

EARL C. SWALLOW

Curriculum Vitae

September 1, 2011

EARL C. SWALLOW

Curriculum Vitae

Date of Birth: December 27, 1941

Place of Birth: Montgomery County, Ohio

Degrees Held:

| | | |
|---------------|-----------------------------------|------|
| Ph.D. Physics | Washington University (St. Louis) | 1970 |
| M.A. Physics | Washington University (St. Louis) | 1965 |
| B.A. Physics | Earlham College | 1963 |

Academic Awards and Honors:

Doctor of Science (*honoris causa*), Elmhurst College, May 28, 2011.

Faculty Development Research and Travel Grants, Elmhurst College, 1998, 1999, 2006.

Theophil W. Mueller Chair, Elmhurst College, 1999-2004.

Chicago Area All-Professor Team, *Chicago Tribune*, January 28, 1994.

President's Award for Excellence in Teaching, Elmhurst College, 1989.

Alumni Research Grant, Elmhurst College, 1983-84, 1996-97.

Invited Participant, *Wingspread International Conference on 50 Years of Weak Interactions: from Fermi Theory to the W Boson*, May, 1984.

Visiting Scientist, Argonne National Laboratory, Summer, 1981; Faculty Research Participant, Summer, 1978 and 1979.

Arthur H. Compton Lecturer, University of Chicago, 1977.

Visiting Scholar, Western Michigan University, October, 1976.

AMU-ANL Fellow and NDEA Fellow, Washington University and Argonne National Laboratory, 1963-69.

Graduation with Honors, Departmental Honors in Physics, Senior Honor Scholarship, and Earlham Recognition Scholarship, Earlham College, 1959-63.

Professional Experience:

Emeritus Professor of Physics, 2011-present; Physics Department Chairperson, 1979-2011; Professor of Physics, 1983-2011; Founding Director, Center for Scholarship and Teaching, 2008-2011; Theophil W. Mueller Chair, 1999-2004; Natural Sciences and Mathematics Division Chairperson, 1987-1990; Associate Professor of Physics, 1980-1983; Assistant Professor of Physics, 1976-1980, Elmhurst College.

Visiting Scientist, University of Chicago Enrico Fermi Institute, during sabbatical leaves, 1983-84, 1990-91, and 1997-98; continuing as a courtesy appointment, 1984-2010.

Visiting Scientist, Argonne National Laboratory HEP Division, Summer, 1981.

Faculty Research Participant, Argonne National Laboratory High Energy Physics Division, Summer, 1978 and 1979.

Senior Research Associate, Enrico Fermi Institute of the University of Chicago, 1974-1979.

Postdoctoral Research Associate for Professor Roland Winston, Enrico Fermi Institute of the University of Chicago, 1970-1974.

Washington University Research Assistant in residence, Argonne National Laboratory, 1969-1970.

Predocctoral Fellow in residence and research staff member, High Energy Physics Division, Argonne National Laboratory, 1965-1969.

Lecture Teaching Assistant, Washington University, 1965.

Resident Student Associate with Dr. T. A. Romanowski, Argonne National Laboratory, Summer, 1964 and 1965.

Research Assistant to Dr. George Collins, Brookhaven National Laboratory, Summer, 1962.

Laboratory and Lecture Teaching Assistant, Research Assistant to Professor David Telfair; Dormitory Counselor, Earlham College, 1960-1963.

Photographer and Printer (part time), *The Brookville Star*, Brookville, Ohio, 1956-63.

Owner and Operator of *The Custom Print Shop*, Brookville, Ohio, 1956-62.

Research Grants and Contracts:

Research activities supported under U.S. Department of Energy Research Contract DE-FG02-90ER40560 (Task B) at The University of Chicago, 1983-2003.

Faculty Development Research and Travel Grants, Elmhurst College, 1998, 1999, 2006.

Alumni Research Grants, Elmhurst College, 1983-84, 1996-97.

Principal Investigator, NSF Grant No. PHY-78-26607 to Elmhurst College, "Experimental Study of High Energy Polarization Phenomena", June, 1979 to June, 1981.

Principal Investigator, Elmhurst College subcontract under NSF Grant No. MPS72-04425-A05, October, 1976 to March, 1978.

Co-Investigator with R. Winston, NSF Grant No. MPS72-04424-A04, "Experimental Study of Weak Interactions", September, 1975 to September, 1976, and MPS72-04425-A05, October 1976 to March, 1978.

Recent Particle Physics Experiments:

Collaborator, CERN Experiment NA48/2, "Precision Measurement of Charged Kaon Decay Parameters with an Extended NA48 Setup".

Collaborator, CERN Experiment NA48/1, "A High Sensitivity Investigation of K_S and Neutral Hyperon Decays".

Collaborator, Fermilab (MIPP) Experiment No. 907, "Proposal to Measure Particle Production in the Meson Area Using Main Injector Primary and Secondary Beams".

Collaborator, Fermilab (KTeV) Experiment No. 832, "A New TeVatron Search for Direct CP Violation in the 2π Decays of the Neutral Kaon".

Collaborator, Fermilab (KTeV) Experiment No. 799, "Search for the Rare Kaon Decay Mode $K_L \rightarrow \pi^0 e^+ e^-$ ".

Collaborator, Fermilab Experiment No. 773, "Measurement of the Phase Difference Between η_{00} and η_{+-} to a Precision of 1° ".

Collaborator, Fermilab Experiment No. 731, "Measurement of the Magnitude of ϵ'/ϵ in the Neutral Kaon System to a Precision of 0.001".

Collaborator, Fermilab Experiment No. 715, "Precision Measurement of Σ^- Beta Decay".

Recent Particle Physics Experiments: (continued)

Scientific Spokesperson, Zero Gradient Synchrotron Experiment No. 446, "Search for Parity Violation in Polarized Proton Scattering at 6 GeV/c".

