Andrew P. Bernat

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Education

Ph. D.	The University of Texas at Austin	May 1976
M.A.	The University of Texas at Austin	May 1973
B.S.	Harvey Mudd College	June 1970

Positions

Executive Director	Computing Research Association	2002–present
Adjunct Professor	Edith Cowan University Perth, Western Australia	2002–present
Program Director Division of Undergraduate Education	National Science Foundation	2000–2002
Professor of Computer Science Promoted to Full Professor 1993	University of Texas at El Paso	1982–2002
Project Director Model Institutions for Excellence Initiative	University of Texas at El Paso	1995–1999
Director Teaching and Learning Initiatives	University of Texas at El Paso	1995–1999
Chairman Computer Science Department	University of Texas at El Paso	1989–1995
Assistant Astronomer The Institute for Astronomy	The University of Hawaii	1980–1982
Postdoctoral Research Associate	Kitt Peak National Observatory	1978–1980
Postdoctoral Research Associate Department of Astronomy	Indiana University	1976–1978

Research Interests

- Concurrent computing

- Learning environments

- Computer science education

Awards

1. A. Nico Habermann Award, Computing Research Association "to a person who has made an outstanding contribution to aiding members of underrepresented groups within the computing research community. This award recognizes work in areas of government affairs, educational programs, professional societies, public awareness and leadership that has a major impact on advancing these groups in the computing research community", 1997.

2. Best paper award, *Frontiers in Education Conference 1998.*

Funded Proposals ($3,415,934 as Principal Investigator)

1. "Participation in the 1999 SMCC Meeting", National Science Foundation, $7,575, 1999, principal Investigator.

2. "Participation in the 1997 SMCC Meeting", National Science Foundation, $3,000, 1997, principal Investigator.

3. "Workshop on Cooperation Between the United States and Mexico in Computer and Information Science and Engineering Education", National Science Foundation, $10,000, 1996–2000, principal Investigator.

4. "Building Affinity Groups to Encourage Student Success in Computing", National Science Foundation, $1,191,235, 1995–2000, principal Investigator.

5. "The University of Texas at El Paso: A Model Institution of Excellence", National Science Foundation, $12,458,593, 1995–2000, Project Director.

6. "Workshop on Cooperation Between the United States and Mexico in Computer and Information Science and Engineering", National Science Foundation, $43,000, 1994–98, principal Investigator.

7. "Excellence Through Direct Involvement: The ADMI 1992 Workshop", National Science Foundation, $97,338, (submitted through ADMI), principal Investigator.

8. "A Center of Excellence for Computer Science Education and Research", National Science Foundation, $1,543,192, 1990–2000, principal Investigator/Project Director.

9. Research Opportunity Awards, supplement to Center of Excellence grant to provide opportunities for small-college faculty, National Science Foundation, $5,000, 1992, $5,000, 1993.

10. Research Experiences for Undergraduate Students, supplement to Center of Excellence grant to provide opportunities for students, National Science Foundation, $5,000, 1993.

11. "IBM Equipment Proposal", IBM, $420,000 (equipment), 1990, principal Investigator.

12. "An Artificial Intelligence Based Distributed Operating System for Control Purposes", Institute for Manufacturing and Materials Management, $52,666, 1989–91, principal Investigator.

13. "Planning a Minority Institution CISE Institutional Infrastructure Program Grant Proposal", National Science Foundation, $45,966, 1988–89, principal Investigator.

14. "Artificial Intelligence for Atmospheric Radiation Measurements", U.S. Army Atmospheric Sciences Laboratory, $11,472, 1987, principal Investigator.

15. "Applying Artificial Intelligence Techniques to the Radiometer Problem", U.S. Army Atmospheric Sciences Laboratory, $9490, 1986, principal Investigator.

16. "An Intelligent Recognition/Classification System for Astronomical Use", The Research Corporation, $9000, 1985, principal Investigator.

17. "Development of a Theorem Prover as a Step Towards Simplifying Human–Computer Interaction", AT&T Information Systems, $25,000, 1985, principal Investigator.

18. "An Assembler Interpreter for IBM S/370 Assembly Language", UTEP Research Institute, $5000, 1983.

19. "Observational Studies of the Spectrophotometry of Quiescent Solar Prominences", NSF, $87,168, 1981, Co-Investigator.

20. "Research in Coronal and Chromospheric Physics", NASA, $165,000, 1981, Team Member.

