

Curriculum Vitae

Lueny Morell

Director

Research & Development Center

Professor, Chemical Engineering Department

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EDUCATION:

BScE, University of Puerto Rico - Mayagüez (magna cum laude), 1974

MScE, Stanford University, 1977

EXPERIENCE:

Director, Research & Development Center, August 2001 – Present

Responsibilities: manage pre-award, award, post-award and UPRM strategic initiatives such as the Technology Incubator and UPRM's participation in the PR TechnoEconomic Corridor. Current R&D funds total \$36M.

Special Assistant to the Chancellor, May 2001 – August 2001

Responsibilities: In charge of facilitating and coordinating Campus-wide strategic alliances, including facilitating R&D activities with stakeholders

Special Assistant to the Dean of Engineering, January 2000 – May 2001

Responsibilities: coordinate academic, research and special activities of the Dean's office, and ABET 2000 accreditation responsibilities.

Coordinator, Institutional Research, Office of the Vice-President for Research & Academic Vice-President of the University of Puerto Rico System, September 1997- December, 1999.

In charge of facilitating the implementation of the institutional research function for the Central Administration and eleven campuses of the University of Puerto Rico.

Director, Curriculum Innovation Team for the Puerto Rico Alliance for Minority Participation (PR-AMP) Project, September 1997- December, 1999

In charge of coordinating curriculum innovation activities and institutional research outcomes assessment of PR-Louis Stokes Alliance for Minority Participation (PR-LSAMP) an alliance of four higher education institutions in Puerto Rico. The overall goal of this NSF project is to increase the effectiveness and efficiency of Science, Math, Engineering and Technology programs (SMET).

Co-Coordinator of the College of Engineering ABET Criteria 2000 Strategy August 1997 - December 1999

Strategic planning and implementation of the College of Engineering ABET 2000 activities.

Special Assistant to the Chancellor for Academic Affairs, January 1995- August 1997

In charge of coordinating academic and research related activities of the Chancellor, represent him in meetings and activities whenever needed. Helped develop the Campus Strategic Plan, and

instrumental in the institutionalization of key academic programs.

Professor, Chemical Engineering Department, 1994- Present

Associate Professor, 1988-1994

Assistant Professor, 1983-1988

Instructor, 1978-1983

(all positions at UPR-Mayagüez)

Other current projects and interests:

- Principal Investigator for curriculum development of the NASA Project **Partnership for Spatial and Computational Research (PaSCoR)**, a multi-disciplinary project that integrates GIS-RS curriculum with undergraduate research. Budget: \$2.9M/5 years (1998-2003).
- Principal investigator for the Microsoft Research outreach project: The Learning Factory & ABET workshops for Latin America. Budget: \$59,500/6 months.
- Principal Investigator of the NSF Engineering Action Agenda project **The Learning Factory: Implementing ABET 2000 Workshops**, and its complement project sponsored by Raytheon. Purpose: to disseminate the Learning Factory program. Budget: \$1.8K/2years (1998-2000).
- Assessment Coordinator for the NSF-sponsored project PRECISE (\$3M/5 years)
- In charge of the project outcomes assessment of the Manufacturing Engineering Education Partnership (MEEP), a multi-institutional, multi-task project sponsored by ARPA-TRP. Principal Investigator of the Procter & Gamble project to design an undergraduate manufacturing engineering option for Chemical Engineering. (1993-97).

Teaching interests: Mass and Energy Balances, Thermodynamics, Heat Transfer, Plastics Technology, Unit Operations Laboratory, Seminar, Special Problems in Chemical Engineering, Entrepreneurship (team teaching).

R&D interests: sludge management, composting, bio-remediation, waste management and recycling; teaching methodologies, curriculum development, cooperative learning, assessment.

