RICHARD E. BILLO, Ph.D.

Associate Vice President for Research
Professor of Computer Science and Engineering
University of Notre Dame

EMPLOYMENT

Academic

2013 – Present *Associate Vice President for Research and Professor of Computer Science and Engineering*, University of Notre Dame
2011 – 2013 *Interim Associate Vice President for Research*, University of Texas Arlington
2005 – 2012 *Associate Dean for Research*, College of Engineering, University of Texas Arlington
2007 – 2013 *Director*, Center for Renewable Energy Science and Technology, University of Texas Arlington
2005 – 2013 *Professor*, Industrial & Manufacturing Systems Engineering, University of Texas Arlington
2005 – 2013 *Professor*, Computer Science & Engineering (Concurrent Professor), University of Texas Arlington
2002 – 2003 *Interim Department Head*, Chemical & Bioengineering (Concurrent Appointment), Oregon State University
2000 – 2005 *Department Head & Professor*, Industrial & Manufacturing Engineering, Oregon State University
1997 – 2000 *Associate Professor*, Industrial Engineering, University of Pittsburgh
1998 – 2000 *Associate Professor*, Information Science (Concurrent Professor), University of Pittsburgh
1991 – 1997 *Assistant Professor*, Industrial Engineering, University of Pittsburgh

Industrial

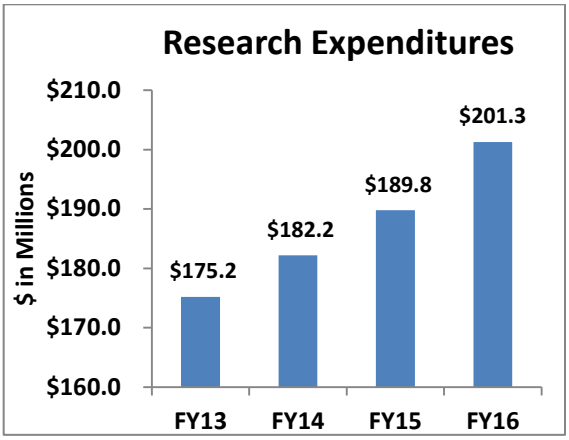
2009 – 2015 *President*, Lone Star Advanced Technology, LLC, Dallas-Fort Worth, Texas
1993 – 2000 *Principal*, B^2 Consulting Services, LLP, Pittsburgh PA
1989 – 1991 *Technical Group Leader*, Production Systems Analysis Group, Pacific Northwest National Laboratories, Richland WA
1980 – 1984 *Manufacturing Training Specialist*, Components Production Division, Intel, Chandler AZ

EDUCATION

Ph. D. (1989)	Industrial Engineering, Ira A. Fulton Schools of Engineering (Concentration: Information Systems Engineering)	Arizona State University
M. S. (1986)	Industrial Engineering, Ira A. Fulton Schools of Engineering (Concentration: Computer-Aided Manufacturing Processes)	Arizona State University
M. A. (1981)	Psychology	University of the Pacific
B. A. (1978)	Psychology	West Virginia University

NOTED LEADERSHIP ACCOMPLISHMENTS

University of Notre Dame (2013 – Present):
As *Associate Vice President for Research*, Dr. Billo manages the *Office of Research Development* in support of the University's six colleges including Engineering, Science, Architecture, Liberal Arts, Global Affairs, and Business. In this role, Dr. Billo is responsible for activities of the staff in support of all Notre Dame research development initiatives: 1) the Notre Dame Federal Relations staff; 2) the Notre Dame Complex Proposal Development staff, and 3) the staff of three of Notre Dame's university-level research centers. Dr. Billo also manages all limited research competitions and Notre Dame internal research competitions.



University of Notre Dame Research Expenditure Trend

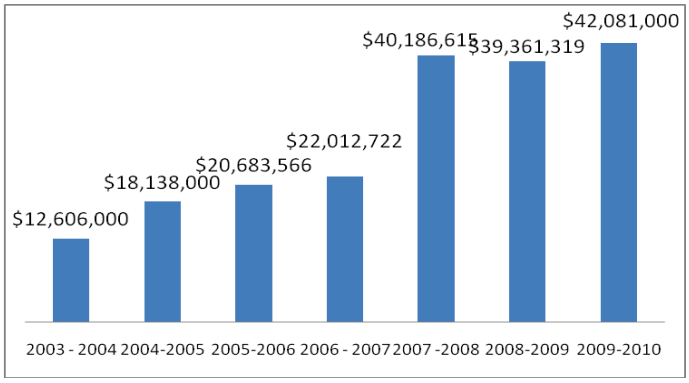
- Significant recent accomplishments include
  - DOE Energy Frontiers Research Center ($12.5M award in 2014)
  - 20 NSF CAREER Awards and 10 DOD Young Investigator Awards in 2014 – 2016
  - 24 NSF GRFP awards in 2016
  - In FY16, teams in which Notre Dame are a part have been invited for full proposal for 2 NSF ERCs
  - $8.5M in ONR Awards in 2015
  - 6 DURIP awards in 2015 - 2016
  - 2 NNMI Awards ($1.5M in 2015)
  - Established and strengthened funding relationships with such agencies as IARPA, NSF, NIH, AFRL, AFOSR, ARL, ARO, OSD, NAVSEA, DARPA, and ONR. These relationships have resulted in a 20% increase in DOD awards and a 40% increase in NIH awards in FY16.
- Founded the following Notre Dame Research Centers and Laboratories
  - (with Dr. Joshua Cameron) Notre Dame Turbomachinery Laboratory ($20.5M in first-year awards; annual research awards > $5M)
  - (with Dr. Thomas Corke) Notre Dame Hypersonic Quiet Tunnel ($2.2M in first-year awards)
  - (with Dr. Steven Schmid) Notre Dame Advanced Manufacturing Laboratory ($1.5M in first-year awards)
- Led a successful $20 million Development campaign in 2014 for the Turbomachinery Laboratory; currently leading a $5 million campaign for a Hypersonics Research Facility.
- Together with Dr. Hildegund Mueller, designed and implemented the *Notre Dame Responsible Research Review* panel
- Co-PI at Notre Dame with Dr. Steven Schmid for two recently awarded NNMI Advanced Manufacturing Innovation Institutes including
  - Digital Manufacturing and Design Innovation Institute (DMDII)
  - Lightweight Metals and Materials Innovation Institute
- Currently leading a 12-State consortium comprised of Corporate, State and University members for proposal of an Indiana-hosted Institute in Virtual Validation
- Established Notre Dame membership in the *America Makes* Additive Manufacturing Innovation Institute
- NSF & U. S. Department of Energy Panelist
- Currently pursuing a DOD security clearance

University of Texas Arlington (2005 – 2013)

As *Interim Associate Vice President for Research*, responsible for the following activities:

- Government Affairs (resulted in over $25M in Congressionally directed funding, and $25M in State-directed funding for campus capital and research campaigns)
- Managed the University's Organized Research Centers of Excellence including
  - Medical Imaging & Tissue Engineering Research Center
  - Texas Manufacturing Assistance Center (TMAC)
  - Center for Renewable Energy Science and Technology (CREST)
  - UTA Research Institute (UTARI)
  - High Energy Physics Research Center
  - Nanotechnology Teaching and Research Facility (Nanofab)
  - Security Awareness via Advanced Nanotechnology (SAVANT)
- Managed the Office of Technology Management
- Working with industry, state and federal agencies to aid faculty in growing research for the university. Resulted in over $200 million in new research expenditures.
- Corporate, Foundation, and Individual Gifts
  - Obtained a $5M corporate gift for an endowed chair in Photonics
  - Obtained $1.5M gift to develop a degree in Chemical Engineering
- Member of the American Society of Mechanical Engineers Advanced Manufacturing Initiative

As *Associate Dean for Research*, increased College of Engineering annual research expenditures from $12M to over $42M.



UTA College of Engineering Research Expenditure Trend

- Established new externally funded interdisciplinary research centers

a) *CREST:* Center for Renewable Energy Science and Technology
   i) Collaborations: College of Engineering with College of Science and WVU
   ii) Total funding levels over three years: $5M

b) *TexMED:* Texas Medical Electronic Device Center
   i) Collaborations: UT Arlington College of Engineering with UT Southwestern Medical Center at Dallas. Total funding levels over two years: $3M

c) *SmartCare:* a Center established to develop medical assistive living device technology
   i) Collaborations: College of Nursing with College of Engineering
   ii) Total funding levels in year 1: $350K

d) *Smart MicroGrid Testbed:* Total funding level in first year of operation: $500K

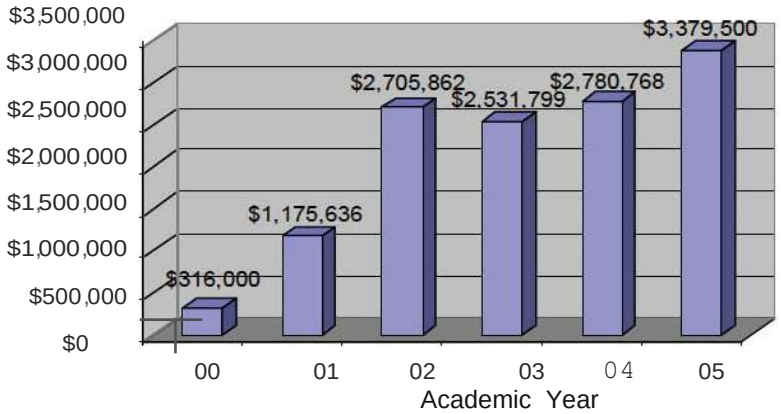
e) *Accelerated Pavement Test Facility*. Total funding level in first year: $1,776,000.

f) *Sustainable Resource Management Center*. Total funding level in first year: $1,000,000

- Established culture of interdisciplinary research, industry partnerships and technology commercialization
- Hosted U.S. Congressional Hearings on Energy (2008)
- Established the College of Engineering *Research Equipment Fund*.
- Governance Board, Texas Medical Electronic Devices Consortium
- Board of Directors, *Center for Innovation*, Arlington Chamber of Commerce

Oregon State University (2000 - 2005)

- Increased annual departmental research expenditures from $300,000 to over $2,000,000, and research awards to over $3,300,000.