Scientific Spokesperson, Zero Gradient Synchrotron Experiment No. 347, "Measurement of the Electron Asymmetry in Polarized $\Sigma^- \rightarrow ne^- \bar{\nu}$ Decay".

Collaborator, Zero Gradient Synchrotron Experiment No. 462, "Study of $p \uparrow p \rightarrow pn\pi^+$ Between 1.5 GeV/c and 2 GeV/c".

Collaborator, Zero Gradient Synchrotron Experiment No. 458, "Study of pK^+K^-p and $ppp\bar{p}$ Final States Using the Effective Mass Spectrometer".

Professional Societies and Listings:

Life Member, $\Phi K \Phi$, National Scholastic Honor Society;
President, Elmhurst College Chapter, 1995-1997.

Member, New York Academy of Sciences.

Member, $\Sigma \Pi \Sigma$, National Physics Honor Society.

Member, American Physical Society (Forum on Physics and Society; Division of Particles and Fields; Division of Nuclear Physics; Division of Biological Physics).

Member, American Association of Physics Teachers.

Member, $\Sigma \Xi$, The Scientific Research Society, University of Chicago Chapter.

Member, Fermi National Accelerator Laboratory User Group.

Member, Los Alamos Meson Physics Facility User Group.

Member, Brookhaven National Laboratory High Energy Discussion Group.

President, First Chicago Torch Club, 1983-1984.

Publications:

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Precise Measurement of Direct CP Violation, CPT Symmetry, and Other Parameters of the Neutral Kaon System”, *Phys. Rev.* **D83**, 092001 (2011).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “New Measurement of the $K^\pm \rightarrow \pi^\pm \mu^+ \mu^-$ Decay”, *Physics Letters B* **697**, 107 (2011).

with J. R. Batley, *et al.* (*NA48/1 Collaboration*), “Precision Measurement of the Ratio $BR(K_S \rightarrow \pi^+ \pi^- e^+ e^-)/(K_L \rightarrow \pi^+ \pi^- \pi^0_D)$ ”, *Physics Letters B* **694**, 301 (2011).

with T. S. Nigmanov, *et al.* (*MIPP Collaboration*), “Forward Neutron Production at the Fermilab Main Injector”, *Phys. Rev.* **D83**, 012002 (2011).

with J. R. Batley, *et al.* (*NA48/1 Collaboration*), “New Precise Measurement of the $\Xi^0 \rightarrow \Lambda \gamma$ and $\Xi^0 \rightarrow \Sigma^0 \gamma$ Decay Asymmetries”, *Physics Letters B* **693**, 241 (2010).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “Empirical Parameterization of the $K^\pm \rightarrow \pi^\pm \pi^0 \pi^0$ Decay Dalitz Plot”, *Physics Letters B* **686**, 101 (2010).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Dispersive Analysis of $K_{L\mu 3}$ and $K_{L\mu 3}$ Scalar and Vector Form Factors Using KTeV Data”, *Phys. Rev.* **D81**, 052001 (2010).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “Precise Test of Low Energy QCD from K_{e4} Decay Properties”, *Eur. Phys. J. C* **70**, 635 (2010).

with N. Graf, *et al.* (*MIPP Collaboration*), “Charged Kaon Mass Measurement Using the Cherenkov Effect”, *Nucl. Instrum. and Meth. A* **615**, 27 (2010).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “Measurement of the Direct Emission and Interference Terms and Search for CP Violation in the Decay $K^\pm \rightarrow \pi^\pm \pi^0 \gamma$ ”, *Eur. Phys. J. C* **68**, 75 (2010).

with J. R. Batley, *et al.* (*NA48/1 Collaboration*), “Measurement of the Polarization of the Ξ^0 (anti- Ξ^0) Hyperon Beam by the NA48/1 Experiment”, *Physics Letters B* **681**, 406 (2009).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “Determination of the S-wave $\pi\pi$ Scattering Lengths from a Study of $K^\pm \rightarrow \pi^\pm \pi^0 \pi^0$ Decays”, *Eur. Phys. J. C* **64**, 589 (2009).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “Precise Measurement of the $K^\pm \rightarrow \pi^\pm e^+ e^-$ Decay”, *Physics Letters B* **677**, 246 (2009).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Search for the Rare Decay $K_L \rightarrow \pi^0 \pi^0 \gamma$ ”, *Phys. Rev.* **D78**, 032014 (2008).

Publications: (continued)

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Detailed Study of the $K_L \rightarrow \pi^0 \pi^0 \pi^0$ Dalitz Plot”, *Phys. Rev.* **D78**, 032009 (2008).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Determination of the Parity of the Neutral Pion via the Four-Electron Decay”, *Phys. Rev. Letters* **100**, 182001 (2008).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “First Observation and Measurement of the Decay $K^\pm \rightarrow \pi^\pm e^+ e^- \gamma$ ”, *Physics Letters B* **659**, 493 (2008).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Final Results from the KTeV Experiment on the Decay $K_L \rightarrow \pi^0 \gamma \gamma$ ”, *Phys. Rev.* **D77**, 112004 (2008).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Determination of the Parity of the Neutral Pion via Its Four-Electron Decay”, *Phys. Rev. Letters* **100**, 182001 (2008).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Search for Lepton-Flavor Violating Decays of the Neutral Kaon”, *Phys. Rev. Letters* **100**, 131803 (2008).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “New High Statistics Measurement of K_{e4} Decay Form Factors and $\pi\pi$ Scattering Phase Shifts”, *Eur. Phys. J. C* **54**, 411 (2008).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “Measurement of the Decay $K_L \rightarrow \pi^0 e^+ e^- \gamma$ ”, *Phys. Rev.* **D76**, 052001 (2007).

with J. R. Batley, *et al.* (*NA48/1 Collaboration*), “Determination of the Relative Decay Rate $K_S \rightarrow \pi^\pm e^\mp \nu / K_L \rightarrow \pi^\pm e^\mp \nu$ ”, *Physics Letters B* **653**, 145 (2007).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “Search for Direct CP Violating Charge Asymmetries in $K^\pm \rightarrow \pi^\pm \pi^+ \pi^-$ and $K^\pm \rightarrow \pi^\pm \pi^0 \pi^0$ Decays”, *Eur. Phys. J. C* **52**, 875 (2007).

