provide for a more interactive experience.

Director of Project Management
April 1999 - March 2001
Global Healthcare Communications Group Ltd., London, United Kingdom

For an international publisher of medical and public healthcare titles. My responsibilities were to manage the company's main periodicals and one-off publications that it produced over the course of the year. Aside from my editorial duties, I was responsible for the overhaul and re-launch of the company website and I developed marketing strategies and sales campaign materials and leads, assisted in fund-raising and multimedia production activities.

Senior Manager - Information Services
February 1997 - April 1999
American Chamber of Commerce, London, United Kingdom

For an international not-for-profit business organization. My primary duties involved producing a bi-monthly magazine, *AMCHAM News*, and the annual *Membership Directory*. I sourced content from member companies, which included many of the Fortune 100 businesses with offices in Europe. As Editor, I authored several of the lead stories and managed both the printing and distributing of the magazine. Additionally, I was responsible for the design of the publication, working primarily with QuarkXpress, Adobe Photoshop, Adobe Acrobat and various scanning and font software. I was also asked to write business articles on behalf of the Chamber for the *American in Britain* and *The American Newspaper*. The Chamber decided to develop its website and integrate its business information activities with the American Embassy in London and on the web in 1998. I helped establish a shared office between the Embassy and the Chamber in order to consolidate these activities and launched a new website with links to the Embassy to strengthen the mutual business information services on offer. In 1999, I helped the Chamber co-establish the Trade Advisory Council, which included some of the imminent voices in the current transatlantic business dialogue. The primary focus of the group was to assess the implications of US and UK policy trade/business initiatives and lobby as appropriate on behalf of AMCHAM members.

Administrative Director
October 1994 - September 1996
NRECA International Programs Division, La Paz, Bolivia

For an international development program based in Bolivia, South America. While the bulk of my duties involved day-to-day management of the administrative activities of the program, I was also charged with writing a number of documents including an Employees Manual, Project Management Manual and regular reports to the United States Agency for International Development (USAID) on the ongoing success of the rural electrification program in Bolivia. These reports were used to inform the United States Congress of the benefits of continuing funding within the US government=s foreign aid program in developing countries.

Senior District Assistant
1989-1990
Ronald D. Coleman, Member U.S. Congress, El Paso, Texas

For the District Office of a member of the U.S House of Representatives. My responsibilities were to liaise with the community and government agencies on defense, immigration, trade, environment, and equal opportunity matters. On occasion I represented the Congressman at public functions and helped prepared written remarks and gather information on the likely impact of national policy at the local level.

ACADEMIC CONFERENCE PAPERS AND PUBLICATIONS

Co-Author, "Rotating Credit and Savings Associations: The Modern Juntas in Peru," 2022, Oxford University Press.

Co-Author and presenter, "Women in the San Antonio Economy," May 2018, presented to the San Antonio Hispanic Chamber of Commerce, "Making a Mark on the World", 9th Annual Women's Awards Luncheon.

Co-Researcher, Brookings Institute, Global Cities Initiative, San Antonio Team, 2018.

"The Economic Impact of Remittances on the San Antonio Economy", paper presented to at the Annual Association of Border Studies Conference, April 2018, San Antonio, Texas

"The Salamanca School of Economic Thought in the Texas-Mexico Borderlands, paper presented at the Annual Meetings of the Association of Border Studies Conference, April 2018, San Antonio, Texas.

Co-Author, "Educate Fir$T; Why Investing in Education Fuels the Texas Economy", published January 26th, 2017.

"Estimating the Impact of the North American Free Trade Agreement on San Antonio and South Texas" for Free Trade Alliance of San Antonio (January 2017)

Estimating the Economic Impact of Nonattainment on San Antonio-New Braunfels, MSA, report submitted to Alamo Area Council of Government, January 2017.

'Estimating the Economic Impact of Nonattainment on the San Antonio-New Braunfels MSA', 9th Annual Texas A&M/ASHE Conference on Hispanic Issues, October 2016, College Station.

"Overlapping Networks, merging Mexican apprehensions with carnets de identidad and Remittances data into a network, with David J. Molina, PhD, in *Nuevas tendencias de la migración internacional y sus efectos en el desarrollo de México, Colegio de La Frontera,* México (2018).