21. "Mass Loss from Red Giant Stars", NASA, $4000, 1979, principal Investigator.

Consulting

Educational Advancement Foundation, Austin, 2001–continuing; **University of Puerto Rico–Mayaguez**, PASCoR Project Advisory Board, 1999–continuing; **Universidad Interamericana de Puerto Rico**, Recinto de San Germán, 1999–2000; **Florida Memorial College**, 1997; **California State University–San Bernardino**, 1997; **Fisk University**, Nashville, 1997; **Universidad Metropolitana**, San Juan, Puerto Rico, 1996; **Prairie View A & M University**, 1995; **Educational Testing Service**, 1994; **University of Houston–Downtown**, 1994; **Florida International University**, 1992; **U.S. Army Atmospheric Sciences Laboratory**, 1986, 1987.

Reviewing Activities

Computer Science Accreditation Board, 1999, 2000; **NASA**, 1998; **Co-editor**, special issue on parallel algorithms for interval computations, *Interval Computations*, 1994; *Information Processing Letters*; **NSF**, CISE II–MI site visitor, July 1994; **NSF**, ILI panel review, January 1992; **NSF**, CISE II–MI site visitor, June 1991; **NSF**, CISE II–MI Continuing Grants panel, May 1991; **NSF**, CISE II–MI Planning Grants panel, April 1990; **NSF**, research proposals, continuing; **West Publishing**, textbook manuscripts; **Addison-Wesley**, textbook manuscripts; **Prentice-Hall**, textbook manuscripts.

Service to the Profession

Program Director, Division of Undergraduate Education, National Science Foundation, 2000–continuing; **Editorial Board**, *Computer Science Education Journal*, 1998–continuing. **CSAB Accreditor**, Criteria 2000, 1999–continuing; **Conferences Committee**, IEEE-Computer Society, 1999–continuing; **Co-Chair**, Committee on Diversity in Computing, a joint activity of CRA, IEEE, ACM and ADMI, 1998–2000; **Planning committee**, Frontiers in Education '97; **Planning committee on educational issues**, Supercomputing 1997 conference; **Planning committee**, "Increasing the Participation of Minorities in Computing", 1994–95; **Chair**, Global Initiatives, IEEE-Computer Society Educational Activities Board, 1995–2000; **Chair**, Underrepresented Populations Issues, IEEE-Computer Society Educational Activities Board, 1993–2000; **Editorial Board**, *Interval Computations*, 1992–95; **Board of Directors**, ADMI (The Association of Computer and Information Science and Engineering Departments at Minority Institutions), 1990–94.

Invited Presentations

Research Focus

1. "The Future of Computing", Third Symposium Internacional Ingeniería e informática: Tecnología de Excelencia al Servicio del Hombre, Guadalajara, Mexico, September 2000.

2. "Mentoring", NPACI/EOT-PACI All-Hands Meeting, San Diego, February 2000.

3. "A Method for Solving Problems Using Semaphores", University of Hawaii–Hilo, January 2000.

4. "Sistemas Concurrentes", Universidad Interamericana de Puerto Rico, Recinto de San Germán, November 1999.

5. "Sistemas Concurrentes", Simposium Nacional Ingeniería e Informática 2000, Guadalajara, Mexico, September 1999.

6. "Structured Solution of Problems in Concurrent Programming", Universidad de las Americas, April 1999.

7. "Computer Science and Engineering at Minority Institutions of Excellence", panel, Frontiers in Education 1997.

8. "US-Mexico Cooperation in Computer Science Research", panel chair, Computing Research Association 1994 Snowbird Conference, July 1994.

9. "Designing the Old Fashioned Way", NATO Advanced Study Institute in Real Time Programming, panel presentation, October 1992 in Halang, W. A., and Stoyenko, A. D., eds., *Real Time Computing*, New York: Springer-Verlag, 1994, p. 599.

10. "Concurrent Programming", Technological Institute of Monterrey, Mexico City campus, September 1991.

11. "Designing with Object Oriented Programming", Technological Institute of Monterrey, Mexico City campus, October 1989.

12. "Research in Minority Institutions", ACM SIGCSE '90, January 1990.

Education Focus

1. "What We Need To Do About Education", Information Technology Research: Test Beds for Collaborative Solutions to Western Hemisphere Problems, a joint NSF-Organization of American States workshop, Manzanillo, Mexico, August 1999.