with E. Abouzaid, *et al.* (*KTeV Collaboration*), “First Observation of $K_L \rightarrow \pi^\pm e^\mp \nu e^+ e^-$ ”, *Phys. Rev. Letters* **99**, 081803 (2007).

with J. R. Batley, *et al.* (*NA48/1 Collaboration*), “First Observation and Branching Fraction and Decay Parameter Measurements of the Weak Radiative Decay $\Xi^0 \rightarrow \Lambda e^+ e^-$ ”, *Physics Letters B* **650**, 1 (2007).

with J. R. Batley, *et al.* (*NA48/2 Collaboration*), “Measurement of the Dalitz Plot Slopes of the $K^\pm \rightarrow \pi^\pm \pi^+ \pi^-$ Decay”, *Physics Letters B* **649**, 349 (2007).

Publications: (continued)

with J. R. Batley, *et al.* (NA48/2 Collaboration), “Measurements of Charged Kaon Semileptonic Decay Branching Fractions $K^\pm \rightarrow \pi^0 \mu^\mp \nu$ and $K^\pm \rightarrow \pi^0 e^\mp \nu$ and Their Ratios”, *Eur. Phys. J. C* **50**, 329 (2007).

with E. Abouzaid, *et al.* (KTeV Collaboration), “Measurement of the Decay $K_L \rightarrow e^+ e^- \gamma$ ”, *Phys. Rev. Letters* **99**, 051804 (2007).

with J. R. Batley, *et al.* (NA48/1 Collaboration), “Measurement of the Branching Ratios of the Decays $\Xi^0 \rightarrow \Sigma^+ e^- \bar{\nu}$ and $\text{anti-}\Xi^0 \rightarrow \text{anti-}\Sigma^+ e^+ \nu$ ”, *Physics Letters B* **645**, 36 (2007).

with E. Abouzaid, *et al.* (KTeV Collaboration), “ Ξ^0 and $\text{anti-}\Xi^0$ Polarization Measurement at 800 GeV/c” *Phys. Rev.* **D75**, 012005 (2007).

with E. Abouzaid, *et al.* (KTeV Collaboration), “Improved $K_L \rightarrow \pi^\pm e^\mp \nu$ Form Factor and Phase Space Integral with Reduced Model Uncertainty”, *Phys. Rev.* **D74**, 097101 (2006).

with E. Abouzaid, *et al.* (KTeV Collaboration), “Measurement of Direct Emission in the $K_L \rightarrow \pi^+ \pi^- \gamma$ Decay Mode”, *Phys. Rev.* **D74**, 032004 (2006).

with J. R. Batley, *et al.* (NA48/2 Collaboration), “Search for Direct CP Violation in the Decay $K^\pm \rightarrow \pi^\pm \pi^0 \pi^0$ Decays”, *Physics Letters B* **638**, 22 (2006).

with J. R. Batley, *et al.* (NA48/2 Collaboration), “Search for Direct CP Violation in the Decay $K^\pm \rightarrow 3\pi^\pm$ ”, *Physics Letters B* **634**, 474 (2006).

with E. Abouzaid, *et al.* (KTeV Collaboration), “Measurement of the K^0 Charge Radius and a CP-Violating Asymmetry and a Search for CP-Violating E1 Direct Photon Emission in the Rare Decay $K_L \rightarrow \pi^+ \pi^- e^+ e^-$ ”, *Phys. Rev. Letters* **96**, 101801 (2006).

with J. R. Batley, *et al.* (NA48/2 Collaboration), “Observation of a Cusp-like Structure in the $\pi^0 \pi^0$ Invariant Mass Distribution from $K^\pm \rightarrow \pi^\pm \pi^0 \pi^0$ Decay and Determination of the $\pi\text{-}\pi$ Scattering Lengths”, *Physics Letters B* **633**, 173 (2006).

with J. R. Batley, *et al.* (NA48/2 Collaboration), “A Measurement of the CP-Conserving Component of the Decay $K_S \rightarrow \pi^+ \pi^- \pi^0$ ”, *Physics Letters B* **630**, 31 (2005).

with E. Abouzaid, *et al.* (KTeV Collaboration), “Observation of the Decay $K^0 \rightarrow \pi^+ \mu^- \bar{\nu}$ ”, *Phys. Rev. Letters* **95**, 081801 (2005).

with T. Alexopoulos, *et al.* (KTeV Collaboration), “Measurement of the Branching Fraction and Decay Distributions for $K_L \rightarrow \pi^\pm \mu^\mp \nu \gamma$ and $K_L \rightarrow \pi^\pm e^\mp \nu \gamma$ ”, *Phys. Rev.* **D71**, 012001 (2005).

Publications: (continued)

with T. Alexopoulos, *et al.* (*KTeV Collaboration*), “Measurement of K_L Branching Fractions and the CP Violation Parameter $|\eta_{+-}|$ ”, *Phys. Rev.* **D70**, 092006 (2004).

with T. Alexopoulos, *et al.* (*KTeV Collaboration*), “Measurement of Semileptonic K_L Decay Form Factors”, *Phys. Rev.* **D70**, 092007 (2004).

with T. Alexopoulos, *et al.* (*KTeV Collaboration*), “A Determination of the Cabibbo-Kobayashi-Maskawa Parameter $|V_{us}|$ Using K_L Decays”, *Phys. Rev. Letters* **93**, 181802 (2004).

with J. R. Batley, *et al.* (*NA48/1 Collaboration*), “Observation of the Rare Decay $K_S \rightarrow \pi^0 \mu^+ \mu^-$ ”, *Physics Letters B* **599**, 197 (2004).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Search for the Rare Decay $K_L \rightarrow \pi^0 e^+ e^-$ ”, *Phys. Rev. Letters* **93**, 021805 (2004).