OSU Industrial & Manufacturing Engineering Research Award Trend

- Corporate, Foundation and Alumni Gifts
  - Directed College of Engineering Capital Campaign
  - Obtained $2M in Corporate and Foundation gifts from such foundations as the Hewlett Foundation, Intel Foundation, and Hewlett-Packard Foundation
  - Obtained $3.5M gift for an Endowed Chair in Entrepreneurship
  - Over $200,000 in new scholarships from alumni and individual donors
- Incorporated Wireless Platforms for Learning into 15 Engineering, Math & Science courses
- Instituted an undergraduate Bioengineering degree program
- Instituted undergraduate minors in Business and Information Systems Engineering
- Co-PI for State appropriation instituting the Oregon State University - Bend branch campus
- 2X increase in Freshman Industrial Engineering Enrollments
- Balanced Department budget from $30K deficit to an annual $500K surplus, while concurrently receiving annual 5% budget cuts for a contiguous 4- year period.
- Member, Oregon Capitalization & Business Formation Committee

AWARDS & HONORS

- *S.T.A.R.S* Award (2005, University of Texas System Board of Regents)
- *AIDC 100 Fellow* (2006: Elected to membership of the *Top 100* international researchers making pioneering contributions to the advancement of Automatic Identification and Data Capture)
- *IIE Transactions Best Paper Award,* Institute of Industrial Engineers (2004)
- *Intel Faculty Fellowship*, Oregon State University (2002, 2004)
- *W. K. Whiteford Faculty Fellowship*, University of Pittsburgh (1995 – 2000)
- College of Engineering *Board of Visitors Outstanding Faculty Award,* U of Pittsburgh (1994)
- Institute of Industrial Engineers *Outstanding Graduate Student Award,* Arizona State University, (1988)
- Phi Beta Kappa, Phi Kappa Phi, West Virginia University, (1978)

PATENTS

1. ***Methods and Systems for Improved Biodiesel Production***, U.S. Patent 8,404,005, Issued 03/26/2013.
2. ***Wireless Power Transmission,*** U.S. Patent 9,030,161 B2, Issued 03/12/ 2015.
3. ***Processes for Liquefying Carbonaceous Feedstocks and Related Compositions,*** U.S. Patent Application No. WO 2014/148156 A1, filed January 12, 2014.
4. ***Process for Machining Clear Meso/Micro Features such as Micro-Channels in Microscopic Glass Slides,*** U.S. Provisional Patent Application No. 61/975,164, 04/04/2014.

LICENSE ACTIVITY

- *Patent and Technology License for Improved Biodiesel Production,* 9/16/2006.
- *Patent and Technology License for Gas to Liquids*, 6/2011
- *Patent and Technology License for Coal to Liquids Synthetic Crude Oil*, 11/2013

DIVERSITY & INCLUSION INITIATIVES

- ***Aerospace Internship Program*** – Inner – city high school student summer internship program, University of Notre Dame
- ***Investing Now*** – Demographically disadvantaged student recruiting program, University of Pittsburgh
- ***Women & Minority Recruiting & Retention Program*** – Instituted in Industrial & Manufacturing Engineering Department at Oregon State University.
- ***United Negro College Fund*** – Led scholarship program for engineering students of color, University of Pittsburgh
- ***IME Department Diversity*** –as Department Head of Industrial & Manufacturing Engineering at OSU, 70% of departmental recruited faculty were women or persons of color.
- ***Students Recruiting Students.*** This recruiting program successfully increased number of top tier high school women into Freshman Industrial Engineering at Oregon State University. Program was replicated at the University of Texas Arlington and substantially increased the number of African American and Hispanic students entering as incoming Engineering Freshmen.

GRANTS & CONTRACTS (awarded)

University of Notre Dame

Title	Workshop: The United States and Germany Collaborative Research in Advanced Manufacturing
Source	National Science Foundation
PI's	R. E. Billo
$ Amt	$46,466
Dates:	August 2015 – July 2016

Title	Parametric Design of Functional Support Structures for Metal Alloy Feedstocks
Source	America Makes (Air Force Research Laboratory)
PI's	R. E. Billo, R. Shankar (U. Pittsburgh), D. Hoelzle, S. Schmid
$ Amt	$805,966
Dates:	August 2015 – February 2017

Title	Workshop: Measurement Science Roadmap for Polymer-Based Additive Manufacturing
Source	National Science Foundation
PI's	R. E. Billo
$ Amt	$46,255
Dates:	June 2016 – May 2017

Title	Economic Production of Next Generation Orthopedic Materials through Powder Reuse in Additive Manuf.
Source	America Makes (Air Force Research Laboratory)
PI's	S. Schmid, R. E. Billo, D. Hoelzle
$ Amt	$688,767
Dates:	August 2015 – February 2017

Title	IEDC Turbomachinery Grant
Source	Indiana Economic Development Corporation
PI's	R. E. Billo
$ Amt	$200,000
Dates:	January 2015 – May 2017

Title	Workshop: Additive Manufacturing for Health
Source	National Science Foundation
PI's	R. E. Billo
$ Amt	$49,760
Dates:	September 2015 – August 2016

Title	The Notre Dame Turbomachinery Facility
Source	City of South Bend Tax Incentive Fund
PI's	R. Billo, T. Sexton, J. Cameron, S. Morris, L. Rulli
$ Amt	$4,430,000
Dates:	June 2014 – May 2016

Title	IEDC Turbomachinery Grant
Source	Indiana Economic Development Corporation
PI's	R. E. Billo
$ Amt	$400,000
Dates:	November 2014 – May 2016

Title	IEDC Turbomachinery Infrastructure Development Grant
Source	Indiana Economic Development Corporation, City of South Bend
PI's	R. E. Billo
$ Amt	$2,000,000
Dates:	November 2014 – May 2016

Title	The Notre Dame Turbomachinery Facility
Source	Notre Dame Strategic Research Initiative Fund
PI's	R. Billo, J. Cameron, J. Collier, S. Morris, L. Rulli, T. Sexton
$ Amt	$7,500,000
Dates:	April 2014 – March 2019

Title	The Notre Dame Turbomachinery Facility
Source	General Electric Corporation
PI's	R. E. Billo, J. Cameron, J. Collier, S. Morris, L. Rulli, T. Sexton
$ Amt	$13,500,000
Dates:	April 2014 – December 2018

Title	Consolidation of Tribology Expertise for Engineering Applications
Source	Collaborative Engineering Research Initiative PUC-ND Seed Fund Program
PI's	J. Ramos, M. Walczak, S. Schmid, R .E. Billo
$ Amt	$23,600
Dates:	January 2014 – December 2014

University of Texas Arlington

Title	Center for Renewable Energy Science and Technology
Source	Texas Research Investment Program (TRIP)
PI's	R .E. Billo, F. MacDonnell, J. W. Priest, B. H. Dennis
$ Amt	$260,000
Dates:	August 2013

Title	Coal to Liquids Production
Source	TRT Holdings
PI's	R .E. Billo, F. MacDonnell, J. W. Priest, B. Dennis
$ Amt	$255,000
Dates:	August 2013 – December 2013

Title	A Novel Glass Microfluidic Neuro-Sensor
Source	Texas Medical Research Collaborative
PI's	R. E. Billo, S. Prasad, (UT Dallas), H. Beardsley, E. C. Jones, J. W. Priest, S. Bianco
$ Amt	$100,000
Dates:	June 2013 – May 2014

Title	A Chemical Engineering Program
Source	Dr. N. Y. Chen ($1,000,000), Maverick Match ($500,000)
PI's	R. E. Billo
$ Amt	$1,500,000
Dates:	December 2012

Title	Automation and Robotics Research Institute (as Interim Director)
Source	New Awards (Strasbough Corp, Sellmark, Argonne National Labs, Medtronics, DLA, NSF)
$ Amt	$2,269,027
Dates	2011 – 2012

Title	Design of a Coal-To-Liquids Research Facility
Source	TRT Holdings, Inc.
PI's	Fred MacDonnell, Richard E. Billo, Brian Dennis, John Priest
$ Amt	$260,000
Dates	04/1/2012 – 12/31/2012

Title	Gas to Liquids
Source	1st Resource Group, Inc.
PI's	R.E. Billo, K. Rajeshwar, B. Dennis, F. MacDonnell, J. Priest
$ Amt	$300,000
Dates	6/1/2011 – 8/31/2012

Title	CREST: Center for Renewable Energy Science and Technology
Source	U. S. Department of Energy
PI's	R.E. Billo, K. Rajeshwar, B. Dennis, F. MacDonnell, J. Priest
$ Amt	$964,000
Dates	1/1/2011– 1/15/2013

Title	Conversion of PRB Coal to Synoil by Direct Liquefaction
Source	TRT Holdings
PI's	B. Dennis, F. MacDonnell, J. Priest, R. E. Billo
$ Amt	$83,000
Dates	January 2012 – May, 2012

Title	Nanoporous Membrane Oxygenator
Source	Texas Health Resources
PI's	B. Dennis, Z. Celik-Butler, R. E. Billo
$ Amt	$100,000
Dates	January 2010 – December 2010

Title	Systems Engineering Research Center
Source	U. S. Department of Education
PI's	S. Ferreira, D. Liles, R. Billo
$ Amt	$142, 000
Dates	Sept 2009 – August 2010

Title	A Carbon Extraction Process for Converting Texas Lignite to JP-8
Source	Defense Advanced Research Projects Agency
PI's	R.E. Billo, B. H. Dennis, J. W. Priest, M. Sattler, Alfred Stiller (WVU), Elliot Kennel (WVU)
$ Amt	$747,837
Dates	July 2009 – December 2010

Title	CREST: Center for Renewable Energy Science and Technology
Source	U. S. Department of Energy
PI's	R. E. Billo, K. Rajeshwar, B. Dennis, F. MacDonnell, J. Priest
$ Amt	$1,403,000
Dates	1/1/2010 – 12/31/2010

Title	Natural Gas to Liquid Fuels
Source	DFW Genesis Energy Group, Texas Ignition Fund
PI's	R.E. Billo, B. H. Dennis, J.W. Priest. F. MacDonnell
$ Amt	$225,000
Dates	May 2009 – August 2010

