# Dr. Kent A. Currie

Area Manager – Rates/Tariffs AT&T Services, Inc. 45 Erieview Plaza, Room 1545 Cleveland, OH 44114

## **EDUCATION**

Ph. D. (economics), University of Iowa, 1973. M.S. (economics), University of Iowa, 1972. B.S. (mathematics), Bradley University, 1969

Dissertation: "Behavior of the Regulated Monopolist under Demand Uncertainty" Specialization: microeconomic theory; industrial organization; public utility economics.

## PROFESSIONAL MEMBERSHIPS

American Economic Association

#### LIST OF PROFESSIONAL PAPERS AND PUBLICATIONS

- "Cost Efficiency and Technology of Rural Telephone Companies." In *Expanding Competition in Regulated Industries*. Edited by M. C. Crew. Boston: Kluwer Academic Publishers, 2000.
- "Regulation, Competition and Rural Telephone Companies." In *Pricing and Regulatory Innovations under Increasing Competition*. Edited by M. C. Crew. Boston: Kluwer Academic Publishers, 1996.
- "Growth of Firms, Capital Market Constraints and the Possibility of Takeover." With G. C. Fethke. *Journal of Industrial Economics*. December 1978.
- "Rate-of-Return Regulation with Valuation and Demand Uncertainty." With S. Y. Wu. *Journal of Economics*. 1976.
- "Performance of Inner City Banks: Chicago as a Case Study." With M. Esbitt and N. Nicholson. *Bank Structure and Competition*. Federal Reserve Bank of Chicago. 1976.
- "Macroeconomic Policy and Misbehaving Aggregate Supply Curves." With W. C. Hall. *Proceedings of the 1975 Illinois Economic Association Meetings.* 1975.

#### LIST OF WORKING PAPERS

- "Telecommunications Price-Cap Regulation and Productivity Measurement: Wisconsin Case Study," March 21, 2007.
- "Hedonic Price Indices for Digital Circuit Switching Equipment: 1980-1998." January 24, 2007.
- "Communications Equipment Prices and Productivity: Wisconsin Case Study," May 5, 2006.
- "Maintenance Expenses for POTS." With J. P. Clark. 1987.
- "Peak-Load Pricing under Regulatory Constraint: Comment." 1973.

#### OTHER PROFESSIONAL ACTIVITIES

Refereed for Journal of Regulatory Economics

East Coast Conference Organizing Committee, Rutgers' Advanced Workshop in Regulation and Competition (1997-2004)

## **WORK EXPERIENCE**

## Teaching experience:

General economics; microeconomics; industrial organization; managerial economics (graduate and undergraduate); engineering economy; econometrics (graduate and undergraduate)

## Telecommunications experience:

Supervised development and testified regarding economic costs (LRSIC, TSLRIC, TELRIC) covering full range of incumbent local telephone company retail and wholesale offerings; special emphasis on switch-related costs (ports, usage, features) and non-recurring costs; major contributor in developing and reviewing cost methodology and tools used to implement methodology; developed analysis and supported marketing initiatives regarding promotional activities and customer-specific contracts; testified regarding productivity measurements; analysis of market failure and accompanying economic policy for CLEC switched access service pricing; testified on economic aspects of predatory pricing and role of economic costs with respect to pricing; supervised development and testified regarding curtailment/stimulation effects of price changes

1999-

AT&T, Inc., formerly named SBC Communications Inc., San Antonio, Texas 1993–1999

Ameritech, Chicago, Illinois (merged with SBC Communications Inc. in 1999) 1980–1993

The Ohio Bell Telephone Company, Cleveland, Ohio (became part of Ameritech in 1984 with divestiture of Bell System)

1978-1980

Assistant Professor of Economics, Case Western Reserve University, Cleveland, Ohio 1974–1978

Assistant Professor of Economics, Illinois Institute of Technology, Chicago, Illinois

#### **EXPERT TESTIMONY**

## Before the Federal Communications Commission:

WC Docket No. 03-167, Joint application by SBC Communications Inc., Illinois Bell Telephone Company, Indiana Bell Telephone Company Incorporated, the Ohio Bell Telephone Company, Wisconsin Bell, Inc., and Southwestern Bell Communications Services, Inc. for authorization to provide in-region, interLATA services in Illinois, Indiana, Ohio, and Wisconsin (cost methods)

Docket No. CCB/CPD No. 00-01, Wisconsin Public Service Commission order directing filings. SBC/Ameritech (cost methods for payphone service, new services tests).