with Nicola Cabibbo and Roland Winston, “Semileptonic Hyperon Decays and Cabibbo-Kobayashi-Maskawa Unitarity”, *Phys. Rev. Letters* **92**, 251803 (2004).

with J. R. Batley, *et al.* (*NA48/1 Collaboration*), “Observation of the Rare Decay $K_S \rightarrow \pi^0 e^+ e^-$ ”, *Physics Letters B* **576**, 43 (2003).

with Nicola Cabibbo and Roland Winston, “Semileptonic Hyperon Decays,” **Annual Reviews of Nuclear and Particle Science**, vol. **53**, 39-75 (2003).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Branching Ratio Measurement of the Decay $K_L \rightarrow e^+ e^- \mu^+ \mu^-$ ”, *Phys. Rev. Letters* **90**, 141801 (2003).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Measurement of Direct CP Violation, CPT Symmetry, and Other Parameters in the Neutral Kaon System”, *Phys. Rev.* **D67**, 012005 (2003).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Search for the $K_L \rightarrow \pi^0 \pi^0 e^+ e^-$ Decay in the KTeV Experiment”, *Phys. Rev. Letters* **89**, 211801 (2002).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Radiative Decay Width Measurements of Neutral Kaon Excitations Using the Primakoff Effect”, *Phys. Rev. Letters* **89**, 072001 (2002).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Measurement of the K_L Charge Asymmetry”, *Phys. Rev. Letters* **88**, 181601 (2002).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “New Measurement of the Radiative $Ke3$ Branching Ratio and Photon Spectrum”, *Phys. Rev.* **D64**, 112004 (2001).

Publications: (continued)

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “First Measurement of the Form Factors of the Decay $\Xi^0 \rightarrow \Sigma^+ e^- \bar{\nu}$ ”, *Phys. Rev. Letters* **87**, 132001 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Branching Ratio Measurement of the Decay $K_L \rightarrow e^+ e^- \mu^+ \mu^-$ ”, *Phys. Rev. Letters* **87**, 111802 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Measurement of the Branching Ratio and Form Factor of $K_L \rightarrow \mu^+ \mu^- \gamma$ ”, *Phys. Rev. Letters* **87**, 071801 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “First Observation of the Decay $K_L \rightarrow \pi^0 e^+ e^- \gamma$ ”, *Phys. Rev. Letters* **87**, 021801 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Measurement of the Rare Decay $K_L \rightarrow e^+ e^- e^+ e^-$ ”, *Phys. Rev. Letters* **86**, 5425 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Measurement of the Branching Ratio of $K_L \rightarrow e^+ e^- \gamma \gamma$ ”, *Phys. Rev.* **D64**, 012003 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “A Measurement of the Branching Ratio and Asymmetry of the Decay $\Xi^0 \rightarrow \Sigma^0 \gamma$ ”, *Phys. Rev. Letters* **86**, 3239 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Study of the $K_L \rightarrow \pi^+ \pi^- \gamma$ Direct Emission Vertex", *Phys. Rev. Letters* **86**, 761 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Search for the Decay $K_L \rightarrow \pi^0 e^+ e^-$ ", *Phys. Rev. Letters* **86**, 397 (2001).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Evidence for the Decay $K_L \rightarrow \mu^+ \mu^- \gamma \gamma$ ", *Phys. Rev.* **D62**, 112001 (2000).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Search for the Decay $K_L \rightarrow \pi^0 \mu^+ \mu^-$ ", *Phys. Rev. Letters* **84**, 5279 (2000).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Search for the Decay $K_L \rightarrow \pi^0 \nu \bar{\nu}$ Using $\pi^0 \rightarrow e^+ e^- \gamma$ ”, *Phys. Rev.* **D61**, 072006 (2000).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Search for the Weak Decay of a Lightly Bound H^0 Dibaryon", *Phys. Rev. Letters* **84**, 2593 (2000).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), “Observation of CP Violation in $K_L \rightarrow \pi^+ \pi^- e^+ e^-$ Decays”, *Phys. Rev. Letters* **84**, 408 (2000).

with S. Bright, R. Winston, and A. Alavi-Harati “Effective Hamiltonian Approach to Hyperon Beta Decay with Final State Baryon Polarization”, *Phys. Rev.* **D60**, 117505 (1999), and Erratum *Phys. Rev.* **D62**, 059904 (2000).

Publications: (continued)

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Search for Light Gluinos *via* Decays Containing $\pi^+\pi^-$ or $\pi^0\pi^0$ from a Neutral Hadron Beam at Fermilab", *Phys. Rev. Lett.* **83**, 2128 (1999).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Measurement of the Branching Ratio of $\pi^0 \rightarrow e^+e^-$ using $K_L \rightarrow 3\pi^0$ Decays in Flight", *Phys. Rev. Letters* **83**, 922 (1999).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Measurement of the Decay $K_L \rightarrow \pi^0\gamma\gamma$ ", *Phys. Rev. Letters* **83**, 917 (1999).

with A. Alavi-Harati, *et al.* (*KTeV Collaboration*), "Observation of Direct CP Violation in $K_{S,L} \rightarrow \pi\pi$ Decays", *Phys. Rev. Letters* **83**, 22 (1999).

with A. Affolder, *et al.* (*KTeV Collaboration*), "Observation of the Decay $K^0 \rightarrow e^-\bar{\nu}$ ", *Phys. Rev. Letters* **82**, 3751 (1999).

with J. Adams, *et al.* (*KTeV Collaboration*), "Search for the Decay $K_L \rightarrow \pi^0\nu\bar{\nu}$ ", *Physics Letters* **447B**, 240 (1999).