2. "Diplomado en Efectividad de la Enseñanza en Ingeniería, Móduo II", Puebla, Puebla, Mexico, July 1999 (presented in Spanish).

3. "Increasing Success for Students", University of Arizona, February 1999.

4. "Helping Entering Students Succeed", University of Connecticut, December 1998.

5. "Concurrent Programming", three day mini-course, University of Puerto Rico—Mayaguez, April 1998.

6. "Human Resources: Where are We Now? Where Do We Need to Be?", Computing Research Association Snowbird Conference, July 26–28, 1998.

7. "Real Time Programming", three day mini-course, University of Puerto Rico—Mayaguez, November 1995.

8. "Concurrent Programming", three day mini-course, University of Puerto Rico—Mayaguez, November 1994.

9. "Curricular Issues", panel, Computing Research Association 1994 Snowbird Conference, July 1994.

10. "Increasing Minority Participation in Computing", panel, NSF II Workshop, July 1994.

11. "The Lower Division Computer Science Curriculum", Workshop Leader, University of Puerto Rico—Mayaguez, April 1994.

Selected Publications

Research Focus

Books

1. Bernat, A. P. "The Concurrent/Distributed Language Paradigm", invited chapter for *The Computer Science and Engineering Handbook*, A. Tucker (ed.), 2094–2119, 1997.

2. Kreinovich, V., Bernat, A., Borrett, W., Mariscal, Y., and Villa, E. "Monte-Carlo methods make Dempster-Shafer formalism feasible", in R. R. Yager, J. Kacprzyk, and M. Pedrizzi (Eds.), *Advances in the Dempster-Shafer Theory of Evidence*, Wiley, N.Y., 175–191, 1994.

Papers

1. Ayala, Gerardo, Cervantes, O., Bernat, A. "Reporte Final Tercer Taller en Ciencias de la Computación", Cholula, Puebla, México, July 10–12, 1998.

2. Rios, H., Loyo, C., Bernat, A., and Engel, G. "Final Report: The Workshop on Mexico - U.S. Cooperation in Computer and Information Science and Engineering Education", Xalapa, Veracruz, Mexico, March 20–22, 1996.

3. Kreinovich, V., and Bernat, A. "Is the Solar System Stable? A Remark", *Reliable Computing*, **3**, 149–154, 1997.

4. Kreinovich, V., and Bernat, A. "Parallel algorithms for interval computations: an introduction", *Interval Computations*, 6–62, 1994.

5. Villa, E., Bernat, A., and Kreinovich, V. "Estimating errors of indirect measurement on realistic parallel machines: routings on 2-D and 3-D meshes that are nearly optimal", *Interval Computations*, 154–175, 1993.

6. Bernat, A. P., Cortes, L., Kreinovich, V., and Villaverde, K. "Intelligent Parallel Simulation— A Key to Intractable Problems in Information Processing", *Modeling and Simulation* **23**, *Proc. of the Twenty-Third Annual Pittsburg Conference*, W. Vogt and M. Mickle, eds., 959–969, 1992.

7. Kreinovich, V., Bernat, A., Kosheleva, O., and Finkelstein, A.. "Interval estimates for closure-phase and closure-amplitude imaging in radio astronomy", *Interval Computations*, 51–71, 1992.

8. Kreinovich, V., Bernat, A. P., Villa, E., and Mariscal, Y. "Parallel Computers Estimate Errors Caused By Imprecise Data", *Technical Papers of the the Society of Mexican American Engineers and Scientists 1992 National Symposium*, San Antonio, Texas, April 1992, 192–199, 1992.

9. Prigge, C., and Bernat, A. P. "A Window Server for Occam in the DOS Environment", *Proc. of the Int. Conference on Parallel Computing and Transputer Applications '92*, M. Valero, E. Onate, M. Jane, J. L. Larriba, B. Suárez, eds., Barcelona, Spain, 591–600, 1992.

10. Kreinovich, V., Bernat, A. P., Villa, E., and Mariscal, Y. "Parallel Computers Estimate Errors Caused By Imprecise Data", *Interval Mathematics*, **1**, 31–46, 1991.

11. Kreinovich, V., Bernat, A. P., Villa, E., and Mariscal, Y. "Parallel Computers Estimate Errors Caused By Imprecise Data", *Proceedings of the Fourth ISMM International Conference on Parallel and Distributed Computing and Systems*, ed. R. A. Ammar, Acta Press, 386–390.