File No. EB-00MD-12, Texcom, Inc., d/b/a Answer Indiana, Complainant, v. SBC Communications Inc./Ameritech Corporation, Defendant. SBC/Ameritech (cost methods).

## Before the Public Utilities Commission of the State of California:

Application 01-02-024 [Consolidated with Applications 01-02-035, 02-02-031, 02-02-032, 02-02-034, and 02-03-002], Joint application of AT&T Communications. (U 5002 C) and WorldCom, Inc. for the Commission to reexamine the recurring costs and prices of unbundled switching in its first annual review of unbundled network element costs pursuant to Ordering Paragraph 11 of D.99-11-050. Pacific Bell Telephone Company (TELRIC cost methodology, specific cost studies).

## Before the Illinois Commerce Commission:

Docket No. 05-0171, Complaint pursuant to Section 10-108 of the Illinois Public Utilities Act and 93 Ill. Admin. Code 200.170. SBC Illinois. (specific compliance nonrecurring cost studies)

Docket No. 04-0469, Petition for arbitration of interconnection rates, terms and conditions and related arrangements with Illinois Bell Telephone Company d/b/a SBC Illinois pursuant to Section 252(b) of the Telecommunications Act of 1996. SBC Illinois. (TELRIC cost methodology; specific cost studies)

Docket No. 02-0864, Filing to increase Unbundled Loop and Nonrecurring Rates. SBC/Ameritech (TELRIC cost methodology; specific cost studies).

Docket No. 02-0427, Investigation of intrastate access charges. Ameritech Illinois. (switched access costs).

Docket No. 01-0609, Investigation of the propriety of the rates, terms, and conditions related to the provision of the Basic COPTS Port and the COPTS-Coin Line Port. SBC/Ameritech (cost methodology, switch upgrade costs for coin UNE-P).

Docket No. 00-0027, Petition for arbitration pursuant to Section 252(b) of the Telecommunications Act of 1996 to establish an interconnection agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois. Ameritech Illinois. (economic cost methodology; switching costs).

Docket No. 98-0195, Investigation into certain payphone issues as directed in Docket 97-0225. Ameritech Illinois. (payphone New Services Test; payphone imputation test, overhead loadings).

## Before the Indiana Utilities Regulatory Commission:

Cause No. 42530, Commission investigation of matters related to competition in the telecommunications industry in the State of Indiana pursuant to I.C. 8-1-2 *et seq*. SBC Indiana (economic cost methodology; retail promotions).

Cause No. 42405, Petition of Indiana Bell Telephone Company, Incorporated ("SBC Indiana") for the Commission to exercise its statutory authority under c. to decline to exercise it jurisdiction, in whole or in part, and use alternative regulatory procedures and standards and approve SBC Indiana's alternative regulation plan for the pricing and other

regulation of SBC Indiana's retail and carrier access services (TSLRIC cost methodology; evaluating productivity study)

Cause No. 42393, Commission investigation and generic proceeding of rates and unbundled network elements and collocation for Indiana Bell Telephone Company, Incorporated d/b/a/ SBC Indiana pursuant to the Telecommunications Act of 1996 and related Indiana Statutes. SBC Indiana (TELRIC cost methodology; specific cost studies).

Cause No. 42303, Complaint of the Indiana Payphone Association for a Commission determination of just and reasonable rates and charges and compliance with federal regulation. SBC Indiana (payphone New Services Tests; overhead loadings).

Cause No. 42218, Petition for suspension of any and all Ameritech Indiana Winback promotions, including but not limited to Complete Link promotions, pending Commission investigation of tariff filings. Ameritech Indiana (economic cost methodology; promotional costs).

Cause Nos. 40849, 40785-S1 and 41058, Settlement agreement in support of an alternative form of regulation *et al*. Ameritech Indiana (TSLRIC cost methodology; shared and common costs; cost allocation).

Cause No. 40895-S1, Investigation on the Commission's own motion into any and all matters relating to access charge reform and universal service reform, including but not limited to, high cost or universal service funding mechanisms relative to telephone and telecommunications services within the State of Indiana pursuant to: I.C. 8-1-2-51, 58, 59, 69; 8-1-2.6, *et seq.*, and other related statues, as well as the Federal Telecommunications Act of 1996 (47 U.S.C. Sec. 151, *et seq.*), Respondent: Indiana Bell Telephone Company d/b/a Ameritech Indiana. Ameritech Indiana (TSLRIC cost methodology; shared and common costs; cost allocation).