with K. Arisaka, D. Roberts, W. Slater, M. Spencer, M. Weaver, P. Krolak, R.A. Briere, E. Cheu, D.A. Harris, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, S.S. Myung, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S. Schnetzer, G.B. Thomson and Y. Zou, "Search for the Lepton-Family Number Violating Decay $K_L \rightarrow \pi^0\mu^\pm e^\mp$ ", *Physics Letters* **432B**, 230 (1998).

with J. Adams, A. Alavi-Harati, I.F. Albuquerque, T. Alexopoulos, M. Arenton, K. Arisaka, S. Averitte, A.R. Barker, L. Bellantoni, A. Bellavance, J. Belz, R. Ben-David, D.R. Bergman, E. Blucher, G.J. Bock, C. Bown, S. Bright, E. Cheu, S. Childress, R. Coleman, M.D. Corcoran, G. Corti, B. Cox, M.B. Crisler, A.R. Erwin, R. Ford, G. Graham, J. Graham, K. Hagan, E. Halkiadakis, K. Hanagaki, M. Hazumi, S. Hidaka, V. Jejer, J. Jennings, D.A. Jensen, P.T. Johnson, R. Kessler, H.G.E. Kobrak, J. LaDue, A. Lath, A. Ledovskoy, A.P. McManus, P. Mikelsons, E. Monnier, T. Nakaya, U. Nauenberg, K.S. Nelson, H. Nguyen, V. O'Dell, M. Pang, R. Pordes, V. Prasad, C. Qiao, B. Quinn, E. Ramberg, R.E. Ray, A. Ronzhin, A. Roodman, M. Sadamoto, S. Schnetzer, K. Senyo, P. Shanahan, P. Shawhan, W. Slater, N. Solomey, S.V. Somalwar, I. Suzuki, R.L. Stone, R.A. Swanson, S.A. Taegar, R.J. Tesarek, G.B. Thomson, A. Tripathi, R. Tschirhart, Y.W. Wah, H.B. White, J. Whitmore, Winstein, R. Winston, J.-Y. Wu, T. Yamanaka and E.D. Zimmerman (*KTeV Collaboration*), "Measurement of the Branching Fraction of the Decay $K_L \rightarrow \pi^+\pi^-\mu^+e^-$ ", *Phys. Rev. Letters* **80**, 4123 (1998).

Publications: (continued)

with J. Adams, A. Alavi-Harati, I.F. Albuquerque, T. Alexopoulos, M. Arenton, K. Arisaka, S. Averitte, A.R. Barker, L. Bellantoni, A. Bellavance, J. Belz, R. Ben-David, E. Blucher, G.J. Bock, C. Bown, J.D. Bricker, S. Bright, E. Cheu, S. Childress, R. Coleman, M.D. Corcoran, G. Corti, B. Cox, M.B. Crisler, A.R. Erwin, R. Ford, G. Graham, J. Graham, K. Hagan, E. Halkiadakis, K. Hanagaki, S. Hidaka, V. Jejer, J. Jennings, D.A. Jensen, P. Johnson, R. Kessler, H.G.E. Kobrak, J. LaDue, A. Lath, A. Ledovskoy, A.P. McManus, P. Mikelsons, E. Monnier, T. Nakaya, U. Nauenberg, K.S. Nelson, H. Nguyen, V. O'Dell, M. Pang, R. Pordes, V. Prasad, C. Qiao, B. Quinn, E. Ramberg, R.E. Ray, A. Ronzhin, A. Roodman, M. Sadamoto, S. Schnetzer, K. Senyo, P. Shanahan, P. Shawhan, W. Slater, N. Solomey, S.V. Somalwar, R.L. Stone, R.A. Swanson, R.J. Tesarek, G.B. Thomson, R. Tschirhart, Y.W. Wah, H.B. White, J. Whitmore, B. Winstein, R. Winston, J.-Y. Wu, T. Yamanaka and E.D. Zimmerman (*KTeV Collaboration*), "Search for Light Gluino via the Spontaneous Appearance of $\pi^+\pi^-$ Pairs with an 800 GeV/c Proton Beam at Fermilab", *Phys. Rev. Letters* **79**, 4083 (1997).

with L.K. Gibbons, A.R. Barker, R.A. Briere, G. Makoff, V. Papadimitriou, J.R. Patterson, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, E.J. Ramberg, K. Stanfield, R. Tschirhart, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "CP and CPT Symmetry Tests from the Two-pion Decays of the Neutral Kaon with the Fermilab-E731 Detector", *Phys. Rev.* **D55**, 6625 (1997).

"From Hyperons to Applied Optics: 'Winston Cones' During and After the ZGS Era" in *Proceedings of the Symposium on the 30th Anniversary of the Zero-Gradient Synchrotron Startup*, ANL-HEP-CP-96-12, (Argonne National Laboratory, 1996).

with J.N. Matthews, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, S.S. Myung, S. Schnetzer, S.V. Somalwar, G.B. Thomson and Y. Zou, A.R. Barker, R.A. Briere, E. Cheu, D.A. Harris, G. Makoff, K.S. McFarland, A. Roodman, B. Schwingenheuer, Y.W. Wah, B. Winstein, R. Winston, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, T. Yamanaka, E.M. Collins and G.D. Gollin, "New Measurement of the CP Violation Parameter $\eta_{+-\gamma}$ ", *Phys. Rev. Letters* **75**, 2803 (1995).

with B. Schwingenheuer, R.A. Briere, A.R. Barker, E. Cheu, L.K. Gibbons, D.A. Harris, G. Makoff, K.S. McFarland, A. Roodman, Y.W. Wah, B. Winstein, R. Winston, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, T. Yamanaka, E.M. Collins, G.D. Gollin, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, S.V. Somalwar, G.B. Thomson and Y. Zou, "CPT Tests in the Neutral Kaon System", *Phys. Rev. Letters* **74**, 4376 (1995).