Title	Vacuum Hot Press
Source	UT System Research Excellence Funds
PI's	R.E. Billo, B. H. Dennis, J.W. Priest
$ Amt	$50,000
Dates	May 2009

Title	A MEMS Microreactor Device for Synthetic Fuel Refining
Source	Metroplex Research Consortium for Electronic Materials and Devices
PI's	R.E. Billo, G. Verbeck (U. of North Texas), B. H. Dennis
$ Amt	$51,833
Dates	January 2009 – December 2009

Title	Converting Texas Lignite to Crude Oil
Source	Texas Ignition Fund
PI's	R. E. Billo, B. H. Dennis, J. W. Priest
$ Amt	$25,000
Dates	August 2008 – July 2009

Title	Co-Production of Crude and Hydrogen from Texas Lignite
Source	U.S. Department of Energy
PI's	R. E. Billo
$ Amt	$450,000
Dates	September 2008 – August 2009

Title	Texas Instruments Distinguished Chair in Nanoelectronics
Source	Texas Emerging Technology Fund, Texas Instruments, Science & Technology Acquisition & Retention Program
PI's	R. E. Billo
$ Amt	$5,000,000
Dates	January 2008

Title	Nanoporous Membrane Blood Oxygenator
Source	ORtech Bioengineering, Inc., Aurora Healthcare, Texas Ignition Fund, Metroplex Research Consortium in Electronic Devices and Materials
PI's	R. E. Billo, C. Chuong, Z. Celik-Butler, R. Eberhart, R. Timmons
$ Amt	$280,000
Dates	January 2007 – January 2010

Title	CREST: Center for Renewable Energy Science & Technology
Source	U.S. Department of Energy
PI's	R. E. Billo and K. Rajeshwar
$ Amt	$984,000
Dates	September 2008 – August 2009

Title	Microreactor Biodiesel Production:
Source	BioTech Ventures, LLC
PI's	B. Dennis, R. E. Billo, J. Priest, R. Fernandez
$ Amt	$350,000
Dates	September 2007 – December 2008

Title	Texas Microfactory
Source	Office of Naval Research
PI's	R. E. Billo, H. Stephanou
$ Amt	$6,800,000
Dates	November 2008 – August 2012

Title	Center for Structural Engineering Research
Source	UT System Permanent University Fund
PI's	R. Billo, S. Self, A. Abolmaali, N. Yazdani, R. Elsenbaumer
$ Amt	$25,000,000
Dates	September, 2007

Title	Science and Technology Acquisition and Retention Program
Source	UT System Board of Regents

PI's B. Carroll, R. Billo
$ Amt $1,250,000
Dates July, 2007

Title Advanced Technology Development for Logistics & Distribution
Source Texas Workforce Commission
PI's R. E. Billo, J. Priest
$ Amt $227,000
Dates Sept 2007 – August, 2008

Title Rapid Production of Biodiesel via Microchannel-Based Transeterification of Cottonseed Oil
Source Texas Dept of Agriculture
PI's B. H. Dennis, R. E. Billo, R. Timmons
$ Amt $89,667
Dates Sept 2006 – August 2009

Title Field Study of a Prototype System for Pharmaceutical Shipping Containers
Source SAVR Communications
PI's J. W. Priest, D. W. Engels, R. E. Billo
$ Amt $20,000
Dates Jan. 2006 – August 2006

Title Devices and Materials for a Biodiesel Microreactor
Source Metroplex Research Consortium for Electronic Devices and Materials
PI's Z. Celik-Butler, R. E. Billo, E. Kolesar, B. Dennis
$ Amt $60,000
Dates Sept 2006 – August 2007

Title *The Automatic Data Capture Laboratory*
PI R. E. Billo
Source Symbol Tech., Hand Held Prod., Intermec, Texas Instruments, Loftware, epcSolutions, Zebra
Dates January, 2006
Level $182,500

Oregon State University

Title Endowed Chair in Entrepreneurship (Gift)
Source Randy and Sharon Conrads
$ Amt $3,000,000
Dates May 2005

Title Commercialized Research Fund
Source State of Oregon
PI's R. Billo, P. Scruggs, W. Newman
$ Amt $2,500,000
Dates July 2005 – June 2007

Title Tom and Carmen West Scholarship Fund
Source Dr. & Mrs. Tom and Carmen West
$ Amt $90,000
Dates December 2004

Title Jeld Wen Scholarship
Source Jeld Wen
$ Amt $2,000/year
Dates Sept, 2004

Title Impact of Microchannel Geometry on the Hemocompatibility of Hemodialysis Dialyzers
Source Murdock Foundation, Erkkila Foundation
PI's R. E. Billo and G. Jovanovic
$ Amt $63,152
Dates January – June 2005

Title	A Transestrification Microreactor for Production of Biofuels
Source	U.S. Army (Ft. Belvoir)
PI's	R. Billo, G. Jovanovic, B. Paul
$ Amt	$90,000
Dates	January 2005 – June 2005

Title	Ultra-Wideband Radio Frequency Identification Tags with Satellite Communications
PIs	R. E. Billo and H. Liu
Source	U.S. Army
Dates	12/01/04 – 12/31/05
Level	$100,029

Title	Intel Mobile Virtual Computing Laboratory
Source	Intel Philanthropy, Microsoft
$ Amt	$90,518
Dates	January 2004 – December 2004

Title	Assessment of the Automated Tracking, Monitoring and Management of all Assets Associated with an EMU D Build
Source	Navy Fleet Hospital Support Operations
PI's	R. E. Billo, J. D. Porter, T. Puthpongsiriporn
$ Amt	$60,000
Dates	June – August, 2004

Title	Vehicle Mileage Tracking System
Source	Oregon Dept. of Transportation
Dates	8/1/03 – 12/30/04
Level	$1,460,000

Title	Urban Commodity Flow Data Collection & Analysis using Global Positioning System
PIs	T. Puthpongsiriporn, .R. E. Billo, J. D. Porter
Source	TransNow, Port of Portland
$ Amt	$125,000
Dates	September 1, 2003 – June 30, 2005

Title	Tactical Energy Systems
PIs	K. Drost, R. Billo, S. Rung
Source	DoD
Dates	10/1/04 – 09/30/07
Level	$2.5M

Title	Industrial Economic Development in Western Oregon through the National Center for Multiscale Materials and Devices
Source	U.S. Economic Development Administration
PI's	R. E. Billo
$ Amt	$100,000
Dates	September 2004 – July 2005

Title	Microchannel-Based Dialysis Unit
Source	Home Dialysis Plus, State of Oregon
$ Amt	$45,000
Dates	April 2004 – March 2005

Title	CM Rapid Temp Model 1512 GSH_2FL Inert Gas Furnace
Source	OSU Research Equipment Reserve Fund
$ Amt	$44,250
Dates	January 2004

Title	Effects of Active RFID around Metal Shipping Containers
PIs	R. E. Billo, D. Porter

Source	Savi Technologies
$ Amt	$38,000
Dates	September- November, 2004
Title	Microchemical 'Fractories' for the High-Yield Synthesis of Dendritic Nanoarchitectures
Source	Keck Foundation
$ Amt	$650,000
Dates	January 2004 – December 2006
Title	3-D CAD and Simulation Laboratory
PI	R. E. Billo, B. Layton
Source	Oregon State University TRF
$ Amt	$69,000
Dates	January 2004 – December 2004
Title	Broadband Wireless Technology
Source	Intel
PIs	J.D. Porter, R. E. Billo, B. Lee
Amt	$30,000
Dates	January 2004 – December 2004
Title	A College of Engineering Mobile Wireless Platform for Learning
Source	Hewlett Foundation
$ Amt	$1,100,000
Dates	March 2003 – February 2005
Title	A College of Engineering Mobile Wireless Infrastructure
Source	Intel
PIs	R. E. Billo
$ Amt	$150,000
Dates	January 2003 – October 2003
Title	A Secure Wireless Engineering Education Environment
Source	Hewlett Packard Philanthropy
Dates	3/ 1/ 02 – 3/ 1/ 03
Level	$113,518
Title	A Mobile Technologies Curriculum
Source	Hewlett Packard Philanthropy
PI(s)	D Porter, T. Doolen, R. Billo
Dates	7/11/01 - 6/30/02
Level	$228,000
Title	Mobile Wireless Computing Laboratory
Source	Intel Corporation
PIs	R. E. Billo
$ Amt	$60,000
Dates	October 2002
Title	ESI Laser MicroMachining Center
Source	ESI, OSU Research Equipment Reserve Fund
$ Amt	$450,000 ($350K ESI, $100K OSU)
Dates	July 2002
Title	The AgGuard Wireless Remote Soil Monitoring System Source Acquirit Corporation
PIs	R. E. Billo, T. Puthpongsiriporn
$ Amt	$70,000
Dates	January 2003 – December 2004
Title	A College of Engineering Wireless Platform for Learning Source OSU Technology Resource Fee Award
PIs	R. E. Billo