12. Bernat, A. P., and Rupel, J. "A Transputer Based Motion Detection/Tracking Algorithm", *NATUG3, Proceedings of the North American Transputer Users Group*, Alan Wagner, Editor, IOS Press, 295–305, 1990.

13. Bernat, A. P., and Riter, S. "Automatic Tracking of Multiple Objects", *Applications of Artificial Intelligence VII*, Mohan M. Trivedi, Editor, *Proc. of the SPIE 1095*, 106–113, 1989.

14. Bernat, A. P., and Riter, S. "An Algorithm for Machine Detection and Tracking of Moving Objects in Television Images", *Proc. of the ACM Computer Science Conference*, 476, 1989. (abstract only)

15. Bernat, A. P., Riter, S., and Schroder, D. "Computer Detection and Tracking of Multiple Objects in Television Images", in J. R. Benton, ed., *Proc. U.S. Army Symposium on Artificial Intelligence Research for Exploitation of the Battlefield Environment*, U.S. Army Engineer Topographic Laboratories, 231–241, 1989.

16. Riter, S., Bernat, A. P., and Schroder, D. "Computer Detection and Tracking of Moving People in Television Images", *Proc. of the IEEE Conference on Systems, Man, and Cybernetics*, 1013–1016, 1988.

17. Bernat, A. P. "Artificial Intelligence for Atmospheric Radiation Measurements", report for U.S. Army Atmospheric Sciences Laboratory, White Sands Missile Range, 1988.

18. Bernat, A. P., Riter, S., and Nelan, J. "A Comparison of Three Motion Detection Techniques", *Optical Engineering* **27**, 524–527, 1988.

19. Bernat, A. P., Nelan, J., Riter, S., and Frankel, H. "Security Applications of Computer Motion Detection", *Applications of Artificial Intelligence V*, *Proc. of the SPIE* **786**, 512–517, 1987.

20. Bernat, A. P. "Applying Artificial Intelligence Techniques to the Radiometer Problem", report for U.S. Army Atmospheric Sciences Laboratory, White Sands Missile Range, 1986.

21. Bernat, A. P., and Ewton, R.W., Jr. "A Parser for a Natural Language Interface to UNIX", report for AT&T-Information Systems Denver Laboratory, 1986.

22. Bernat, A. P. "Multitasking for Common LISP", *AI Expert* **1**, 68–79, 1986.

23. Frankel, H., Riter, S., and Bernat, A. "An Automated Imaging System for Border Control", *Proc. 1986 Int. Carnahan Conference on Security Technology: Electronic Crime Countermeasures*, 169–173, 1986.

24. Bernat, A. P. "Knowledge-Based Taxonomy Applied to an Astronomical Survey", *Proc. of the Mountain Regional Meeting of the ACM*, 1–11, 1986.

25. Bernat, A. P., and McGraw, J.T. "An Intelligent Object Recognizer and Classification System for Astronomical Use", *Instrumentation in Astronomy VI*, *Proc. of the SPIE* **627**, 89–94, 1986.

26. Johnson, H.R., Mould, J., and Bernat, A. P. "TiO Band Strengths in Metal-Rich Globular Clusters. III. Model Atmosphere Calibration", *Astrophysical Journal* **258**, 161–164, 1982.

27. Bernat, A. P. "International Ultraviolet Explorer Observations of Alpha Scorpii", *Astrophysical Journal* **252**, 644–652, 1982.

28. Bernat, A. P. "Observations of Circumstellar CO and Evidence for Multiple Ejections in Red Giants", *Astrophysical Journal* **246**, 184–192, 1981.

29. Piccirillo, J., Bernat, A. P., and Johnson, H.R. "Red Giant Model Atmospheres II. The Effective Temperature Scale", *Astrophysical Journal* **246**, 246–250, 1981.

30. Honeycutt, R.K., Bernat, A. P., Kephard, J.E., Gow, C.E., Sandford, M.T.,II, and Lambert, D.L. "The Size and Surface Brightness of the Circumstellar Gas Shell Surrounding Betelgeuse", *Astrophysical Journal* **239**, 565–569, 1980.

31. Johnson, H.R., Bernat, A. P., and Krupp, B. "Red Giant Model Atmospheres I. A Grid of Opacity Sampled Models", *Astrophysical Journal Supplement* **42**, 1980.