Publications: (continued)

with M.B. Spencer, K. Arisaka, D. Roberts, W. Slater, M. Weaver, R.A. Briere, E. Cheu, D.A. Harris, P. Krolak, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "Measurement of the Branching Ratio and Form Factor of $K_L \rightarrow \mu^+ \mu^- \gamma$ ", Phys. Rev. Letters **74**, 3323 (1995).

with Art Hobson and Marie Baehr, *Laboratory Manual for Liberal Arts Physics* (Prentice Hall, Englewood Cliffs, New Jersey, 1995).

with T. Nakaya, T. Yamanaka, K. Arisaka, D. Roberts, W. Slater, M. Weaver, R.A. Briere, E. Cheu, D.A. Harris, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J.

Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "Measurement of the Branching Ratio of $K_L \rightarrow e^+ e^- \gamma$ ", Phys. Rev. Letters **73**, 2169 (1994).

with D. Roberts, K. Arisaka, W. Slater, M. Weaver, R.A. Briere, E. Cheu, D.A. Harris, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "Search for the Decay $K_L \rightarrow \pi^0 \pi^0 \gamma$ ", Phys. Rev. **D50**, 1874 (1994).

with E.J. Ramberg, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, R. Tschirhart, K. Arisaka, D. Roberts, W. Slater, M. Weaver, R.A. Briere, E. Cheu, D.A. Harris, P. Krolak, G. Makoff, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, A.R. Barker, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "Polarization of Λ and $\bar{\Lambda}$ Produced by 800-GeV Protons", Physics Letters **338B**, 403 (1994).

with M. Weaver, K. Arisaka, D. Roberts, W. Slater, R.A. Briere, E. Cheu, D.A. Harris, A. Roodman, B. Schwingenheuer, Y.W. Wah, B. Winstein, R. Winston, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, K.S. McFarland, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, S.V. Somalwar, G.B. Thomson and Y. Zou, "Limit on the Branching Ratio of $K_L \rightarrow \pi^0 \nu \bar{\nu}$ ", Phys. Rev. Letters **72**, 3758 (1994).

Publications: (continued)

with P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson, Y. Zou, K. Arisaka, D. Roberts, W. Slater, M. Weaver, R.A. Briere, E. Cheu, D.A. Harris, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya and T. Yamanaka, "Measurement of the Branching Ratio and a Study of CP for the Leptonic Decay $K_L \rightarrow e^+e^-e^+e^-$ ", Phys. Rev. Letters **72**, 3000 (1994).

with P. Krolak, R.A. Briere, E. Cheu, D.A. Harris, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, K. Arisaka, D. Roberts, W. Slater, M. Weaver, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "A Limit on the Lepton-Family Number Violating Process $\pi^0 \rightarrow \mu^\pm e^\mp$ ", Physics Letters **320B**, 407 (1994).

with D.A. Harris, R.A. Briere, E. Cheu, G. Makoff, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, K. Arisaka, D. Roberts, W. Slater, M. Weaver, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "A Limit on the Branching Ratio of $K_L \rightarrow \pi^0 e^+ e^-$ ", Phys. Rev. Letters **71**, 3918 (1993).

with D.A. Harris, R.A. Briere, E. Cheu, G. Makoff, K.S. McFarland, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, K. Arisaka, D. Roberts, W. Slater, M. Weaver, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "A Limit on the Branching Ratio of $K_L \rightarrow \pi^0 \mu^+ \mu^-$ ", Phys. Rev. Letters **71**, 3914 (1993).

with K.S. McFarland, R.A. Briere, E. Cheu, D.A. Harris, G. Makoff, A. Roodman, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, K. Arisaka, D. Roberts, W. Slater, M. Weaver, A.R. Barker, G.J. Bock, R. Coleman, M. Crisler, J. Enagonio, R. Ford, Y.B. Hsiung, D.A. Jensen, E. Ramberg, R. Tschirhart, E.M. Collins, G.D. Gollin, T. Nakaya, T. Yamanaka, P. Gu, P. Haas, W.P. Hogan, S.K. Kim, J.N. Matthews, S.S. Myung, S. Schnetzer, G.B. Thomson and Y. Zou, "Measurement of the Branching Ratio of $\pi^0 \rightarrow e^+e^-$ from π^0 's Produced by $K_L \rightarrow \pi^0 \pi^0 \pi^0$ Decays in Flight", Phys. Rev. Letters **71**, 31 (1993).

Publications: (continued)

with E.J. Ramberg, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, K. Stanfield, R. Tschirhart, T. Yamanaka, A. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, V. Papadimitriou, J.R. Patterson, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G. Blair, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Measurement of the CP-Violation Parameter $\eta_{+-\gamma}$ in Neutral Kaon Decay", Phys. Rev. Letters **70**, 2529 (1993).

with E.J. Ramberg, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, K. Stanfield, R. Tschirhart, T. Yamanaka, A. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, V. Papadimitriou, J.R. Patterson, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G. Blair, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Simultaneous Measurement of K_S and K_L Decays into $\pi^+\pi^-\gamma$ ", Phys. Rev. Letters **70**, 2525 (1993).

with G. Makoff, A. R. Barker, R.A. Briere, L.K. Gibbons, V. Papadimitriou, J.R. Patterson, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, E. Ramberg, K. Stanfield, R. Tschirhart, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Study of the Decay $K_L \rightarrow \pi^\pm \pi^0 e^\mp \bar{\nu}(\nu)$ ", Phys. Rev. Letters **70**, 1591 (1993).

with L.K. Gibbons, A.R. Barker, R.A. Briere, G. Makoff, V. Papadimitriou, J.R. Patterson, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, E. Ramberg, K. Stanfield, R. Tschirhart, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Measurement of the CP-Violation Parameter $\text{Re}(\epsilon'/\epsilon)$ ", Phys. Rev. Letters **70**, 1203 (1993).

with L.K. Gibbons, A.R. Barker, R.A. Briere, G. Makoff, V. Papadimitriou, J.R. Patterson, B. Schwingenheuer, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, E. Ramberg, K. Stanfield, R. Tschirhart, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "New Measurements of the Neutral Kaon Parameters Δm , τ_S , Φ_{00} – Φ_{+-} , and Φ_{+} ", Phys. Rev. Letters **70**, 1199 (1993).

with G.E. Graham, A.R. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, V. Papadimitriou, J.R. Patterson, S.V. Somalwar, Y.W. Wah, B. Winstein, R. Winston, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, E. Ramberg, K. Stanfield, R. Tschirhart, T. Yamanaka, G.D. Gollin, M. Karlsson, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Search for the Decay $K_L \rightarrow \pi^0 \nu \bar{\nu}$ ", Physics Letters **295B**, 169 (1992).