'Where Do Hispanics Study Economics? Economics at Hispanic Serving Second-Tier Programs,' article, *Hispanic Economic Outlook*, Fall 2013, American Society of Hispanic Economists, http://www.asheweb.net/

'Emerging Information Networks between Mexico and U.S.A.' article*, Journal of Borderlands Studies* (December 2016).

'New Methods in Border Studies Research: The Computational Turn in Border Studies,' conference paper, Association of Borderlands Studies Annual Meeting, Albuquerque, New Mexico, March 2014.

'NAFTA Through A Product Space Lens: A Network Representation,' Agent-Based Computational Economics (ACE), conference paper, Western Economics Association International, Annual Conference, Seattle, Washington, July 2, 2013.

'The NAFTA Product Space and its implications for Transnational Development in North America', conference paper, Association of Border Studies, Annual Conference, Denver, Colorado, April 12, 2013.

'Where Do Hispanics Study Economics? Economics at Hispanic Serving Second-Tier Programs,' article, *Hispanic Economic Outlook*, Fall 2013, American Society of Hispanic Economists, http://www.asheweb.net/

'Consilience and Convergence: Merging Data on Illegal Immigrant Apprehension, Carnet de Identidad, and Remittance Data,' 6th Annual ASHE/Texas A&M Conference, October 26, 2012
College Station, Texas.

'Overlapping Networks: Merging Mexican Apprehensions, Carnets de Identidad and Remittances Data', paper, with David Molina, PhD, American Society of Hispanic Economics/Western Economic Association International Annual Meeting, San Francisco, California, July 28 – July 3, 2012.

'Emerging Information Networks between Mexico and U.S.A.' paper, Association of Borderlands Studies, Annual Conference, Houston, Texas, April 12, 2012.

'Cross-border Financial Networks', paper, Research Workshop on Border Economics, Network of Border Economics/Red de la Economía Fronteriza (NOBE/REF), University of Texas - Pan Am, Kauffman Foundation, Dallas Federal Reserve Bank - El Paso Branch, December 1, 2011,

'An Agent-based Model for the Humanities,' article, *Digital Humanities Quarterly* (Volume 7, No. 1, 2013), http://www.digitalhumanities.org/dhq/vol/7/1/000142/000142.html

'Network Map of Remittances between Mexico and the U.S.', paper, Western Economics Association International Annual and American Society of Hispanic Economists, San Diego, June 30, 2011.

'Role of Dual Credit/Dual Enrollment Courses in Recruitment and Retention of Hispanic Students in Higher Education,' *The Education of the Hispanic Population*, ed. Richard Verdugo and Billie Gastic, Vol. 2, The Hispanic Population Series, Information Age Publishing, 2012.

'The complexity of issues facing the Tigua del Sur Pueblo in the first half of the 20th Century', *Special Issue of Journal of the West* (Summer 2010).

Introduction to Macroeconomics and Study Guide, 1st Edition, 2005, 2nd Edition 2007, Kendall Hunt Publishing Company.

'Early Mexico-U.S. Cross-border Financial Networks', Conference Paper, Hispanic Association of Colleges and Universities (HACU), The Mexican Revolution and its Effects on the United States" University of the Incarnate Word, San Antonio, Texas, November 20, 2004

'Mexico-U.S. Cross-border Institutional Development, 1880-1920,' paper, Southwestern Social Sciences Association meeting, New Orleans, LA, 29 March 2002.

'The US-Mexico Cross-border Market in Historical Perspective, 1848-1920,' Research Report to the Canadian Conference on Economic History, Niagara Falls, Canada, May 5, 1997.

'Agents of Integration: Entrepreneurs and the US-Mexico Cross-Border Market, 1848-1920,' Graduate Seminar paper, Department of Economic History, London School of Economics, March 1997.

'Formación de la economía regional de la periferia del norte, 1848,' published as part of the proceedings of the *Quinto Congreso sobre la Historia Comparativo Regional, Universidad Autónoma de Ciudad Juárez,* November, 1995.

'Comparative Economics of Alternative Energy Systems,' paper, *Proceedings of the Renewable Energy Forum sponsored by the United States Agency for International Development*, the National Rural Electric Cooperative Association and GTZ, La Paz, Bolivia, 1994.