32. van der Hucht, K.A., Bernat, A. P., and Kondo, Y. "Circumstellar Absorption Lines in the Ultraviolet Spectrum of Alpha Scorpii (M1.5Iab + B2.5V)", *Astronomy and Astrophysics* **82**, 14–29, 1980.

33. Bernat, A. P., Hall, D.N.B., Hinkle, K.H., and Ridgway, S.T. "Observations of CO Circumstellar Absorption in the 4.6 Micron Spectrum of Alpha Orionis", *Astrophysical Journal Letters* **233**, L135–L139, 1979.

34. Stencel, R.E., Kondo, Y., Bernat, A. P., and McCluskey, G. "IUE Observations of 32 Cygni: The Effects of the B Star Within the Upper Chromosphere of a Late-Type Supergiant", *Astrophysical Journal* **233**, 621–632, 1979.

35. Stencel, R.E., Kondo, Y., Bernat, A. P., and McCluskey, G. "Ultraviolet Observations of 31 and 32 Cygni", in M.J. Plavec, D.M. Popper and R.K. Ulrich, eds., *Close Binary Stars: Observations and Interpretation*, 555–559, 1980.

36. Bernat, A. P., and Lambert, D.L. "Electron Scattering in the Atmosphere of P Cygni", *Publications of the Astronomical Society of the Pacific* **90**, 520–525, 1978.

37. Bernat, A. P., Bruhweiler, F.G., Kondo, Y., and van der Hucht, K.A. "The Locations of Alpha Herculis and Alpha Scorpii Along the Line of Sight", *Publications of the Astronomical Society of the Pacific* **90**, 318–321, 1978.

38. Bernat, A. P., and Lambert, D.L. "MgII h and k Emission From Luminous M Stars", *Monthly Notices of the Royal Astronomical Society* **183**, 17P–20P, 1978.

39. Bernat, A. P., Honeycutt, R.K., Kephart, J.E., Gow, C.E., Sandford, M.T., II, and Lambert, D.L. "The Remarkable Extent of the Circumstellar Gas Shell Surrounding Betelgeuse", *Astrophysical Journal* **219**, 532–537, 1978.

40. Bernat, A. P., Barnes, T.G., Schupler, B.R., and Potter, A. "Infrared Spectra of the WN Stars HD50896 and HD151932", *Publications of the Astronomical Society of the Pacific* **89**, 541–545, 1977.

41. Bernat, A. P. "The Circumstellar Shells and Mass Loss Rates of Four M Supergiants", *Astrophysical Journal* **213**, 756–766, 1977.

42. Bernat, A. P., and Lambert, D.L. "KI λ7699 Emission from the Betelgeuse Shell", *Astrophysical Journal* **210**, 395–401, 1976.

43. Bernat, A. P., and Lambert, D.L. "Copernicus Observations of Betelgeuse and Antares", *Astrophysical Journal* **204**, 830–837, 1976.

44. Bernat, A. P., and Lambert, D.L. "Observations of the Circumstellar Gas Shells Around Betelgeuse and Antares", *Astrophysical Journal Letters* **201**, L153–L156, 1975.

45. Bernat, A. P., and Robbins, R.R. "On the Use of Mean Escape Probabilities to Solve Transfer Problems in Nebulae", *Astrophysical Journal* **189**, 459–462, 1974.

46. Robbins, R.R., and Bernat, A. P. "Optical Thickness in the HeI Singlet Spectrum of Nebulae", *Astrophysical Journal* **188**, 309–314, 1974.

47. Robbins, R.R., and Bernat, A. P. "Optical Depth Effects in the Helium Singlet Spectrum of Nebulae", *Memoires Societe Royale des Sciences de Liege* **V**, 263–274, 1973.

48. Bernat, A. P. "Observations of HeI 3^1P—2^1S λ5016 and Derived Optical Depths in Six Planetary Nebulae", *Astrophysical Journal* **185**, 573–576, 1973.

Education Focus

Books

1. Tucker, A. B., Bernat, A. P., Bradley, W. J., Cupper, R. D., and Scragg, G. W. *Fundamentals of Computing I*, Pascal edition revised, New York: McGraw-Hill, 1994.