$ Amt	$96,000
Dates	March 2003 – Sept. 2003
Title	Feasibility Study for Wireless Vehicle Mileage Tracking System
Source	Oregon Dept. of Transportation
Dates	4/1/02 – 12/30/02
Level	$56,000
Title	Interdisciplinary Curriculum in Wireless and Mobile Computing
Source	Intel Corporation
PIs	J. D. Porter, B. Lee, R. E. Billo
Dates	7/1/02 – 6/ 0/03
Level	$50,000
Title	A Feasibility Study of Bio-Fuel Production and Distribution in Oregon
Source	Oregon Tall Fescue Commission
PIs	R. E. Billo, J. Woldstadt
Dates	6/15/02 – 12/15/02
Level	$20,000
Title	Economic Feasibility of Producing Bio-Diesel Fuel in Oregon
Source	Oregon Agricultural Research Foundation
PIs	R. E. Billo, J. Woldstadt
Dates	6/15/02 – 8/30/03
Level	$10,000
Title	Outcome assessment of mobile wireless technology learning environment in engineering
Source	Northwest Academic Computing Consortium, Proof of Concept Grant
Dates	3/ 1/ 02 – 3/ 1/ 03
Level	$10,000
Title	A Mobile Wireless Software Platform
Source	Wavelink Corporation
Dates	3/ 1/ 02 – 12/ 30/ 02
Level	$52,000
Title	Conformance Testing of ISO 802.11b Wireless Networks
Source	PSC Corp, Intel Corp, State of Oregon
Dates	1/ 1/ 02 – 6/ 30/ 03
Level	$109,000
Title	An Information Technology Teaching Laboratory
Source	OSU Technology Resource Fee
Dates	9/ 01/ 01 – 6/ 30/ 02
Level	$38,000
Title	A Mobile Technologies Solution Laboratory
Source	PSC Corporation, Bruno & Associates, Handheld Products, Pinpoint Corporation
PI(s)	Dr. David Porter, Dr. Richard Billo
Dates	7/ 11/ 01-6/ 30/ 02
Level	$100,000
Title	OSU-Cascades Campus
Source	State of Oregon
PI(s)	Sayer, H., Johnson, L., Randhawa, S., Billo, R., Quinn, M.
Dates	7/ 01/ 01
Level	$4,000,000
Title	A Wireless Network and Teachng Laboratory
Source	Intel
PI(s)	Porter, D., Wurl, R., Billo, R. E.
Dates	7/ 01/ 01 – 6/ 30/ 02
Level	$30,000
Title	Advanced HAZMAT Rapid Identification & Sortation System

Source Oak Ridge National Laboratories
PI(s) J. D. Porter, R. E. Billo
Dates 2/11/01-10/30/04
Level $100,000

Title A Mobile Technologies Curriculum
Source HP Philanthropy
PI(s) Dr. David Porter, Dr. Toni Doolen, Dr. Richard Billo
Dates 7/ 11/ 01-6/ 30/ 02
Level $228,000

Title A Lean Automation Curriculum and Laboratory
Source Society of Manufacturing Engineers
PI(s) Dr. Richard Billo, Dr. Brian Paul, Dr. Jeffrey Woldstad, Dr. Dean Jensen, Dr. M. Hacker, Dr. B. Pasch
Dates 6/ 1/ 01-5/ 30/ 03
Level $185,000

Title Discrete Event Simulation of FMF Design Facility
Source Canadian Department of National Defence
PI(s) Dr David Kim, Dr. Dean Jensen, Dr. Richard E. Billo, Dr. Marla Hacker, Dr. Brian Paul Dates 4/ 20/ 01 – 10/ 30/ 2001
Level $196,000

Title Technology Study of Identifying Methodologies for Flat Mail
Source USPS
PI(s) Dr. J.D. Porter, Dr. Marla Hacker, Dr. R.E. Billo
Dates 11/ 15/ 2000 - 6/ 30/ 2001
Level $189,309

University of Pittsburgh

Title An E-Team to Develop a Keyless Key
Source NCIIA Grant
PI(s) Dr. Raymond Hoare, Dr. Marlin Mickle, Dr. Richard E. Billo
Dates 5/ 30/ 2000 - 8/ 30/ 2000
Level $14,625

Title Advanced HAZMAT Rapid Identification & Sortation System
Source DARPA
PI(s) Dr. Richard E. Billo and Dr. Marlin Mickle Dates 9/ 1/ 99 - 9/ 30/ 2000
Level $325,000

Title The Wireless Network Wire
Source Pittsburgh Digital Greenhouse
PI(s) Dr. Marlin Mickle, Dr. Richard E. Billo Dates 1/ 1/ 2000 - 12/ 30/ 2000
Level $154,000

Title Evaluation of Two-Dimensional Symbologies for Identification Cards
Source Immigration & Naturalization Service
PI(s) Dr. Richard E. Billo
Dates 6/ 1/ 99 - 9/ 30/ 1999
Level $93,000

Title Comparative Evaluation of Handheld Non-Contact OCR Readers
Source Welch Allyn
PI(s) Dr. Richard E. Billo
Dates 11/ 1/ 99 - 12/ 30/ 1999
Level $12,600

Title Cooperative Querying and Data Mining for the Design of a Disease Management System
Source UPMC Health System
PI(s) Dr. Richard E. Billo Dates 4/ 12/ 99 - 4/ 12/ 2000
Level $54,000

Title Kauffman Internship Program
Source Kauffman Foundation
PI(s) Dr. Richard E. Billo

Dates 6/ 1/ 99 - 5/ 30/ 2001
Level $100,000

Title A Wireless Automated Inventory Replenishment System
Source Gooding & Shields Rubber Co., Bacharach Industries PI(s)
Dr. Richard E. Billo
Dates 1/ 1/ 99 - 6/ 30/ 99 Level
$60,000

Title RPS Industrial Fellows Program
Source RPS
PI(s) Dr. Richard E. Billo Dates
9/ 1/ 98 - 6/ 30/ 2000
Level $100,000

Title Automatic Data Collection Laboratory
Source Denso Corporation, B2 Consulting PI(s)
Dr. Richard E. Billo
Dates 8/ 1/ 98
Level $33,000

Title Development of an Intelligent Metallurgical Engineering System for Hot Roll Milling (Year 2)
Source Ben Franklin Techology Center, Pittsburgh Flat Roll
PI(s) Dr. Brian Norman, Dr. Richard E. Billo
Dates 1/ 1/ 97 - 6/ 30/ 98
Level $148,000

Title The FoxNet Marking and Coding Network

Source Fox IV Technologies
PI(s) Dr. Richard E. Billo
Dates 7/ 1/ 97 - 6/ 30/ 98
Level $90,000

Title Vehicle Data Monitor with RF Link
Source Interrogation Devices Incorporated
PI(s) Dr. Richard E. Billo
Dates 7/ 1/ 97 - 6/ 30/ 98 Level
$45,000

Title Test Methods for Comparing Two Dimensional Bar Code Hand Held Readers
Source RPS
PI(s) Dr. Richard E. Billo Dates
7/ 1/ 97 - 8/ 30/ 97
Level $10,000

Title Development of a Registration Database Sou
rce AIM USA
PI(s) Dr. Richard E. Billo Dates
1/ 1/ 97 - 4/ 15/ 97
Level $11,250

Title A Wireless Data Tracking System for Abrasive Flow Machining
Source NIST Advanced Technology Program/ Extrude Hone Corporation PI(s)
Dr. Richard E. Billo
Dates 1/ 1/ 97 - 8/ 30/ 97 Level
$36,000

Title Development of an Intelligent Metallurgical Engineering System for Hot Roll Milling
Source Ben Franklin Technology Center, Pittsburgh Flat Roll
PI(s) Dr. Brian Norman, Dr. Richard E. Billo Dates
1/ 1/ 97 - 6/ 30/ 97
Level $58,000

Title Development of a Mobile Law Enforcement Network System
Source Total Access Systems
PI(s) Dr. Richard E. Billo
Dates 9/ 1/ 96 - 6/ 30/ 98
Level $26,000

Title A Computer Aided Diagnostic System for Blow Molding
Source Ben Franklin Technology Center
PI(s) Dr. Richard E. Billo (Co-PI), Dr. Bopaya Bidanda (Co-PI)
Dates 4/ 1/ 95 - 6/ 30/ 97
Level $245,809

Title Development of the MOST TALK System
Source Ben Franklin Technology Center of Western Pennsylvania, H. B. Maynard & Company
PI(s) Dr. Bopaya Bidanda (Co-PI), Dr. Richard E. Billo (Co-PI)
Dates 9/ 94 - 8/ 97
Level $223,431

Title Automatic Data Collection Laboratory
Source Symbol Technologies, PSC Corporation
PI(s) Dr. Richard E. Billo
Dates 5/ 96 - 4/ 97
Level $22,307

Title Automatic Data Collection Laboratory
Source Symbol Technologies, PSC Corporation PI(s)
Dr. Richard E. Billo
Dates 9/ 95 - 4/ 96 Level
$9,750

Title MAC Income Account
Source Miscellaneous Western PA Manufacturing firms
PI(s) Dr. Cleland (Co-PI), Dr. Bidanda (Co-PI), Dr. Billo (Co-PI)
Dates 7/ 95 - 2/ 96
Level $51,834

Title Manufacturing Assistance Center Cash Gifts

Source PNC Bank, Equitable Resources, Integra, Mellon
PI(s) Dr. Cleland (Co-PI), Dr. Bidanda (Co-PI), Dr. Billo (Co-PI)
Dates September, 1995
Level $175,000

Title Modernizing Manufacturing Engineering at the University of Pittsburgh
Source Society of Manufacturing Engineers
PI(s) Dr. Richard E. Billo (PI) Dates
7/ 95 - 6/ 96
Level $10,175

Title Manufacturing Assistance Center
Source Commonwealth of Pennsylvania: Dept. of Commerce
PI(s) Dr. David I. Cleland (Co-PI), Dr. Bopaya Bidanda (Co-PI), Dr. Richard E. Billo (Co-PI)
Dates 4/ 95 -4/ 96
Level $200,000

Title Manufacturing Assistance Center Continuation Project
Source Appalachian Regional Commission
PI(s) Dr. David I. Cleland (Co-PI), Dr. Bopaya Bidanda (Co-PI), Dr. Richard E. Billo (Co-PI) Dates
10/ 95 - 9/ 96
Level $139,426

Title Manufacturing Extension Technology Reinvestment Program: Yr. 2
Source National Institute of Standards and Technology (NIST)
PI(s) Dr. Dave Cleland (Co-PI), Dr. Bopaya Bidanda (Co-PI), Dr. Richard E. Billo (Co-PI)
Dates 9/ 95 - 8/ 96
Level $110,000

Title Manufacturing Assistance Center Steady State Operation Initiative
Source Ben Franklin Technology Center
PI(s) Dr. Bopaya Bidanda (Co-PI), Dr. Dave Cleland (Co-PI), Dr. Richard E. Billo (Co-PI) Dates
9/ 95 - 8/ 96
Level $100,000

Title Manufacturing Assistance Center Technical Projects
Source Ben Franklin Technology Center
PI(s) Dr. Richard E. Billo (Co-PI), Dr. Bopaya Bidanda (Co-PI), Dr. Dave Cleland (Co-PI)
Dates 7/ 94 - 6/ 95
Level $55,463