Other academic/administrative positions: Campus coordinator for Curriculum Assessment, AMP (NSF) project, 1992-96; Task Leader for Curriculum Development, Manufacturing Engineering Education Partnership (NSF) project, 1994-97; Outcomes Assessment Campus Committee, Facilitator, 1994-96; member of the ChE Academic Committee, 1990- 95; Assistant Dean for Administrative Affairs, College of Engineering, 1987; Director, Technical Information Center, Engineering Research Center, 1981-1984; member, Academic Senate, 1984-1989; member, UPR-Mayagüez Administrative Board, 1985-1986; member, Academic Senate Courses Committee, 1984-1989; member Consulting Committees to Recommend Chancellor and two Engineering Deans, 1985, 1988-89; member, Engineering Teaching Methods Faculty Committee, 1985-89; member UPR System-wide Faculty Development Committee (Critical Thinking Skills, The New Bachelor's Degree), 1987-1990; member, UPADI Engineering Education Committee, 1985-1990; member Inter-institutional Committee to Recommend Students for Medical School, 1992-1993.

New courses developed: Creative Design: Heat Transfer Problems, 1993; Entrepreneurship, in collaboration with faculty from four engineering departments and Business, 1994; Concurrent Engineering, in collaboration with faculty from four engineering departments and Business School, 1995. Currently co-developing three new courses for the manufacturing option for ChE (Chemical Processes, Plastics Processing and ChE Design (industrial problems)).

Consulting work: Lebrón & Associates Engineering: helped design the sludge composting facilities for the Mayagüez Wastewater Treatment Plant at El Maní, 1987. Interamerican University, Catholic University and Turabo University: offered several workshops for faculty in teaching techniques. Posti-fort Corporation: expert in plastic patent infringement case in Federal Court, 1993. Lugo and Castillo Law Offices: consulting in various technical issues, 1994.

Other activities/positions: Member of two Advisory Boards of Northeastern University: NSF-sponsored Connections and NSF ERC CenSSIS. Member of ASEE Minorities in Engineering Award Committee. National Science Foundation (NSF) review panels and participation: Engineering Action Agenda for Systemic Reform, 1999 Engineering Education & Centers Committee of Visitors, Panel Evaluator for the Course and Curriculum Development Program, member of the Task Committee for Minorities, Panel Evaluator for the Combined Research and Curriculum Program. Panel reviewer for the Association for Institutional Research. SESO School Board of Directors (president of the Academic Committee), 1992-93; member and secretary of Parroquia Buen Pastor Council, 1991-93; member, Winnie the Pooh Preparatory School Accreditation Committee, 1993; choir director, Parroquia Buen Pastor, 1992-present.

PROFESSIONAL/HONOR/SCIENTIFIC SOCIETIES:

Tau Beta Pi Engineering Honor Society (first woman president of student Alpha Chapter, 1974); Phi Kappa Phi; Sigma Xi; Alpha Delta Kappa (honorary women educators); ASEE; AIChE; MHE, AIR, CIAPR (professional engineer license #8716); Mu Alpha Phi Sorority.

HONORS/AWARDS:

- Distinguished Professor AY 1999-2000, ChE, College of Engineering
 - Travel award from NSF to be part of the US delegation to attend the 1998 International Conference on Engineering Education, Rio de Janeiro, Brazil (August 1998).
 - Selected one of the 25 women from 10 states to participate in the 10th Southeastern Forum of Women in Higher Education, Fall, 1996.
 - Nominated for the National Chemical Manufacturers Award for Excellence in Teaching, 1996.
 - Selected "Distinguished Educator" by the Alpha Delta Kappa Honorary Women Educators Society, 1995.
 - Excellence in Teaching Award (selected by engineering students), Tau Beta Pi Engineering Honor Society, 1994.
 - Distinguished Woman in Technology, PR Western Chamber of Commerce, 1985. Society of Toxicology Travel Award, 1994.
 - Certificate of Merit in Research, UPRM, 1982.
 - First President (elected) of the Board of Directors of REDITEC (International Information Network).
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PUBLICATIONS (in chronological order):

Morell, Lueny, **Agricultural Utilization of Sludge from the Barceloneta Wastewater Treatment Plant: A Preliminary Report**, AWWA-WPCF 1982 Annual Proceedings.

Morell, Lueny, **Servicio de Información Técnica en Puerto Rico**, UPADI Conference proceedings, San Juan, PR, 1982.

Morell, Lueny and Benitez, Jaime, **Agricultural Utilization of Sludge from the Barceloneta Wastewater Treatment Plant**, *Journal of Engineering Research*, UPR-Mayaguez, Vol.1, No.1. Feb, 1984.