2. Tucker, A. B., Bernat, A. P., Bradley, W. J., Cupper, R. D., and Scragg, G. W. *Fundamentals of Computing I*, Pascal laboratory manual revised, New York: McGraw-Hill, 1994.

3. Tucker, A. B., Bernat, A. P., Bradley, W. J., Cupper, R. D., and Scragg, G. W. *Fundamentals of Computing I*, C++ edition revised, New York: McGraw-Hill, 1994.

4. Tucker, A. B., Bernat, A. P., Bradley, W. J., Cupper, R. D., and Scragg, G. W. *Fundamentals of Computing I*, C++ laboratory manual revised, New York: McGraw-Hill, 1994.

Papers

1. Aspray, W., and Bernat, A., "Recruitment and Retention of Underrepresented Minority Graduate Students in Computer Science", Report of a Workshop March 4-5, 2000; available from Computing Research Association, www.cra.org.

2. Bernat, A., Gates, A., Teller, P., Delgado, N., and Della-Piana, C., "Structuring the Student Research Experience", ITiCSE 2000, Helsinki, Finland, July 2000.

3. Della-Piana, C., and Bernat, A., "Evaluating the Undergraduate Research Experience in Computer Science: Developing a Framework for Gathering Information about Effectiveness and Impact", *Frontiers in Education 1999*, San Juan, Puerto Rico, November 1999.

4. Gates, A., Teller, P., Bernat, A., Cabrera, S., and Della-Piana, C., "A Cooperative Model for Orienting Students to Research Groups", *Frontiers in Education 1999*, San Juan, Puerto Rico, November 1999.

5. Kubo Della-Piana, C., Arenaz, P., Bernat, A., Fisher, W., Fredericksen, E., Irwin, L., and Marcus, N. "Learning Communities in Science, Engineering and Mathematics: Creating and Sustaining Curricular Innovation at The University of Texas at El Paso", in J. MacGregor (comp.), *Strengthening Learning Communities: Case Studies from the National Learning Communities Dissemination Project (FIPSE)*, Olympia, WA: The Evergreen State College, Washington Center for Improving the Quality of Undergraduate Education, pp. 181–193, 1999.

6. Gates, A., Teller, P., Bernat, A., Delgado, N., and Della-Piana, C. "Meeting the Challenge of Expanding Participation in the Undergraduate Research Experience", *Journal of Engineering Education*, **88**, 409–414, 1999.

7. Gates, A., Teller, P., Bernat, A., Delgado, N., and Della-Piana, C. "Meeting the Challenge of Expanding Participation in the Undergraduate Research Experience", *Frontiers in Education 1998*, Phoenix, Az., 1133–1138, 1998. *Selected as one of the 10 best papers of the conference.*

8. Gates, A., Della-Piana, C. K., and Bernat, A. "Affinity Groups: A Framework for Developing Workforce Skills", *Frontiers in Education 1997*, Pittsburgh, Pa., 1997.

9. Bernat, A., Gates, A., Teller, P., and Cabrera, S. "Affinity Groups for Student Success in Computing", *Proc. of the 1997 ADMI Symposium on Computing at Minority Institutions*, Washington, D. C., May 29–30, 1997, 206–211.

10. H. Rios, Bernat, A., and Engel, G. "Final Report: The Workshop on Mexico - U.S. Co-operation in Computer and Information Science and Engineering Education", *Memoria V Congreso Iberoamericano de Educacion Superior en Computacion*, Ciudad de México, Facultad de Ciencias, UNAM, 19-21 Septiembre 1996, 25–34, 1996.

11. Bernat, A. "Lesson Learned from our II–MII Award", *Proc. of The 1996 ADMI Symposium on Computing at Minority Institutions*, 68–72, Mayaguez, Puerto Rico, July 24–28, 1996.

12. Bernat, A. P. "An Interactive Interpreter/Graphic-Simulator for IBM S/370 Architecture Assembly Language", *SIGCSE* **18**, 13–16, 1986.

Popular Focus

1. Bernat, A. "The Cloud Climbing Railroad: The Alamogordo & Sacramento Mountain Railway", *Narrow Gauge and Shortline Gazette*, in press.

2. Bernat, A. P. "Actor", *Computer Language* **5**, 98–105, 1988.

3. Bernat, A. P. "ACTOR Goes on Stage", *AI Expert* **2**, 40–44, 1987.

4. Bernat, A. P. "Smalltalk/V", *AI Expert* **1**, 77–81, 1986.