Title MAC - Technology Transfer Initiatives
Source National Institute of Standards and Technology (NIST)
PI(s) Dr. Dave Cleland (Co-PI), Dr. Bopaya Bidanda (Co-PI), Dr. Richard E. Billo (Co-PI), ,
Dates 11/ 93 - 10/ 94
Level $110,000

Title Automatic Data Collection Laboratory Sou
rce AIM USA
PI(s) Dr. Richard E. Billo (PI)

Dates 7/ 94 - 6/ 95
Level $132,225

Title Feature Based Design of a Long Path Gas Cell
Source Ben Franklin Technology Center of Western Pennsylvania, Virolac Industries
PI(s) Dr. Richard E. Billo (PI)
Dates 1/ 95 - 4/ 95
Level $6,737

Title ANSI Two Dimensional Bar Code System Test
Source United Parcel Service, Symbol Technologies, Veritec
PI(s) Dr. Richard E. Billo (Co-PI), Dr. Bopaya Bidanda (Co-PI)
Dates 6/ 94-12/ 94
Level $29,750

Title Two-Dimensional Printer Symbol Evaluation
Source Roadway Package Systems
PI(s) Dr. Richard E. Billo (Co-PI), Dr. David I. Cleland (Co-PI) Dates
10/ 94-11/ 94
Level $2,500

Title Manufacturing Assistance and Training Program
Source Ben Franklin Technology Center of Western Pennsylvania
PI(s) Dr. Bopaya Bidanda (Co-PI), Dr. David I. Cleland (Co-PI), Dr. Richard E. Billo (Co-PI)
Dates 9/ 94 - 8/ 95
Level $125,000

Title Modernizing Manufacturing Engineering at the University of Pittsburgh
Source Society of Manufacturing Engineers
PI(s) Dr. Richard E. Billo (PI)
Dates 7/ 95 - 6/ 96
Level $25,531

Title Automatic Data Collection Laboratory
Source AIM USA
PI(s) Dr. Richard E. Billo (PI)
Dates 7/ 94 - 6/ 95
Level $46,210

Title Automating Cutting Process Parameters for Abrasive Flow Machining
Source Extrude Hone Corporation
PI(s) Dr. Richard E. Billo (PI)
Dates 9/ 93 - 6/ 94
Level $10,200

Title Automatic Data Collection Laboratory Sou
rce AIM USA
PI(s) Dr. Richard E. Billo (PI)
Dates 7/ 93 - 6/ 94
Level $117,000

Title A Parametric Design of Special Purpose Cutting Tools Sou
rce University Central Research Development Fund
PI(s) Dr. Richard E. Billo (PI)
Dates 7/ 93 - 6/ 95
Level $13,000

Title Automatic Data Collection & Identification Laboratory
Source National Science Foundation Instrumentation and Laboratory Improvement Grant
PI(s) Dr. Richard E. Billo, Dr. Bopaya Bidanda
Dates 4/ 92 - 9/ 95
Level $94,538

Title Feature Based Design of Countersink Tools Sou
rce Ben Franklin Technology Center
PI(s) Dr. Bopaya Bidanda (Co-PI), Dr. Richard E. Billo (Co-PI), Dates
5/ 92 - 10/ 92
Level $8,000

Title A Process Design for the Manufacture of Solenoid Actuated Directional Control Valves Sou
rce Ben Franklin Technology Center
PI(s) Dr. Bopaya Bidanda (Co-PI), Dr. Richard E. Billo (Co-PI)
Dates 8/ 1/ 92 - 8/ 31/ 92
Level $5,100

Title A Deterministic Setup Procedure for Economical Manufacture of Positive Rake Milling Cutters
Source Ben Franklin Technology Center
PI(s) Dr. Richard E. Billo (Co-PI), Dr. Bopaya Bidanda (Co-PI) Dates
8/ 1/ 92 - 8/ 31/ 92
Level $5,100

Pacific Northwest National Laboratories

Tooele Army Depot Integrated Manufacturing System	1991	$1,700,000
Westinghouse Corporation Geographical Information System	1991	$150,000
U.S. Army Shared Manufacturing Analysis	1991	$300,000
Rock Island Arsenal Group Technology Study	1991	$100,000
U.S. DOE Waste System Simulation	1991	$20,000
Corpus Christi Army Depot Technology Modernization Planning	1991	$28,000
Tobyhanna Army Depot Technology Modernization Planning	1991	$20,000
Lake City Army Ammunition Plant Facility Integrated Manufacturing Management System	1990	$700,000
Mare Island Naval Shipyard Generative Process Planning System	1990	$35,000
Tooele Army Depot Shop Floor Simulation	1990	$50,000
Tobyhanna Army Depot Shop Floor Simulation	1990	$10,000
U.S. Navy Feasibility of I- Level Maintenance Automation	1990	$30,000
U.S. Navy Public Works Utility Geographic Information system	1990	$100,000
DOE Manufacturing Systems Technology Assessment	1990	$120,000
Battelle PNL Object Oriented Analysis .	1990	$50,000

Arizona State University

USAF Flight Dynamics Laboratory Integration of a Group Technology Classification and Coding System with an Engineering Database	1986	$30,000
USAF Flight Dynamics Laboratory A CIM Database Design Methodology	1987	$115,000

PUBLICATIONS

Refereed Journal Papers

1. Tinnakornsrisuphap, T. and Billo, R. E., "An interoperable system for automated diagnosis of cardiac abnormalities from electrocardiogram data", *IEEE Journal of Biomedical and Health Informatics*, 19(2), March, 2015, pp. 493 – 500, DOI: 10.1109/JBHI.2014.2321515.
2. Billo, R., Oliver, C., R., Charoenwat, R., Dennis, B., Wilson, P., Priest, J., Beardsley, H., "A cellular manufacturing process for a full-scale biodiesel microreactor", *Journal of Manufacturing Systems*, 37(1), October, 2015, pp. 409 – 416, DOI: 10.1016/j.jmsy.2014.07.004.
3. Billo, R. E., Wilson, P. A., Priest, J. W. Romero-Ortega, R., Brunskill, S. R., Keens, D., "Slump molding of microchannel arrays in soda-lime glass for bioanalytical device development", *ASME Journal of Micro and Nano-Manufacturing*, 2(4), December, 2014, pp. 041006-1 – 041006-7. DOI: 10.1115/1.4028487.
4. Kositkanawuth, K., Gangupou, R. H., Sattler, M. L., Dennis, B. H., MacDonnell, F. M., Billo, R., Priest, J. W., "Air impacts from three alternatives for producing JP-8 jet fuel", *Journal of the Air and Waste Management Association*, 62(10), 2012, pp. 1182 -1195.
5. Gangupomu, R. H., Kositkanawuth, K., Sattler, M. L., Ramirez, D., Dennis, B. H., MacDonnell, F. M., Billo, R., Priest, J., "Analysis and Comparison of Inertinite-Derived Activated Carbon with Conventional Activated Carbon Adsorbents", *Journal of the Air and Waste Management Association*, **62**(5), 489-499, 2012.
6. Bhargav P. Nabara, Zeynep Çelik-Butler, Brian H. Dennis and Richard E. Billo, "A nanoporous silicon nitride membrane using a two-step lift-off pattern transfer with thermal nanoimprint lithography", *J. of Micromechanics and Microengineering*, **22**, 2012.
7. Billo, R. E. and Rajeshwar, K., "Value-Added Hydrogen Generation with CO_2 Conversion", *2011 Annual DOE Hydrogen and Fuel Cells Annual Report*, 2011.
8. Billo, R., "Book Review: Design of Industrial Information Systems", 2008, *IIE Transactions*, **40**, 1-3.
9. Porter, J. D., Billo, R. E., Mickle, M. H., 2006 "Effect of Active Interference on the Performance of Radio Frequency Identification Systems", *Int. Journal of Radio Frequency Identification Technology and Applications*, **1**(1), 4 – 26.
10. Puthpongsiriporn, T., Porter, J.D., Wang, M.E., Bidanda, B., Billo, R.E., 2006 "Attribute-Level Neighbor Hierarchy Construction Using evolved Pattern-based Knowledge Induction," *IEEE Transactions on Knowledge and Data Engineering*, **18**(7), 917 – 929.
11. Porter, J.D., Billo, R. E., Rucker, R., 2004, "Architectures for Integrating Legacy Information Systems with Modern Bar Code Technology," *Journal of Manufacturing Systems*, **23**(3).
12. Porter, J.D., Billo, R.E., Mickle, M.H., 2004 "A Standard Test Protocol For Evaluation of Radio Frequency Identification Systems for Supply Chain Applications", *Journal of Manufacturing Systems*, **23**(1), 46-55.
13. Porter, J.D., Billo, R.E., Mazumdar, M., Brown, S.J., 2003, "The Impact of Bar Code Print Quality on the Performance of High-Speed Sortation Systems", *Journal of Manufacturing Systems*, **22**(4), 317 - 326.
14. Adickes, M. D, R. E. Billo, B. A. Norman, S. Banerjee, B. O. Nnaji, and J. Rajgopal, "Optimization Of Indoor Wireless Communication Network Layouts", *IIE Transactions*, Vol. 34, 823-836, 2002.
15. Billo, R. E. "A Design Methodology for Configuration of Manufacturing Cells", *International Journal of Computers and Industrial Engineering*, **34**(1), 63-75, 1998.
16. Billo, R. E.,"Organizing Principles for the Design of Classification and Coding Software, *Journal of Manufacturing Systems*, **17**(6), 405-417, 1998.
17. Needy, K. L., Billo, R. E., and Colosimo, R. "A Cost Model for the evaluation of alternative cellular manufacturing configurations", *International Journal of Computers and Industrial Engineering*, **34**(1), 119-134, 1998.
18. Kadidal M., Bidanda, B. and Billo, R. E. "On the development of an intelligent castability and cost estimation system", *International Journal of Production Research*, **36**(2), 547-568, 1998.
19. Adickes, M. and Billo, R.E., Performance Standards for Comparing Two-Dimensional Bar Code Hand-held Reader Technologies, *Journal of Manufacturing Systems*, **17**(5), 361-370, 1998.
20. Cohen, Y., Bidanda, B., Billo, R.E. "Accelerating the Generation of Work Measurement Standards through Automatic Speech Recognition", *International Journal of Production Research*, **36**(10), 2701-2715, 1998.
21. Petri, K. L., Billo, R. E., and Bidanda, B., A Neural Network Process Model for Abrasive Flow Machining, *Journal of Manufacturing Systems*, **17**(1), 1998.
22. Billo, R. E., Needy, K. L., Barbe, T. "The application of automatic identification and checkweigh for automated inspection in cellular assembly", *Quality Engineering*, **10**(3), 427-435, 1998.
23. Billo, R. E., Bidanda, B., Cohen, Y., Fei, C. Y., Petri, K. L. "Performance Standards and Testing of Two-

Dimensional Bar Code Systems for Overhead Scanning", *Journal of Manufacturing Systems*, **15**(5), 1996.