Publications: (continued)

with S.V. Somalwar, A.R. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, V. Papadimitriou, J.R. Patterson, Y.W. Wah, B. Winstein, R. Winston, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, E. Ramberg, K. Stanfield, R. Tschirhart, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Measurement of the Quadratic Slope Parameter in the $K_L \rightarrow 3\pi^0$ Decay Dalitz Plot", Phys. Rev. Letters **68**, 2580 (1992).

"Recent CP-Violation and Rare Decay Results From Fermilab Experiment 731", in *The Vancouver Meeting: Particles and Fields '91*, ed. D. Axen, D. Bryman and Martin Comyn (World Scientific Publishing Co., Philadelphia, 1992), p. 581.

with V. Papadimitriou, A. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, J.R. Patterson, S. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, E. Ramberg, K. Stanfield, R. Tschirhart, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Measurement of the Branching Ratio of the Decay $K_L \rightarrow \pi^0\gamma\gamma$ ", Phys. Rev. **D44**, R573 (1991).

with M. Karlsson, G.D. Gollin, J.K. Okamitsu, R. Tschirhart, A. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, V. Papadimitriou, J.R. Patterson, S. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, K. Stanfield, R. Stefanski, T. Yamanaka, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Test of CPT Symmetry Through a Determination of the Difference in the Phases of η_{00} and η_{+-} in $K \rightarrow 2\pi$ Decays", Phys. Rev. Letters **64**, 2976 (1990).

with A. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, V. Papadimitriou, J.R. Patterson, S. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, R. Tschirhart, K. Stanfield, R. Stefanski, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "New Limit on $K_L \rightarrow \pi^0 e^+ e^-$ ", Phys. Rev. **D41**, 3546 (1990).

with J.R. Patterson, A. Barker, R.A. Briere, L.K. Gibbons, G. Makoff, V. Papadimitriou, S. Somalwar, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, J. Enagonio, Y.B. Hsiung, K. Stanfield, R. Stefanski, T. Yamanaka, G. Blair, G.D. Gollin, M. Karlsson, J.K. Okamitsu, R. Tschirhart, J.C. Brisson, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Determination of $\text{Re}(\varepsilon'/\varepsilon)$ by the Simultaneous Detection of the Four $K_{L,S} \rightarrow \pi\pi$ Decay Modes", Phys. Rev. Letters **64**, 1491 (1990).

with V. Papadimitriou, L.K. Gibbons, J.R. Patterson, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, Y.B. Hsiung, K. Stanfield, R. Stefanski, T. Yamanaka, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "Search for $K_L \rightarrow \pi^0\gamma\gamma$ ", Phys. Rev. Letters **63**, 28 (1989).

Publications: (continued)

with L.H. Trost, E.R. McCliment, C.R. Newsom, S.Y. Hsueh, D. Müller, J. Tang, R. Winston, G. Zapalac, J.P. Berge, A.E. Brenner, P.S. Cooper, P. Grafström, E. Jastrzembki, J. Lach, J. Marriner, R. Raja, V.J. Smith, E.W. Anderson, A.S. Denisov, V.T. Grachev, V.A. Schegelsky, D.M. Seliverstov, N.N. Smirnov, N.K. Terentyev, I.I. Tkatch, A.A. Vorobyov, P. Razis and L.J. Teig, "New Measurement of the Production Polarization and Magnetic Moment of the Ξ^- Hyperon", *Phys. Rev.* **D40**, 1703 (1989).

with L.K. Gibbons, V. Papadimitriou, J.R. Patterson, Y.W. Wah, B. Winstein, R. Winston, M. Woods, H. Yamamoto, G.J. Bock, R. Coleman, Y.B. Hsiung, K. Stanfield, R. Stefanski, T. Yamanaka, G. Blair, G.D. Gollin, M. Karlsson, J.K. Okamitsu, P. Debu, B. Peyaud, R. Turlay and B. Vallage, "New Limits on $K_{L,S} \rightarrow \pi^0 e^+ e^-$ ", *Phys. Rev. Letters* **61**, 2661 (1988).

with S.Y. Hsueh, D. Müller, J. Tang, R. Winston, G. Zapalac, J.P. Berge, A.E. Brenner, P.S. Cooper, P. Grafström, E. Jastrzembki, J. Lach, J. Marriner, R. Raja, V.J. Smith, E. McCliment, C. Newsom, E.W. Anderson, A.S. Denisov, V.T. Grachev, V.A. Schegelsky, D.M. Seliverstov, N.N. Smirnov, N.K. Terentyev, I.I. Tkatch, A.A. Vorobyov, P. Razis and L.J. Teig, "High-precision Measurement of Polarized Σ^- Beta Decay", *Phys. Rev.* **D38**, 2056 (1988).

with M. Woods, K. Nishikawa, J.R. Patterson, Y.W. Wah, B. Winstein, R. Winston, H. Yamamoto, G.J. Bock, R. Coleman, Y.B. Hsiung, K. Stanfield, R. Stefanski, T. Yamanaka, G.D. Gollin, G.L. Grazer, J.K. Okamitsu, P. Jarry, R. Daudin, P. Debu, B. Peyaud and R. Turlay, "First Result on a New Measurement of ϵ'/ϵ in the Neutral-Kaon System", *Phys. Rev. Letters* **60**, 1695 (1988).