MEDIA MENTIONS AND CLIPS

Date	Media Outlet	Media Type
8/26/2019	Univision	TV
1/16/2020	San Antonio Express-News	Newspaper
1/16/2020	Rivard Report	Online
3/27/2020	Rivard Report	Online
7/1/2020	San Antonio Express-News	Newspaper
4/8/2020	Laredo Morning Times	Newspaper
7/9/2020	San Antonio Express-News	Newspaper

Book Reviews for American Library Association

Title	Author	Data	Volume	Issue
The money plot	Kaufman, Frederick	3/5/2021	58	11
Capitalisms		12/10/2020	58	8
Dependency, neoliberalism and globalization in Latin America	Martins, Carlos Eduardo	8/10/2020	58	5

The underground wealth of nations	Graulau, Jeannette	11/15/2019	57	7
Digital cash	Brunton, Finn	8/22/2019	57	4
Consent and trade	Garcia, Frank J	3/11/2019	56	11
Everyday adjustments in Havana	Bastian, Hope	10/28/2018	56	6
Economic elites, crises, and democracy	Solimano, Andrés	12/21/2014	52	8
Nonprofits in crisis	Themudo, Nuno S	6/27/2014	52	2
Contesting trade in Central America	Spalding, Rose J	4/26/2014	51	12
Globalization and America's trade agreements	Krist, William	3/1/2014	51	10
Balance	Hubbard, Glenn	9/10/2013	51	6
The birth of capitalism	Heller, Henry	12/21/2011	49	9
Bubbles and bonanzas	Costeloe, Michael P	8/25/2011	49	5

American labor, Congress, and the welfare state, 1935-2010	Roof, Tracy	7/13/2011	49	3
Made in Mexico	Gauss, Susan M	5/27/2011	49	2
Braceros	Cohen, Deborah	4/11/2011	48	12
An impossible living in a transborder world	Vélez-Ibáñez, Carlos G	12/23/2010	48	8
Mexico's economic dilemma	Cypher, James M	9/18/2010	48	5
Greed, lust & gender	Folbre, Nancy	7/27/2010	48	4
Mind vs. money	Kahan, Alan S	5/15/2010	48	1
The cost of living in America	Stapleford, Thomas A	11/18/2009	47	7
Politics, markets and Mexico's "London Debt," 1823-1887	Salvucci, Richard J	9/3/2009	47	5
False economy	Beattie, Alan	7/7/2009	47	2

The ties that buy	Hartigan-O'Connor, Ellen	5/5/2009	46	12
Mindful economics	Magnuson, Joel	12/1/2008	46	7
The genesis of industrial America, 1870-1920	Klein, Maury	2/22/2008	45	10
Economic disasters of the twentieth century		6/22/2007	45	4

AFFILIATIONS AND AWARDS

Fellow, Diversity Initiative for Tenure in Economics – Duke University (DITE) 2011.

Associate, Strategic Alliance of Business and Economics Research Institute (SABER)

Vice-President, San Antonio Business and Economics Society (SABER) and President-Elect

Member, Network of Border Economists (NOBE, Federal Reserve Bank – Dallas, El Paso, Texas Branch Bank, defunct)

Member, American Society of Hispanic Economists (ASHE) – Communications Committee

Member, American Economic Association, Committee on the Status of Women in the Economic Profession and Committee on the Status of Minority Groups in the Economics Profession

Former Member, Association of American University Women (AAUW)

Member, Association of Borderlands Studies (ABS)

Member, International Association for Feminist Economics (IAFFE), member Ad-Hoc Governance Committee member, present.

Member, Association for Social Economics, Chair, AdHoc Committee on Diversity, Equity and Inclusiveness, Member Journal Editor Review Committee.

Member, Western Economic Association International (WEAI)

Member*, Mujeres Activas en Letras y Cambio Social (*MALCS)

Member, Southwestern Social Science Association/Southern Economics Association (2002, 2003, 2009 - present)

President, San Antonio Business and Economics Society (2022 -2024)

Member, YWCA Wage Equity Advisory Committee 2019 – present

Member, Board of Visitors, Texas Christian University 2021