24. Billo, R. E., Tate, D., and Bidanda, B. "A Genetic Cluster Algorithm for the Machine-Component Grouping Problem", *Journal of Intelligent Manufacturing*, **7**, 229-241, 1996.
25. Billo, R. E. and Needy, K. L.,"A Cost Model for Reconfiguration of Large Manufacturing Enterprises", *International Journal of Industrial Engineering*, **3**(3), 1996.
26. Bidanda, B. and Billo, R. E. "Parametric Design and NC Code Generation of Countersink Cutting Tools", *International Journal of Computer Integrated Manufacturing*, **9**(2), 105-112, 1996.
27. Billo, R.E., Needy, K. L., Bidanda, B. "Challenges facing information technology to support world class manufacturing", *Computers in Industry*, **28**, 163-165, 1996.
28. Chung, C. and Billo, R. E., "Shared Manufacturing: 10 ways to prevent a MAC attack", *Industrial Management*, Jan/Feb, 29 - 32, 1996.
29. Billo, R.E. and Bidanda, B., "Representing Group Technology Classification and Coding Techniques with Object Oriented Modeling Principles, *IIE Transactions*, **27**, 542-554, 1995.
30. Billo, R. E., Bidanda, B., and Kharbanda, P. "Re-Engineering process plans for effective manufacturing cell formation", *International Journal of Manufacturing Systems Design*, **1**(3), 217-229, 1994.
31. Spanner, G., Stahlman, E., Hostick, C. J., Billo, R. E., Dearborn, C. F., and Smith, F. L. "MACRO GT: A case study of Group Technology principles applied to geographically separated facilities for the U.S. Army", *International Journal of Operations and Quantitative Management*, **1**(1), 1995.
32. Bidanda, B. and Billo, R. E., "On the use of students for developing engineering laboratories", *ASEE Engineering Education*, 205-213, April, 1995.
33. Billo, R.E. and Bidanda, B., "A student advising system for undergraduate education curricular scheduling," *Computers & Education*, **22**(3), 205-213, 1994.
34. Billo, R. E., Rucker, R., Paul, B. K. "Three Rapid and Effective Requirements Definition Modeling Tools: Evolving Technology for Manufacturing System Investigations," *International Journal of Computer Integrated Manufacturing*, **7**(3), 186-199, 1994.
35. Shaffer, T. and Billo, R.E., A Demand-Based Method for Manufacturing Cell Design, *International Journal of Manufacturing Systems Design*. **1**(2), 163-175, 1994 .
36. Billo, R. E., Dearborn, F., Hostick, C., Spanner, G., Stahlman, E., Aurand, S. "A group technology model to assess consolidation and reconfiguration of multiple Industrial operations -- a shared manufacturing solution", *International Journal of Computer Integrated Manufacturing*, **6**(5), 311-322, 1993.
37. Hostick, C. J., Billo, R. E., Rucker, R. H. "Making the Most of Structured Analysis in Manufacturing Information System Design: Application of Icons and Cycle-Time," *Computers in Industry*, 267-278, July, 1991.
38. Billo, R. E., Henderson, M., Rucker, R., "Applying Conceptual Graph Inferencing to Feature-Based Engineering Analysis," *Computers in Industry*, **13**(3), 195-214, 1990.
39. Billo, R.E. and Paul, B. "The Human Impact of the CIM Decision", *CIM Review*, **5**(1), 37-42, 1988.
40. Billo, R.E., Rucker, R., Shunk, D.L., "Enhancing Group Technology Modeling with Database Abstractions", *Journal of Manufacturing Systems*, **7**(2), 95-106, 1988.
41. Billo, R.E., Rucker, R., Shunk, D.L., "Integration of a Group Technology Classification and Coding System with an Engineering Database", *Journal of Manufacturing Systems*, **6**(1), 37-45, 1987.

Chapters in Edited Books

1. Billo, R.E., Porter, J.D. "Design of Industrial Information Systems," *Handbook of Industrial and Systems Engineering, (2nd Ed)*, A. B. Badiru (ed.), Taylor & Francis: Boca Raton, 2013.
2. Billo, R.E., Porter, J.D., and Puerzer, R. "An Architecture for the Design of Industrial Information Systems," *Handbook of Industrial and Systems Engineering*, A. B. Badiru (ed.), Taylor & Francis: Boca Raton, 2006.
3. Bidanda, B. and Billo, R. E., Line Balancing, *Maynard's Industrial Engineering Handbook*, (5th edition), McGraw-Hill Publishers, May 2001.
4. Billo, R. E., Bidanda, B., and Adickes, M. Automated Data Collection, *Maynard's Industrial Engineering Handbook*, (5th edition), McGraw-Hill Publishers, May 2001.
5. Bidanda, B., Colosimo, R. L., Warner, P. J., and Billo, R. E. "Project Management and Implementation of Cellular Manufacturing", 1999, *Handbook of Cellular Manufacturing Systems*, Irani, S.A. (ed.), (John Wiley & Sons: NY).
6. Billo, R. E. and Bidanda, B. Group Technology Databases, *Group Technology and Cellular Manufacturing*, Surresh, N. (ed.), (Kluwer Academic Publishers: Boston), 1998.

7. Bidanda, B., Narayanan, V., and Billo R., 1994, "Reverse Engineering & Rapid Prototyping", in *Handbook of Automation and Manufacturing Systems*, Kusiak, A and Dorf, R.C. (eds.), John Wiley & Sons.

Conference Proceedings

1. Peng, H., Go, D., Billo, R., Gong, S., Shankar, R., Aboud Gatrell, B., Budzinski, J., Ostiguy, P., Attardo, R., Tomonto, C., Neidig, J., Hoelzle, D., "Efficient quasi-static thermomechanical (QTM) model to predict part distortion in Direct Metal Laser Sintering (DMLS)", *2016 Annual International Solid Freeform Fabrication Symposium (SFF Symp 2016)*, Austin, TX, August 7 – 10, 2016.
2. Peng, H., Go, D., Billo, R., Gong, S., Shankar, R., Aboud Gatrell, B., Budzinski, J., Ostiguy, P., Attardo, R., Tomonto, C., Neidig, J., Hoelzle, D., "Efficient Thermal Circuit Network (TCN) model to predict temperature history in Direct Metal Laser Sintering (DMLS)", *2016 Annual International Solid Freeform Fabrication Symposium (SFF Symp 2016)*, Austin, TX, August 7 – 10, 2016.
3. Billo, R., Wilson, P., Priest, J., Romero-Ortega, M., Brunskill, S., Keens, D., "Slump molding inexpensive soda-lime glass to produce micro-channel arrays", *24th International Conference on Flexible Automation and Intelligent Manufacturing (FAIM)*, San Antonio, Texas May 20 -23, 2014.
4. Wilson, P., Billo, R., Durrett, J., Priest, J., "Eutectic reaction diffusion brazing process for joining aluminum laminae microreactors", *24th International Conference on Flexible Automation and Intelligent Manufacturing (FAIM)*, San Antonio, Texas May 20 -23, 2014.
5. Gangupomu, R, Kositkanawuth, K., Sattler, M. L., Ramirez, D., Dennis, B. H., MacDonnell, F., Billo, R., Priest, J., **"**Analysis and Comparison of Inertinite-Derived Adsorbent with Conventional Adsorbents", *104th Annual Conference of the Air and Waste Management Association*, Orlando FL, June 2011.
6. Billo, R., Rajeshwar, K., MacDonnell, F. "Value-Added Hydrogen Generation with CO_2 Conversion", *2011 DOE Hydrogen Program Annual Merit Review and Peer Evaluation Meeting*, Arlington, VA, May 2011.
7. K. Kositkanawuth, R. H. Gangupomu, M. L. Sattler, B. Dennis, F. MacDonnell, R. Billo, J. Priest. "Life Cycle Analysis of Emissions from Three Alternatives for Producing Crude," *104th Annual Conference of the Air & Waste Management Association*. Orlando, Florida, June 2011.
8. R. H. Gangupomu, K. Kositkanawuth, M. L. Sattler, B. Dennis, F. MacDonnell, R. Billo, J. Priest. "Analysis and Comparison of Inertinite-Derived Adsorbent with Conventional Adsorbents," *104th Annual Conference of the Air & Waste Management Association*. Orlando, Florida, June 2011.
9. Billo, R. E., Priest, J. W., Watts, J., "Direct Liquefaction of Australian Lignite to Synthetic Crude Oil", *CTL & Coal Gasification Conference*, 28th February – 1st March 2011, Novotel Brisbane.
10. Ambravaneswaran, V., Uttamaraj, S., Çelik-Butler, Z, Eberhart, R.C., Chuong, C.J., Billo, R.E. and Savitt, M.A., "Micromachined Nanoporous Membranes for Blood Oxygenation Systems", *IEEE Nano 2008, 8th International Conference on Nanotechnology*, Arlington TX, August 18 – 21, 2008.
11. Billo, R. E., "The Texas RF Innovation and Technology Center", *The Sixth Emerging Information Technology Conference*, Dallas, Texas, August 10 – 11, 2006.
12. Billo, R. E. and Bruno, T. "UID Marking Experiences: University Testing, Navy Expeditionary Hospitals", *UID Bootcamp*, Washington D. C., May 31 – June 1, 2006.
13. Billo, R. E., Cain, J. T., Engels, D. W., Greene, C. E., Hawrylak, P. J., Jones, A. K., Mats, L., Mickle, M. H., and Porter, J. D., "University Research in the Technology of RFID Tags, Readers, and Applications", *RFID Journal Live Conference*, Las Vegas, NV, May 1 – 3, 2006.
10. Puthpongsiriporn. T., Jensen, D., Funk, K., Weaver, C., and Billo, R.E., Mobile Computing Devices: Study of Alternative Teaching and Delivery Methods, *Industrial Engineering Research Conference*, Atlanta, GA, May 2005.
11. Helvie, D., Billo, R.E., Puthpongsiriporn, T., Dynamic Group Scheduling for a Cellular Manufacturing System, *Industrial Engineering Research Conference*, Atlanta, GA, May 2005.
12. Billo, R. E. and Altman, K. ONAMI: Putting Nanotechnology to work in Real Microsystems, *Innotech: Digitization of Healthcare*, March 31, 2004, Portland Oregon.
13. Porter, J.D., Mickle, M., Billo, R.E., Harmon, C.K., Harmon, M.A., Bruno, T. A., "Total Asset Visibility using Intelligent Labels", *Frontline Solutions Conference*, Chicago, IL, Oct 3-5, 2000.
14. Mickle, M. H., Hoare, R. R., Billo, R. E., Cain, J. T., and Kourtev, I., "Wireless Information Systems on a Chip with Seamless Integration*", The 4th World Multiconference on Systemics, Cybernetics and Informatics SCI'2000*, Orlando, FL, July 23 – 26, 2000, 172 – 176.
15. Billo, R.E. and Bidanda, B., "Designing Effective Manufacturing Execution Systems", *FAIM '99* Conference, The Netherlands, June, 1999.