Morell, Lueny, **Uso de las Computadoras en la Enseñanza de la Ingeniería: el Caso del Colegio de Ingeniería de la Universidad de Puerto Rico**, UPADI-UNESCO Conference proceedings, Argentina, 1984.

Barba, Francisco, Benitez, Jaime, and Morell, Lueny, **Heavy Metal Concentration In Sludge- Soil Systems as a Result of Water Infiltration**, Second Caribbean Islands Water Resources Congress Proceedings, 1985.

Morell, Lueny, **Consideraciones en la Planificación del Uso de las Computadoras en una Institución Académica**, UPADI Panamerican Seminar on Engineering Education Planning, Acapulco, Mexico, 1985.

Morell, Lueny, **Compost: A Sewage Sludge Management Alternative for Puerto Rico**, XI Interamerican ChE Congress Proceedings, San Juan, 1985.

Morell, Lueny, **Consultador o Consultado: proceso de Consulta para la Designación de Rector y Decano de Ingeniería del RUM**, XI Engineering Education Congress Proceedings, UPADI Convention, Guatemala City, 1986.

Morell, Lueny, **Composting Process Dynamics: A Proposed Study**, Third Caribbean Water Resources Congress Proceedings, 1986.

Morell, Lueny, **Composting Secondary Sewage Sludge from a Pharmaceutical Operation**, Caribbean Water Resources Congress Proceedings1 San Juan, 1993.

Morell, Lueny, and Velázquez, Carlos, **Collaborative Learning in Chemical Engineering**, COPIMERA Conference Proceedings, San Juan, 1993.

Morell, Lueny, **Engineering the Educational Reform**, Tecnomundo CIAPR, April/May3 1994.

Morell, Lueny, **Designing Education with Student in Mind**, the San Juan Star, Tuesday, March 22, 1994.

Morell, Lueny, Zayas, José and Vélez, Jorge, **The Design of a Skilled-Based Course Focused on Student Outcomes: A Partnership Template**, ASEE Annual Conference Proceedings(refereed), 1995.

Morell, Lueny, Beauchamp, Gerson, **Integration of Skills Development Engineering Curriculum**, ASEE Annual Conference Proceedings (refereed), 1995.

Morell, Lueny, **The Composting of Organic Substrates: Research at UPRM**, plenary paper presented at the XIX Scientific Research Congress, IAU, February 23, 1995.

Morell, Lueny, **Cooperative learning technique included in Collaborative Learning. a Sourcebook of Higher Education. Volume II.** Stephanie Kadel & Julia A. Keehner, published by the National Center on Postsecondary Teaching, Learning & Assessment, 1994.

Morell, Lueny et al, **Compendium of Cooperative Learning Experiences**, published by the Alliance for Minority Participation Project, University of Puerto Rico, Rio Piedras, 1995.

Morell, Lueny and Velázquez, Carlos, **Enhancing Student Success in an Introductory Chemical Engineering Course: Impact of the Cooperative Learning Strategy**, 1996 ASEE Conference Proceedings (refereed).

Morell, Lueny, Colucci, J. Carter, L., Estóvez, L., Colón, G., Padrón, F., **An Inter-disciplinary Undergraduate Manufacturing Engineering Option for Chemical Engineering**, 1996 ASEE Conference Proceedings (refe~.

Morell, Lueny, et al, **A Summative Assessment Strategy for a Multi-Institutional, Multi-Task Project: the Case of MEEP**, Frontiers in Education Conference Proceedings, November 1996.(refereed).

Morell, Lueny, et al, **Making a Partnership Work: Outcomes Assessment of a Multi-Institutional, Multi-Task Project**. 1997 ASEE Conference Proceedings, Milwaukee, WI (refereed).

Morell, Lueny, Zayas, J.L., Larnancusa, J. Jorgensen, J., **The Manufacturing Engineering Education Partnership Program Outcomes Assessment Results**, 1997 Frontiers in Education Conference Proceedings (refereed).

Morell, Lueny, Zayas, J.L., Lamancusa, J. Jorgensen, J., **Outcomes Assessment of a Multi-Institutional, Multi-task Project: the Case of the Manufacturing Engineering Education Partnership**, Frontiers in Education Conference Proceedings, Utah, November, 1996 (refereed).

In-class testing technique included in the book **The Hidden Curriculum** by Sheila Tobias, Plenum Press 1997.

