

# Experiences and Accomplishments of a Fulbright Scholar

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# Outline

- Our Fulbright Assignments
  - and their Related Accomplishments
- Quick Review of JLM Project Objectives, Origins, Motivations and Main Activities
- International Work Done by JLM Project
  - Educational work
  - Social and Solidarity Work
- Summary and Conclusions

# Fulbright in Mexico City

- ITAM, Spring Semester 1994
  - Teaching simulation and statistics
  - Presenting papers in conferences
  - Giving short courses at institutions
  - Training other Fulbright scholars
  - Faculty Development Workshop/Tampico
- End of assignment mtg. w/US Attaché
  - “Now, you continue on your own”

# US Dept. State Senior Speaker

- UDLA, Puebla. One week in 2000
  - Teaching a faculty development workshop
  - Staying over an additional week (volunteer)
  - Faculty development workshops at
  - Three institutions, selected by US Attaché
- Enhancing the JLM Project member pool

# Fulbright Roster 2001-06

- Universidad Veracruzana (2003, 6 weeks)
  - Trained 150 faculty, via distance learning
  - Solidarity and faculty workshops JLM
- Universidad Catolica, RD (2004, 4 weeks)
  - Trained the Math Department faculty
  - Solidarity and faculty workshops JLM
- Instituto Politecnico, Quito (2006, 6 weeks)
  - Solidarity and faculty workshops JLM
  - DOE Workshop at ESPOL, Guayaquil
- Distance Learning Presentation (2006)
  - Thailand universities (methodology)

# JLM Project

- Juarez-Lincoln-Martí (a.k.a. Sierra-Dewey-De La Luz) is completely dedicated to the improvement of higher education in L.A. as well as to the enhancement of the mutual knowledge and understanding between American and Latin American professionals

# Project Origins/Motivations

- During our 1994 Mexican Fulbright stage
  - appreciation of both, Mexican and US needs
  - realization that our biculturalism provided
  - a bridge between both cultures and peoples
- Realization of many program weaknesses
  - regarding science and engineering students
  - and their role in a globally oriented economy
- Verification of the need to train teachers
  - Both in the Higher and Intermediate levels

# Our Main Programs

- Teaching faculty development workshops in science, statistics and education.
- Finding scholarships for faculty attendance to conferences and seminars in the US
- Donating educational materials to small, provincial universities that need them.
- Maintaining an Electronic Bulletin with news and information on Stats Education
- Solidarity programs for nearby population

# Providing Faculty Scholarships

- First successful Project Program
- Seventeen Mexican professors
  - Selected by US Attaché in Mexico City
  - Participated in SUNY CIT Conferences
- One Venezuelan Professor
  - Spent one month internship in the US
- One SUNY Administrator
  - Sent to UNAM International Conference
- No longer available for lack of funds
- We now help faculty/students make contacts
  - To come to US with their own support

# Mexican Scholars to CIT

- Selected by the US Attache in Mexico
- Universidad de las Americas, UDLA (3)
- Inst. Tech. Est. Sup. Mexico, ITESM (2)
- Universidad Hispanoamericana, La Salle,
- Universidades Autonomas de Hidalgo, Ciudad Juarez, Metropolitana, Q. Roo (2), Guadalajara (2), Sinaloa, Veracruzana (2)
- Latest: a Student from UV to SU (in 2013)

# Faculty Development Workshops

- Second most successful program
- To poorly endowed, provincial institutions
- With difficulties in finding instructors
- Teach how to teach using new technology
  - and pedagogical methods that accompany them
  - and how to *administer* such new courses
- Over two dozen workshops, in 20 years:
  - Mexico, R.D. Ecuador, Spain, Venezuela

# Workshops Characteristics

- In Provincial and Small Institutions
- In their Vernacular Language (Spanish)
- On using Technology in Science Education:
  - HW, Ed. SW, Internet, Smart Classrooms
- Using Projects and Cooperative Learning
- Contextual/Student Centered Methods
- Distance Learning Techniques/Approaches
- Course/teaching techniques assessments