16. Porter, J. D., Mickle, M., and Billo, R.E., "Total Asset Visibility using Intelligent Labels", *Warehouse of the Future* Conference, Atlanta, GA, May 14 – 16, 2000.
17. Billo, R.E., "Retrofitting Legacy Warehouse Management Systems with Bar Coding", *Warehouse of the Future* Conference, Orlando, FL, May 7 - 10, 1999.
18. Billo, R. E., Bidanda, B. and Puerzer, R. "How to Implement AIDC Systems in Industrial Environments", *Automatic Identification and Data Capture (AIDC) Technology & Application Seminar*, Pittsburgh Hilton and Towers, Pittsburgh, PA, June 10-11, 1997.
19. Billo, R.E., Bidanda, B., and Adickes, M. "Performance Testing of Two-Dimensional Bar Code Based Indicia", *IBIP Technology Conference*, Washington D.C., November 24, 1996.
20. Billo, R., Needy, K., and Barbe, T. "On the Usage of a Computer Aided Checkweigh Inspection System in an Assembly Cell", *Fifth Industrial Engineering Research Conference*, Minneapolis, MN, 1996.
21. Needy, K., Billo, R., Colosimo, R. "A Cost Model for Evaluating Alternative Cellular Manufacturing Configurations", *Fifth Industrial Engineering Research Conference*, Minneapolis, MN, 1996.
22. Billo, R., Needy, K. L., Barbe, T. "Automated Data Collection for Automated Quality Control in Assembly Cells", *Flexible Automation and Intelligent Manufacturing (FAIM "96)*, May 12-15, 1996, Atlanta, GA.
23. Bidanda, B. Billo, R. E., and Cohen, Y. "A new generation of two dimensional bar code symbologies," *The 13th. International Conference on Production Research*, Jerusalem, Israel, August 6-10, 1995.
24. Cohen, Y., Bidanda, B., Billo, R. E., Zandin, K. "On Integrating Work Measurement Systems with Voice Recognition Technologies", *5th Industrial Eng Research Conference*, Minneapolis, MN, 1996.
25. Cohen, Y., Bidanda, B., Billo, R. E., Zandin, K. B. "A new generation of work measurement systems for manufacturing and industrial applications", *The 13th. International Conference on Production Research*, Jerusalem, Israel, August 6-10, 1995.
26. Bidanda, B. & Billo, R., "On the Development of an Intelligent, Speech-Based Work Measurement System", *Flexible Automation and Intelligent Manufacturing (FAIM "95)* Conference, Stuttgart, Germany, 1995.
27. Billo, R.E., Bidanda, B., Cohen, Y. "Re-Engineering process plans for manufacturing cell design: a case study," *The 13th. International Conference on Production Research*, Jerusalem, Israel, Aug 6-10, 1995
28. Billo, R. E., Bidanda, B., Cohen, Y., Fei, C., Petri, K., "Testing of Two-Dimensional Bar Code Systems for Overhead Sortation and Tracking", *Fourth Industrial Engineering Research Conference*, Nashville, TN, May 23-25, 1995.
29. Petri, K., Billo, R., and Bidanda, B., "Modeling the Abrasive Flow Machining Process: A Neural Network Approach", 4*th Industrial Engr Research Conference*, Nashville, TN, May 23-25, 1995.
30. Billo, R. E., Bidanda, B., Colosimo, R., and Warner, P. "Dynamic Grouping and Scheduling of Part Families in a Cellular Manufacturing Environment", *The 1995 Annual International Conference on Industry, Engineering, and Management Systems*, Cocoa Beach, Florida, March 13-15, 1995.
31. Bidanda, B., Billo, R., Cohen, Y., Zandin, K., Raghu, K., Van Cleve, J., Reza, S. A. "The MOST TALK System", *MOST '94 User's Conference Proceedings*, Sept. 13 - 15, Pittsburgh, PA, 1994.
32. Bidanda, B and Billo, R.E., "The Startup of an Automatic Data Collection Laboratory, *4th. Annual Automatic Identification Educators Conference*, Philadelphia, PA, October 17-18. 1993.
33. Bidanda, B., Billo R. E., & Peternel, J. "Computer-Aided Feature Based Design and NC Code Generation of Countersink Tools", *FAIM '93 Conferamce*, Univ. of Limerick, Limerick, Ireland, June 1993.
34. Billo, R. E., Bidanda, B., and Peternel, J. R., "Enhancing Classification and Coding Techniques with Object- Oriented Modeling for Group Technology Applications", *Third Industrial Engineering Research Conference*, Atlanta, GA, May, 1994.
35. Billo, R., Tate, D., & Bidanda, B. "Comparison of a Genetic Algorithm and Cluster Analysis for the Cell Formation Problem: A Case Study", *Third Industrial Engineering Res. Conference*, May, Atlanta, GA, 1994.
36. Billo, R.E. and Bidanda, B., "A Genetic Algorithm Formulation of the Cell Formation Problem", *16th International Conf. on Computers & Industrial Engineering*, Mar 7-9, Ashikaga, Japan, 1994.
37. Billo, R. E., Bidanda, B., and Peternel, J. "Parametric Design of Countersink Cutting Tools", *Second Industrial Engineering Research Conference*, Los Angeles, CA, May 26-27, 1993.
38. Billo, R. and Rucker, R. "Bridging the Semantic Gap in Form Features: Applications of Objects, Types, and Schemata" in *Optimization of Manufacturing Systems Design.* D. L. Shunk (Ed.), North-Holland, 1990.
39. Dixon, D., Paul, B. K., Billo, R. E. and Doherty, T. "Initiating Long Term Modernization Programs in Large Scale Manufacturing Environments", *Autofact 90*.
40. Rucker, R., Billo, R. E. "Creating Consistent Canons for Feature Representations: An application to Intelligent

Manufacturing", *Fourth Annual Workshop on Conceptual Structures*, August 20-21, 1989.

41. Rucker, R. and Billo, "Visualizing a Four Level Structure of Network Management Information", *IIE Integrated Systems Conference Proceedings*, St. Louis, MS, Oct. 30 - Nov 2, 1988.
42. Shunk, D. L., Paul, B. K., and Billo, "Managing technology through effective user needs analysis: a federal government case study", *Management of Technology III*, T. M. Khalil & B. A. Bayraktar (Ed), Institute of Industrial Engineers, Norcross, GA, 1992.

Technical Reports

1. "Automatic Identification Technologies to Improve Tracking of American Airlines Priority Parcel Service", December 2009, University of Texas Arlington, Technical Report.
2. "Automatic Identification Technologies to prevent Airport Vehicle Runway Incursions and Taxiway Incidents", DFW Airport, August, 2009, University of Texas Arlington, Technical Report.
3. Study on the Effects of Radio Frequency Propagation around Metal Shipping Containers, Savi Technologies, May 9, 2005
4. "Assessment of the Automated Tracking, Monitoring and Management of all Assets Associated with an EMU D Build**,** U.S. Navy Fleet Operations Support Office, August, 2004, Oregon State University Technical Report.
5. "Durability Tests for Laser Marked Bar Code Tags", Fleet Hospital Support Operations, June 2004, OSU Technical Report.
6. Durability Tests for Metalcraft, Inc.'s InfoDot^{TM} Printer Technology", Fleet Hospital Support Operations, August, 2004, OSU Technical Report.
7. A Report of a Site Survey of Wireless Communications for Warehouse Operations", Columbia Reach Corporation, June, 2004, OSU Technical Report
8. "A Report of a Site Survey of Wireless Communications for Warehouse Operations", Custom Apple Packers, July, 2004, OSU Technical Report
9. "A Report of a Site Survey of Wireless Communications for Warehouse Operations", Northwest Tire Factory, August, 2003, OSU Technical Report
10. "Environmental Testing of MacSema's ButtonMemory Technology", MacSema, January, 2003, OSU.
11. "Technology Study of Identifying Methodologies for Flat Mail", U.S. Postal Service, Oregon State University Technical Report, March, 2000.
12. "Feasibility Testing of PDF417 for Adherence to Information Based Indicia Program (IBIP) Indicium Specification: Final Report", University of Pittsburgh Technical Report, October, 1996.
13. "Test and Evaluation of Radio Frequency Identification (RFID) Equipment: Final Report," University of Pittsburgh Technical Report, April 17, 2000.
14. "Test and Evaluation of Current Border Crossing Cards (BCCs) and Permanent Resident Cards (PRCs) for IIRIRA Section 110 Compliance and 2D Bar Code Data Storage for IIRIRA Sections 104 and 110 Compliance: Final Report," University of Pittsburgh, October 3, 1999.
15. "A System Demonstration of Two-Dimensional Symbologies for Unit Load and Transports: Final Report," University of Pittsburgh Technical Report, December, 1994.
16. "Comparative Evaluation of Non-Contact OCR Readers: Final Report", University of Pittsburgh Technical Report, January 18, 2000.
17. "Feasibility Testing of Bar code Symbologies in Alumina Chemical Processing Environments: Final Report", University of Pittsburgh Technical Report, October 30, 1998.
18. "Performance Testing of PSC Quick Check 850 Verifiers for Human-Induced Errors: Final Report," University of Pittsburgh Technical Report, April 21, 1998.
19. "Performance Testing of QR Code In Support of AIAG Standards Acceptance: Final Report," University of Pittsburgh Technical Report, February 2, 1999.
20. Shah, J. J., Rogers, M. T. D, Sreevalsan, P., Billo, R. E., & Mathew, A. "Current Status of Features Technology", CAMI Report R-88-GM-04, November, 1988.