Cause No. 40571-INT-03, AT&T Communications of Indiana, Inc., TCG Indianapolis petition for arbitration of interconnection rates, terms and conditions and related arrangements with Indiana Bell Telephone Company d/b/a Ameritech Indiana pursuant to Section 252(b) of the Telecommunications Act of 1996. Ameritech Indiana (access to CNAM TELRIC).

Cause No. 39705, Settlement agreement in support of an alternative form of regulation. Indiana Bell Telephone Company (economic cost methodology; cross-subsidy; predatory pricing).

Before the Michigan Public Service Commission:

Case No. U-15035, On the Commission's own motion, to consider the total service long run incremental costs of Bloomingdale Telephone Company, Chippewa County Telephone Company, Hiawatha Telephone Company, Midway Telephone Company, Ontonagon Telephone Company, Winn Telephone Company, Baraga Telephone Company, Chapin Telephone Company, Sand Creek Telephone Company, Springport Telephone Company, and Westphalia Telephone Company. AT&T Michigan (reciprocal compensation rate development; usage-sensitive switching costs)

Case No. U-14952, Formal complaint of TDS Metrocom, LLC, LDMI Telecommunication Inc. and XO Communication Services, Inc. against Michigan Bell Telephone Company d/b/a AT&T Michigan, or in the alternative, an application. AT&T Michigan (DS1 cross connect costs).

Case No. U-14781, On the Commission's own motion, to consider the total service long run incremental costs of the Michigan Exchange Carriers Association Companies, including Ace Telephone Company, Barry County Telephone Company, Deerfield Farmers' Telephone Company, Kaleva Telephone Company, Lennon Telephone Company, Ogden Telephone Company, Pidgeon Telephone Company, The Upper Peninsula Telephone Company, and Waldron Telephone Company. AT&T Michigan (reciprocal compensation rate development; usage-sensitive switching costs)

Case No. U-13892, Petition of TruComm Corporation for arbitration of interconnection rates, terms and conditions, and related arrangements with Michigan Bell Telephone Company, d/b/a/ SBC Michigan, pursuant to Section 252(b) of the Telecommunications Act of 1996. SBC Michigan (TELRIC cost methodology)

Case No. U-13531, On the Commission's own motion, to review the costs of telecommunications services provided by SBC Michigan. SBC Michigan (TELRIC cost methodology; specific cost studies).

Case No. U-13518, Application of SBC Ameritech Michigan for approval of revised cost studies related to certain telecommunications services. SBC Ameritech Michigan (TELRIC cost methodology; specific cost studies).

Case No. U-12622, Application of Ameritech Michigan for approval of shared transport cost study and resolution of disputed issues related to shared transport. Ameritech Michigan (shared transport cost study).

Case No. U-11831, On the Commission's own motion, to consider the Total Service Long Run Incremental Costs for all access, toll, and local exchange services provided by Ameritech Michigan. Ameritech Michigan (collocation costs).

Case No. U-11756, Complaint of Michigan Pay Telephone Association et al. against Ameritech Michigan and GTE North Incorporated. Ameritech Michigan (payphone New Services Test, overhead loadings).

## Before the Public Utilities Commission of Ohio:

Case No. 02-1831-TP-ARB, Petition of Discount Dialtone, LLC for arbitration of interconnection rates, terms, and conditions and related arrangements with Ameritech Ohio. Ameritech Ohio (TELRIC cost methodology).

Case No. 02-1280-TP-UNC, Review of SBC Ohio's TELRIC costs for unbundled network elements, Phase I. SBC Ohio (wholesale shared and common costs, labor rate methodology, annual charge factors).

Case No. 02-1280-TP-UNC, Review of SBC Ohio's TELRIC costs for unbundled network elements, Phase II. SBC Ohio (nonrecurring cost studies).

Case No. 00-1368-TP-ATA, Application of Ameritech Ohio for approval of carrier to carrier tariff. Ameritech Ohio (TELRIC shared transport cost study; UNE-P costs).

Case No. 00-942-TP-COI, Further investigation into Ameritech Ohio's entry into inregion interLATA service under Section 271 of the Telecommunication Act of 1996 (cost methods).

Case No. 96-1310-TP-COI, Commission's investigation into the implementation of Section 276 of the Telecommunications Act of 1996 regarding pay telephone services. The Ohio Bell Telephone Company (new services tests).

Case No. 96-1057-TP-UNC, Petition of Ameritech Ohio for approval of a statement of generally available terms and conditions pursuant to the Telecommunications Act of 1996, The Ohio Bell Telephone Company (TELRIC cost methodology, wholesale avoided cost methodology, specific cost studies).