# Some Workshop Topics

- Introductory Statistics course
- Design of Experiments course
- Simulation Modeling and Analysis
- MINITAB & GPSS SW in Statistics Labs
- Development of Statistics Research Centers
- Modern Pedagogical Methods in Science
- Technology Infusion and Administration
- Intro to Distance Learning Techniques

# Education Practical Approaches

- Working through learning groups
- Exchange of experiences
- Adaptation, not imitation
- In-depth, root-cause analysis
- Methodology as a support tool
- Group Final Projects required
- Student Presentations required

# Donating materials and textbooks

- Our third most successful program
- Dozen boxes of statistics/science textbooks
  - with hundreds of books, sent by US mail
- Sent to Dozens of universities in Mexico,
  - Venezuela, DR, Argentina, Brazil, Spain, etc
- We have had two key problems to solve:
  - obtaining the books, and sending them abroad
- Thanks to the solidarity of many colleagues

# Internet Activities

- Bimonthly Electronic Bulletin
  - for educators and researchers
  - in Latin America, Spain and Portugal
  - With news about opportunities in
  - Research, conferences, educational materials,
- The JLM Project Web Page
  - <http://web.cortland.edu/matresearch>
- The Applied Statistics Institute Page
  - <http://web.cortland.edu/matresearch/QR&CIInstPg.htm>

# Solidarity Program

- Donation of books, toys and school materials
  - To Indigenous schools in Ecuador and Mexico.
- Donation of toys and clothes
  - To Mexico, Ecuador, Colombia, Dom. Republic
- Donation of medicines and toys
  - HIV/AIDS children hospice in the Dom. Republic
- In cooperation with LaFayette H.S. students
  - Students donate or collect the donated materials
  - Students also provide time in support activities
  - LaFayette School provides teacher time to Project

# Educational Research

- Developed for use in faculty workshops
- Some are published in scholarly journals
- Labs developed using GPSS and Minitab
  - For introductory, intermediate and advanced
  - For use by cooperative learning groups
- Experiments to measure their effectiveness
  - have been carried out and reported
  - enhancing the stats education research

## Some Publicacions on Educational Research:

- \* Teaching Engineering Statistics with Simulation. Journal of the Institute of Statisticians. Vol. 35. No. 4. 1986 (RSS, Series D).
- \* More On Simulation and Statistical Education. American Journal of Mathematics and Management Sciences; Vols. 3 & 4. 1997.
- \* Assessment of Simulations, Group Learning and Laboratories in the Teaching of Statistics. Proceedings of the 51st International Statistical Institute. Istanbul, Turkey. August 1997.
- \* Minitab and Pizza: a workshop experiment. (JETS). Vol. 27(2), 1998.
- \* Statistical Assessment of an Experiment to compare traditional vs. Lab approaches in teaching Introductory Programming. JETS Vol. 27(4), 1999.
- \* Teaching Engineering Statistics to Practicing Engineers. ICOTS-7. 2006
- \* Group Learning, Conceptual Projects, Simulation Models and Student Presentations in Enticing Engineering Statistics Students (JETS, 2008)
- \* On the Statistics Education of American Engineers. Journal of the Rel. Info. Anal. Ctr. <http://web.cortland.edu/romeu/StatEdAmerEng2012Q2-art3.pdf> RIAC, Summer of 2012

# Distance Learning Activities

- Universidad del Comahue, Argentina (98)
  - Developed complete Masters Program in O.R.
  - Five International Faculty Working via Internet
  - Development of all Aspects of the Curriculum
  - Program Completed, Approved and Working
- Universidad Veracruzana, MX (2000/03/05)
  - Teaching Faculty Development Workshops to all Five UV System campuses.
- Faculty Development for Thailand universities

# Student Exchange Models

- **TWO DIFFERENT APPROACHES:**

- **TRADITIONAL (CURRENT) MODEL:**

- Oriented toward humanities (language, history)
- Directed by Office of International Programs

- **JLM PROJECT PROPOSED MODEL:**

- Oriented toward Science and Engineering
- Directed and Operated by Science faculty
- Centered on Science Subjects/Curriculum.