Morell, Lueny, Zayas, J.L., Vélez, J.I., **Some Assessment Tools for Evaluating Curricula Innovations Outcomes**, 1998 ASEE Conference Proceedings, Seattle, June, 1998 (refereed).

Morell, Lueny, Vélez, J.I., Zayas, J.L., Torres, M.A., **Developing and Assessing Teamwork Skills in a Multi-Disciplinary Course**, accepted for presentation and publication at the 1998 Frontiers in Education Conference, Tempe, Arizona, November, 1998 (refereed).

Johnson, W. C. , Morell, L., Velázquez, R., Vélez, M., Zayas, J.L., Bujosa, J., **A Decade of Partnership: A Success Story of UPRM and Raytheon**, 1998 ICEE Conference Proceedings, Rio de Janeiro, August, 1998.

Morell, L. Zayas J.L., Vélez, J.I., **The Learning Factory: Implementing ABET 2000**, workshop presented at the 1998 FIE Conference in Tempe, AZ, November 1998.

Morell, L. Zayas, J.L., Vélez, J.I., **The Learning Factory: Implementing ABET 2000**, workshop presented at the 1998 ICEE Conference in Rio de Janeiro, August, 1998.

Morell, Lueny, Lamancusa, John, José I. Zayas and Jens Jorgensen, **Making a Partnership Work: Outcomes Assessment of the Manufacturing Engineering Education Partnership**, Journal of Engineering Education, December, 1998 (refereed).

Morell, et al, **A Decade of Partnership**: ICEE 1998 Conference Proceedings, Rio de Janeiro, Brazil, August 1998.

Toro, Zulma, Morell, Lueny, Villa, Elsa, Rios, Leticia, Lloyd, Sandra, **Why are They Still Here? Findings from a Preliminary Study of Hispanic Undergraduate Women in Engineering**, WEPAN Conference Proceedings, San Antonio, Texas, June 8, 1999.

Morell, Lueny, Vásquez, Ramón, Vélez, Jorge, Buxeda, Rosa, **PaSCoR Curriculum Model**, ADMI Conference Proceedings, Duluth, Minnesota, June, 1999.

Toro, Zulma, Morell, Lueny, Villa, Elsa, Rios, Leticia, Lloyd, Sandra, **Why are They Still Here?**

Findings from a Preliminary Study of Hispanic Undergraduate Women in Engineering, ASEE Conference Proceedings, Charlotte, North Carolina, June 23, 1999.

Morell, Lueny, Sánchez, A., Orengo, M. and Buxeda, R., ***After so Much Effort: Is Faculty Using Cooperative Learning in their Classrooms?*** accepted for publication in the Journal of Engineering Education (peer reviewed).

Morell, Lueny, et al, ***A Decade Of Partnership: A Success Story of UPRM and Raytheon***, ICEE 99 Conference Proceedings, Ostrava, Czech Republic, August 1999.

Morell, Lueny, José R. López, Moisés Orengo, Rosa Buxeda, Rosa Betancourt, ***Curricular Revision Focused on Student Learning at Minority Institutions: the Case of the Puerto Rico - Louis Stokes Alliance for Minority Participation***, 2000 ASEE Conference Proceedings, St. Louis, MO. June 18-21, 2000 (peer reviewed).

Morell, Lueny, Ramón Vázquez Espinosa, Jorge I. Vélez-Arocho, Rosa Buxeda, ***Remote Sensing and GIS Option: Integrating Research and The Learning Factory Model***, 2000 ASEE Conference Proceedings, St. Louis, MO. June 18-21, 2000 (peer reviewed).

Morell, Lueny, Jorge I. Vélez, Ramón Vázquez, Rosa Buxeda, ***Hands-on Learning: Two Approaches to Enhance the Undergraduate SMET Curriculum***, 2000 ICEE Conference Proceedings, Taiwan, August 2000 (peer reviewed).

Lueny Morell, Ramón Vázquez-Espinosa, Jorge I. Vélez-Arocho, Rosa Buxeda, ***Learning by Doing: Integrating Undergraduate Research and RS/GIS Curriculum***, 2000 IGARSS Conference Proceedings, Hawaii, July, 2000 (peer reviewed).