Case No. 96-1027-TP-CSS, Complaint of the Ohio Cable Telecommunications Association, Coaxial Communications, Inc., V Cable, Inc. and Time Warner Cable vs. Ameritech Ohio relative to alleged violations of section 4905.71 revised code and 47 U.S.C. 224(F)(1) regarding discriminatory treatment of pole attachments by cable television operators. The Ohio Bell Telephone Company (cross-subsidy; discrimination).

Case No. 96-922-TP-UNC, Review of Ameritech Ohio's economic costs for interconnection, unbundled network elements, and reciprocal compensation for transport and termination of local telecommunications traffic. The Ohio Bell Telephone Company (TELRIC cost methodology, specific cost studies).

Case No. 96-888-TP-ARB, MCI Telecommunications Corporation petition for arbitration of interconnection rates, terms and conditions and related arrangements with Ohio Bell Telephone Company d/b/a Ameritech Ohio. The Ohio Bell Telephone Company (TELRIC cost methodology, specific cost studies).

Case No. 96-752-TP-ARB, AT&T Communications of Ohio, Inc petition for arbitration of interconnection rates, terms and conditions and related arrangements with Ohio Bell Telephone Company d/b/a Ameritech Ohio. The Ohio Bell Telephone Company (TELRIC cost methodology, specific cost studies).

Case No. 96-694-TP-ARB, Petition of TCG Cleveland for arbitration of open issues pursuant to '252(b) of the Telecommunications Act of 1996 to establish an interconnection agreement with Ameritech Ohio. The Ohio Bell Telephone Company (TELRIC cost methodology, specific cost studies).

Case No. 93-487-TP-ALT, Application for the approval of an alternative form of regulation. The Ohio Bell Telephone Company (economic cost methodology; cross-subsidy; imputation policy; predatory pricing; fully distributed cost policy; specific cost studies).

Case No. 90-467-TP-ATA and 90-471-TP-ATA, Application for the approval of certain CLASS services [Caller ID and Automatic Callback]. The Ohio Bell Telephone Company (economic cost methodology; specific cost studies).

Case No. 84-1435-TP-AIR, Application for a threshold increase in rates. The Ohio Bell Telephone Company (economic cost methodology; specific cost studies).

Case No. 83-300-TP-AIR, Application for a threshold increase in rates. The Ohio Bell Telephone Company (economic basis and calculation of curtailment for specific services).

Before the Public Utility Commission of Texas

SOAH Docket No. 473-07-1365 and PUC Docket No. 33545, Application of McLeodUSA Telecommunications Services, Inc. for approval of intrastate switched

access rates. AT&T Communications of Texas, AT&T Long Distance and AT&T Texas (CLEC switched access rate policy; FCC and Texas access pricing constraints; bankruptcy and long-run cost methodology; usage-sensitive cost methodology)

Docket No. 24542, Petition of MCImetro Access Transmission Services, LLC, Sage Telecom, Inc., Texas UNE Platform Coalition, McLeod USA Telecommunications Services, Inc. and AT&T Communications of Texas, L.P. for arbitration with Southwestern Bell Telephone Company under the Telecommunications Act of 1996. Southwestern Bell Telephone Company (unbundled local switching costs, daily usage feed costs).

## Before the Public Service Commission of Wisconsin

Docket 6720-TI-212, Petition of TDS Metrocom, LLC for a Determination of Rates and Costs for Certain Unbundled Network Elements of Wisconsin Bell, Inc., d/b/a AT&T Wisconsin. (DS1 UNE nonrecurring costs)

Docket 5-TD-102, Investigation of competitive business practices and interconnection arrangements involving AT&T Wisconsin and Northern Telephone and Data. AT&T Wisconsin. (imputation, contribution analysis, predatory pricing).

Docket 6720-TR-108, Investigation of the access line rates of Wisconsin Bell, Inc., d/b/a SBC Wisconsin, that apply to private payphone providers. SBC Wisconsin (new services tests)

Docket 1-AC-193, Rulemaking to revise Wis. Admin. Code Chapter PSC 163, Telecommunications Utility Price Regulation, regarding the productivity offset factor. Ameritech Wisconsin. (evaluation of Wisconsin productivity studies)

Docket 05-MA-138, Petition of MCImetro Access Transmission Services, LLC and MCI WorldCom Communications, Inc., for arbitration of interconnection terms and conditions and related arrangements with Wisconsin Bell, Inc., d/b/a SBC Wisconsin, pursuant to 47 U.S.C. § 252(b). SBC Wisconsin. (DS1 and DS3 UNE nonrecurring costs).