# JLM Student Characteristics

- Business, science and engineering majors
- Juniors/seniors with intermediate language
- Spend some time taking courses in major
- In host's language, with host's students
- Courses must count for their own degree
- Immersion preparation before they travel
- Symmetric for Latin and US students.

# NSF REU 2003-05 Proposals

- Between Syracuse University, USA, and:
  - Universidad Veracruzana, Mexico
  - Universidad de Las Americas, Mexico
- Summer Research for Engineering Students
  - Complete immersion of participating students
  - in language, culture and science research
- Currently organizing a PASI (NSF Institute)
  - Statistical modeling of environmental problr.
  - For American and Latin American researchers

# Other Research Proposals

- To NSF, in 1995, 1996, and currently
  - Undertake International Research in ecology
- To FIPSE, in 1997 and 1998
  - Move 75 student between Mex-US-Canada
- To U.S. Depts. of Education and State
  - Operate an International Project (IITRI, 1999)
  - Teach Faculty Development Courses (2000)
- To US Agency for Int'l Development
  - Teacher training as democratization workshps

# Developing International Professionals

- Definition of an international professional:
  - Get off an airplane and “hit the ground running”
  - Technical, language and people skills
- Some necessary conditions described in:
  - On Preparing International Professionals (in Spanish). Revista La Ciencia y El Hombre; Universidad Veracruzana, Veracruz. Mexico. Vol. XIV, No. 3. Sept-Dec. 2001

# Project Accomplishments

- A Web Page with JLM Project Information
- A Web Page with Statistics Information
- Book donations to institutions
- Bimonthly Electronic Bulletin
- Faculty and student exchanges
- Faculty development workshops
- Free consultation on US Education
- Social work directed to children
- Annual International Educator Award
  - <http://web.cortland.edu/matresearch/PremioAnualProyJLM.pdf>

# Statistics Workshops Taught

- Several Weeks Long Workshops (98-08):

- Venezuela: U. Romulo Gallegos (UNERG)

- Mexico: Universidad Veracruzana

- Dominican Republic: Catholic University

- Ecuador: National Polytechnic Institute

- One Week Long Workshops (1994 & 2000):

- Mexico: U. del Anahuac; UAT Tampico; UDLA-P, Univ. Veracruzana

- Spain (1995-99): U. de Galicia; U. Pais Vasco

# Shorter Workshops Taught

- Two-Day Stats Workshops (1998-2008):
  - Mexico: Chapultepec, Hispanoamericana
  - Spain: U. de Galicia; U. del Pais Vasco
  - Ecuador: ESPOL Polytechnic, Guayaquil
  - Mexico: Universidad Veracruzana
- Secondary Education Workshops
  - Mexico: Universidad Metropolitana
  - Dominican Republic: Universidad Catolica
  - Ecuador: ESPOL, Guayaquil
  - Several Indigenous Schools in the Andes

# Future work

- Develop more programs and workshops
  - in statistics, math and science education
  - as well as in secondary education areas
- Develop other areas of social interest
  - Providing Solidarity functions to children
  - School materials, clothes, toys, medicine
- Becoming a Non Profit Foundation
  - to obtain more support for our work

# Conclusions

- The Juarez-Lincoln-Martí Project Pursues:
  - Educational Benefits (science knowledge)
  - Institutional Benefits (academic development)
  - Economic Benefits (professional contacts)
  - Political Benefits (international interaction)
  - Social Benefits (to children and general public)
- For Faculty, Students and Peoples involved
  - FROM ALL participating countries
  - If interested in helping out, contact us!