STUDENTS ADVISED

Ph.D. -- Primary Advisor

1. Wilson, P. A, Eutectic Bonding Process for Aluminum Microchannel Array Substrates, Ph. D. Dissertation, University of Texas Arlington, 2013.
2. Bhupathiraju, S. H., The Art of Microchannel Molding in Microscope Glass Slides, Ph. D. Dissertation, University of Texas Arlington, 2012
3. Dendamrongvit, T., An Ontology-Based System for Representation and Diagnosis of ECG Results, Ph.D. Dissertation, Oregon State University, 2006.
4. Puerzer, R., *A Patient Tracking and Control System for Use in the Emergency Department*, Ph.D. Dissertation, University of Pittsburgh, 1997.
5. Adickes, M., *Use of Evolutionary Computation Algorithms for Wireless Network Coverage*, Ph.D. Dissertation, University of Pittsburgh. 1998.
6. Porter, D. *Impact of Electromagnetic Interference on Radio Frequency Identification Systems*, Ph.D. Dissertation, University of Pittsburgh, 2000.

M.S. -- Primary Advisor

1. Brown, S., 2000, *Impact of Low Quality Bar Codes on the High Speed, Automated Sortation Process,* M.S. Thesis, University of Pittsburgh.
2. Monk, R., 1997, *The Impact of Human Induced Error in Bar Code Verification*, M.S. Thesis, U. of Pgh.
3. Peternel, J., 1994, *Enhancing Group Technology with Object Oriented Modeling*, M.S. Thesis, U. of Pgh.
4. Shaffer, T., 1992 *A Demand-Based Design Model used for Cell Replication at Superior Valve Company*, M.S. Thesis, University of Pittsburgh.
5. Colosimo, R. L., 1994, *An Analysis of an Assignment to Schedule a Production Facility Utilizing Group Technology And Cellular Manufacturing*, M.S. Project, University of Pgh.
6. Raines, S. 1993. *A Genetic Algorithm for Machine-Component Grouping*, M.S. Project, University of Pgh.

Ph.D. -- Committee Member

1. Ariastuti, R., Computer Aided Manufacturing System for Microlamination Process, Ph.D. Dissertation, Oregon State University, August, 2005.
2. Burns, G. L., 1994 *An Implementable High Level Modeling Paradigm for Automated Industrial Systems*, Ph.D. Dissertation, University of Pittsburgh.
3. Deng, Y. S., 1994 *Feature Based Design: Synthesizing Structure from Behavior*, Ph.D. Dissertation, University of Pittsburgh.
4. Narayanan, V., 1996 *A Heuristic Path Planning System for the Automated Off-line Programming of Spray Glazing Robots*, Ph.D. Dissertation, University of Pittsburgh.
5. Cohen, Y., A Discrete Control Modeling Technique for Automated Industrial Systems, Ph.D. Dissertation, University of Pittsburgh, December, 1996.

M.S. -- Committee Member

1. Uthamaraj, S. *Finite Element Analysis and Design of Nanoporous Microchannel Oxygenator*, University of Texas Arlington, M.S. Project, 2009.
2. Ambravaneswaran, V. *A Nanoporous Membrane Oxygenator*, U. of Texas Arlington, M.S. Thesis, 2008
3. Oliver, C. R., 2008 *A Hot Press Process for Microlamination of High Density Polyethylene,* University of Texas Arlington, M. S. Thesis.
4. Barbe, T., 1995 *An Automated Check-Weigh System for In-Line Quality Control*, M.S. Thesis, University of Pittsburgh.
5. Kharbanda, P., 1994 *Re-Engineering Part Families Through Re-Process Planning*, M.S. Thesis, University of Pittsburgh.
6. Lo, J., 1992 *Student Advising System*, M.S. Project, University of Pittsburgh

COURSES TAUGHT

COURSE	LEVEL OF STUDY
Oregon State University	
IE 417/517 Bar Codes & Automatic Data Capture	UG/Grad
IE 412/512 Information Systems Engineering	UG/Grad
University of Pittsburgh	
IE1014: Database Design	Undergraduate
IE1051: Computer Aided Design	Undergraduate
IE1058: Automatic Data Collection	Undergraduate
IE1059: Automatic Identification Projects	Undergraduate
IE1090: Senior Project	Undergraduates
IE2004: Information Systems	Graduate
IE2006: Manufacturing Systems	Graduate
IE2059: Manufacturing Databases	Graduate
IE2093: Graduate Journal Seminar	Graduate
IE2998: Graduate Projects	Graduate
IE3050: Advanced Topics in Manufacturing	Graduate
IE3018: Engineering Tools for E-Commerce	Graduate
ENGR0011 Introduction to Engineering Analysis	Undergraduate

PROFESSIONAL SERVICE

Notre Dame

- Stakeholders Advisory Board, Indiana Applied Research Institute
- Invited Speaker to address Penny Pritzker, U. S. Secretary of Commerce on *Importance of Additive Manufacturing for Medical Device Development* (2015)
- Invited Speaker to address Rep. Jackie Walorski (IN: 2nd District), Roundtable on Defense (2015)

UT Arlington

- Chair, Editorial Board for *Journal of Manufacturing Systems* and *Journal of Manufacturing Processes*
- *Society of Manufacturing Engineers* Advanced Technology Publications Task Force
- *International Journal of Radio Frequency Identification Technology and Applications*, Editorial Board and Associate Editor
- Steering Committee, PETRA: The International Conference on Pervasive Technologies Related to Assistive Environments (PETRA)
- Hosted U.S. Congressional Hearings on Energy (2008)
- Hosted *IEEE RFID 2007* Conference in Irving, Texas
- Reviewer for 10 International Journals

OSU

- Oregon Council for Knowledge & Economic Development – Capitalization & Business Formation Committee
- *Journal of Manufacturing Systems*, Associate Editor
- Hosted 2003 *IIE International Conference* in Portland Oregon
- Council of Industrial Engineering Academic Department Heads, Member

U. of Pittsburgh

- Association for Automatic Identification and Mobility, Member
- Society of Manufacturing Engineers, Member
- Institute of Industrial Engineers, Senior Member
- Hosted ANSI NCITS T6 RFID Committee Meeting at U. Pgh, April 1999.
- Ben Franklin Technology Center Review Board
- Co-Sponsor AIM USA Winter Annual Meeting, Charlotte, NC, December 1997

- Scantech '97: Session Moderator, Biometrics
- ANSI MH10.8 Two-Dimensional Bar Code Committee
- Intl. Org. for Standardization (ISO) Joint Technical Committee for Automatic Data Capture
- Session Chair: 7th. FAIM Conference, Tesside, England, 1997.
- Session Chair: 5th. FAIM Conference, Stuttgart, 1995
- Session Chair: 6th. Annual IIE Research Conference, Miami, Fl, 1997
- Session Chair: 4th. Annual IIE Research Conference, Nashville, TN, 1995
- Session Chair: 3rd. Annual IIE Research Conference, Atlanta, GA, 1994

University, College, and Departmental Committees

- College of Engineering Strategic Planning Team (UT Arlington, Oregon State University)
- College of Engineering Promotion and Tenure Committee (Oregon State University)
- College of Engineering Technology Enterprise Initiative Team (Oregon State University)
- I.E. Department Policy and Budget Committee (U. of Pittsburgh)
- I.E. Department Student Recruiting Team (U. of Pittsburgh)
- School of Engineering Policy and Budget Committee (College of Engr., U. of Pittsburgh)
- Graduate Admissions Committee (University of Pittsburgh).
- Facilities Committee (U. of Pittsburgh)
- Manufacturing Systems Engineering Faculty Governance Committee (U. of Pittsburgh)

BUILDINGS, CENTER AND LABORATORY DEVELOPMENT

- Hypersonic Quiet Tunnel (University of Notre Dame)
- Notre Dame Turbomachinery Laboratory (University of Notre Dame)
- Advanced Manufacturing Center (University of Notre Dame)
- Center for Renewable Energy Science and Technology (University of Texas Arlington)
- RF Innovation & Technology Center (later renamed RFID & Auto-ID Deployment Laboratory), University of Texas Arlington
- Oregon Nanosciences & Microtechnologies Institute (Oregon State University)
- Microproducts Breakthrough Institute (Oregon State University)
- Mobile Technologies Solution Laboratory (Oregon State University)
- Information Technology Laboratory (Oregon State University)
- Automatic Data Collection Laboratory (University of Pittsburgh)
- Manufacturing Assistance Center (University of Pittsburgh)
- Robotics Laboratory (University of Pittsburgh)

MEMBERSHIPS

- AIDC 100 (Fellow)
- ASEE
- AIM RFID Experts Group (2005 – 2010)
- Institute of Industrial Engineers (1991 – 2006)
- Metroplex Technology Business Council RFID Special Interest Group (2005 – 2007)
- Council of Industrial Engineering Academic Department Heads (2000 – 2005)
- Society of Manufacturing Engineers

CONSULTING

Dr. Billo has consulted for over 60 corporations, domestic federal agencies and international federal agencies. Substantive examples include such companies as Motorola, Symbol Technologies, Lockheed Martin, Calgon Carbon, Eastman Kodak, FedEx Ground, Cartier; UPS, Savi Technologies; and such agencies as the U. S. Navy SEALS, U.S. Navy Fleet Hospitals, and Canadian Department of National Defence.