Buxeda, Rosa, Morell, L., Vélez, J., Vázquez, R., ***Summer Station: Initiating the Undergraduate Research Experience in RS/GIS***, 2000 GARSS Conference Proceedings, Hawaii, July, 2000 (peer reviewed).

Morell, Lueny, Jorge I. Vélez, Rosa Buxeda, ***A Faculty Development Strategy for Effectively Integrating undergraduate Research and Mentoring in the SMET Curriculum***, 2000 Information Technology Based Higher Education (ITHET) Conference Proceedings, Istanbul, Turkey, July 3-5, 2000 (peer reviewed).

Vélez, Jorge I., Lueny Morell, Miguel Torres, ***La Fábrica del Aprendizaje: Una Estrategia para la Renovación Curricular desde la Perspectiva de los Constituyentes***, Confrence Proceedings of the Seminario Internacional de Ingeniería Industrial, Barranquilla, Colombia, May 17-19, 2000.

Morell, Lueny, ***Skills for the Millennium***, published by the Puerto Rico Louis Stokes Alliance for Minority Participation (AMP), Summer 2000.

Morell, Lueny, Jorge I. Vélez, Rosa Buxeda, ***Developing an Outcomes-based Course: A Hands-on Workshop***, accepted for presentation at the 2001 ASEE Conference in Albuquerque, NM, June 2001

John S. Lamancusa, Jens E. Jorgensen, José L. Zayas-Castro, Lueny Morell de Ramirez, ***The Learning Factory - integrating design, manufacturing and business realities into engineering curricula - a sixth year report card***, ICEE 2001 Conference Proceedings, Oslo, Norway, August 6-10, 2001.

INVITED PRESENTATIONS AND WORKSHOPS

The Chemical Engineering Program at the UPR-Mayagüez, presentation to the ADECAAM Society, Santo Domingo, 1992

The Composting of Organic Substrates: Research at UPRM, plenary paper presented at the XIX Scientific

Research Congress, IAU, February 23, 1995.

The Chemical Engineering Strategic Plan: presented at the Chemical Engineering Congress, Universidad Autónoma de Santo Domingo, August 1997.

A Grain of Sand, main speaker at the Senior Meeting of the INROADS Minority Program, Orlando, Florida, August 1997.

Outcomes-Based Curriculum: Responding to Stakeholders' Needs, 25 universities in Guadalajara, Mexico, April 2-3, 1998.

The Learning Factory: Responding to Stakeholders Needs, Invited keynote speaker at the 1999 International Conference on Engineering Education (ICEE 99), held in Ostrava, Czech Republic, August 1999

Women in Engineering at UPRM. Invited speaker at the Annual Meeting of the Association of Military Engineers to be held in Nashville, Tennessee, August 1999.

The Learning Factory: Responding to Stakeholders Needs, invited speaker at the Global Wireless Education Consortium Meeting, Dallas, Texas, August 10-12, 2000

RECENT RESEARCH & DEVELOPMENT ACTIVITY

Projects:

Composting Sludge from a Pharmaceutical Operation, P1, funded by OMB, Janssen Pharmaceuticals, \$1 2,50011 year; 6/92-5/93

By-Design: Manufacturing Engineers, Co-PI, funded by NSF, \$75,000/1 year; 7/92-6/93

Manufacturing Engineering Educational Partnership, UPR Task Leader (Co-PI responsibilities), project by coalition of universities (Penn State U, U Washington, UPR-May & Sandia Labs) funded by ARPA, \$2.74M/2 years total; \$700,00012 years UPR share, 6/94-5196.

Manufacturing Engineering Option for Chemical Engineering, PI, project funded by the Procter & Gamble Education Fund; \$150,000/3 years (5195-5/98).

The Learning Factory: Implementing ABET 2000 Workshops: NSF's Action Agenda for Systemic Engineering Education Reform; PI; \$180,000/3 years. 9/98-8/00.

Partnership for Spatial and Computational Research, Co-PI, funded by NASA, \$2,96,207/5years, 7/98-6/03.

Program for Research in Computing & Information Science & Engineering (PRECISE), Assessment Coordinator, funded by NSF, \$3.5M 7/99 - 6/04.

The Learning Factory-ABET Workshops, funded by Microsoft Research, \$59,500 5/01 – 12/01.

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