Docket 05-TI-160, Investigation of cost study methodologies for determining universal service subsidies for non-rural local exchange companies. Ameritech Wisconsin. (FLEC cost methodology; universal service costs).

Docket 6655-NC-101, Application of WITS for a Certificate of Authority to transact public utility business. Wisconsin Bell, Inc. (discriminatory pricing; compensatory distance learning contracts).

Docket 6720-TI-161 (Category 3 Remand), Investigation into Ameritech Wisconsin's Unbundled Network Elements. SBC Wisconsin. (TELRIC handling of IDLC conversion costs and OSS testing costs).

Docket 6720-TI-161, Investigation into Ameritech Wisconsin's Unbundled Network Elements. Ameritech Wisconsin. (fill factors used in loop cost studies).

## PRESENTATIONS AT PROFESSIONAL MEETINGS AND SEMINARS

- 25th Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Skytop, Pennsylvania. (Presentation dealing with price-cap regulation and productivity measurement of Wisconsin telecommunications industry)
- 2002 15th Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Lake Tahoe, California (Presentation dealing with Wilson-Zhou paper on natural monopoly of local exchange telephony).
- 2000 Research Seminar at the Center for Research in Regulated Industries. Rutgers, The State University of New Jersey. Newark, New Jersey (Presented version of "Cost Efficiency and Technology of Rural Telephone Companies").
- 1997 16th Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Lake George, New York (Presentation dealing with rent seeking and the Telecommunications Act of 1996).
- 1995 Research Seminar at the Center for Research in Regulated Industries. Rutgers, The State University of New Jersey. Newark, New Jersey (Presented version of "Regulation, Competition and Rural Telephone Companies").
  - Fourteenth Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newport, Rhode Island. (Presentation dealing with state imputation policies in telecommunications).
- 1993 12th Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Brewster, Cape Cod, Massachusetts. (Presentation dealing with economies of scale and scope by local exchange companies).
  - 6th Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Monterey, California. (Presentation dealing with cross-subsidization by local exchange companies).

## MISCELLANEOUS SEMINARS AND TRAINING SESSIONS

- 2007 Annual Convention of the Allied Social Science Associations. Chicago, Illinois.
- **2006** 34<sup>th</sup> Research Conference on Communication, Information and Internet Policy. Telecommunications Research Policy Conference. George Mason University School of Law. Arlington, Virginia.
  - 25<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Skytop, Pennsylvania.
  - Annual Convention of the Allied Social Science Associations. Boston, Massachusetts.
- **2002** Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 21<sup>st</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility

- Economics. Rutgers, The State University of New Jersey. Newport, Rhode Island.
- **2001** Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 20<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Tamiment, Pennsylvania.
  - 14th Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. San Diego, California.
- **2000** Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 19<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Lake George, New York.
  - 13th Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Monterey, California.
- **1999** Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 12<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. San Diego, California.
- 1998 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 17<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Vergennes, Vermont.
  - 11<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Monterey, California.
- 1997 Implementing Universal Service, Meeting Reform, Regulation and Competition Head On in the Telecommunications Industry. ICM Conference. Washington, DC.
  - Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
- 1996 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 15<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Lake George, New York.
  - 9<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. San Diego, California.
- 1995 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 8<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. San Diego, California.
  - Annual Convention of the Allied Social Science Associations. Washington, D.C.

- 1994 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 13<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newport, Rhode Island.
  - 7<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. San Diego, California.
  - Annual Convention of the Allied Social Science Associations. Boston, Massachusetts.
- 1993 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
- 1992 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - 11<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. New Paltz, New York.
- 1991 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - Facility Investment Calculator. Ameritech Services. Boston Heights, Ohio.
  - 10<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Cooperstown, New York.
  - 4<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. San Diego, California.
- 1990 Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. Newark, New Jersey.
  - Annual Convention of the Allied Social Science Associations. Washington, D.C.

Incremental Costs for Network Services. Emmerson Enterprises. Chicago, Illinois.

National Telecommunications Demand and Marketing Study: Business Analysis and Models. INDETEC Corporation. Del Mar, California.

9<sup>th</sup> Annual Conference of the Advanced Workshop in Regulation and Public Utility Economics. Rutgers, The State University of New Jersey. New Paltz, New York.

Symposium on Marginal Cost Techniques for Telephone Services. The National Regulatory Research Institute. Columbus, Ohio.

Telecommunications Demand Analysis with Dynamic Regulation. Bell Canada/Bellcore. Hilton Head, South Carolina.