with A.B. Wicklund, M.W. Arenton, D.S. Ayres, R. Diebold, E.N. May, L.J. Nodulman, J.R. Sauer, M.M. Calkin, M.D. Corcoran, J. Hoftiezer, H.E. Miettinen and G.S. Mutchler, "Study of the Reaction $p \uparrow p \rightarrow \pi^+ n$ with Polarized Beam from 1.18 to 1.98 GeV/c", *Phys. Rev.* **D35**, 2670 (1987).

with G. Zapalac, S.Y. Hsueh, D. Müller, J. Tang, R. Winston, J.P. Berge, A.E. Brenner, P. Grafström, E. Jastrzembki, J. Lach, J. Marriner, R. Raja, V.J. Smith, E. McCliment, C. Newsom, E.W. Anderson, A.S. Denisov, V.T. Grachev, V.A. Schegelsky, D.M. Seliverstov, N.N. Smirnov, N.K. Terentyev, I.I. Tkatch, A.A. Vorobyov, P.S. Cooper, P. Razis and L.J. Teig, "Measurement of the Σ^- Magnetic Moment Using the $\Sigma^- \rightarrow ne^- \bar{\nu}$ and $\Sigma^- \rightarrow n\pi^-$ Decay Modes", *Phys. Rev. Letters* **57**, 1526 (1986).

with S.Y. Hsueh, D. Müller, J. Tang, R. Winston, G. Zapalac, J.P. Berge, A.E. Brenner, P. Grafström, E. Jastrzembki, J. Lach, J. Marriner, R. Raja, V.J. Smith, E. McCliment, C. Newsom, E.W. Anderson, A.S. Denisov, V.T. Grachev, A.V. Kulikov, V.A. Schegelsky, D.M. Seliverstov, N.N. Smirnov, N.K. Terentyev, I.I. Tkatch, A.A. Vorobyov, P.S. Cooper, P. Razis and L.J. Teig, "Measurement of the Electron Asymmetry in the Beta Decay of Polarized Σ^- Hyperons", *Phys. Rev. Letters* **54**, 2399 (1985)

Publications: (continued)

with A.V. Kulikov, A.S. Denisov, V.T. Grachev, V.A. Schegelsky, D.M. Seliverstov, N.N. Smirnov, N.K. Terentyev, I.I. Tkatch, A.A. Vorobyov, S.Y. Hsueh, D. Müller, J. Tang, R. Winston, G. Zapalac, J.P. Berge, A.E. Brenner, P. Grafström, E. Jastrzembski, J. Lach, J. Marriner, R. Raja, V.J. Smith, E. McCliment, C. Newsom, E.W. Anderson, P.S. Cooper, P. Razis and L.J. Teig, "Performance of the E-715 Transition Radiation Detector", in *Proceedings of the Santa Fe Meeting of the APS/DPF*, ed. T. Goldman and M.M. Nieto (World Scientific Publishing Co., Philadelphia, 1985), p. 358.

with S.Y. Hsueh, D. Müller, J. Tang, R. Winston, G. Zapalac, J.P. Berge, A.E. Brenner, P. Grafström, E. Jastrzembski, J. Lach, J. Marriner, R. Raja, V.J. Smith, E. McCliment, C. Newsom, E.W. Anderson, A.S. Denisov, V.T. Grachev, A.V. Kulikov, V.A. Schegelsky, D.M. Seliverstov, N.N. Smirnov, N.K. Terentyev, I.I. Tkatch, A.A. Vorobyov, P.S. Cooper, P. Razis and L.J. Teig, "The Electron Asymmetry in Polarized Σ^- Beta Decay: A Critical Test of the Cabibbo Model", in *Proceedings of the Santa Fe Meeting of the APS/DPF*, ed. T. Goldman and M.M. Nieto (World Scientific Publishing Co., Philadelphia, 1985), p. 519.

with N. Lockyer, T.A. Romanowski, J.D. Bowman, C.M. Hoffman, R.E. Mischke, D.E. Nagle, J.M. Potter, R.L. Talaga, D.M. Alde, D.R. Moffett and J. Zyskind, "Parity Nonconservation in Proton-Nucleus Scattering at 6 GeV/c", *Phys. Rev.* **D30**, 860 (1984).

with J.P. Berge, A. Brenner, P. Grafström, E. Jastrzembski, J. Lach, J. Marriner, R. Raja, E.W. Anderson, A. Denisov, V. Grachev, A. Kulikov, V. Schegelsky, D. Seliverstov, N. Smirnov, N. Terentyev, I. Tkatch, A.A. Vorobyov, S.Y. Hsueh, D. Müller, J. Tang, R. Winston, G. Zapalac, E. McCliment, C. Newsom, P. Razis, L.J. Teig and P.S. Cooper, "Sigma Minus Beta Decay - Experiment 715", a progress report in Fermilab Report, 1 (April, 1984).

with M.W. Arenton, D.S. Ayres, R. Diebold, E.N. May, L. Nodulman, J.R. Sauer and A.B. Wicklund, "Search for Λ_p States in the Baryon-Exchange Reaction $pp \rightarrow \Lambda p K^+$ at 11.75 GeV/c", *Phys. Rev.* **D28**, 657 (1983).

with M.D. Corcoran, M.M. Calkin, J.J. Hoftiezer, G.S. Mutchler, M.W. Arenton, D.S. Ayres, R. Diebold, E.N. May, L. Nodulman, J.R. Sauer and A.B. Wicklund, "Analyzing Power in the Reaction $p \uparrow p \rightarrow d\pi^+$ for Beam Momenta from 1.17 to 1.96 GeV/c", *Physics Letters* **120B**, 309 (1983).

with M.W. Arenton, D.S. Ayres, R. Diebold, E.N. May, L. Nodulman, J.R. Sauer, C. Sorenson and A.B. Wicklund, " ϕ -meson Production in the Reaction $p \uparrow p \rightarrow p K^+ K^- p$ at 11.75 GeV/c", *Phys. Rev.* **D25**, 2241 (1982).

with P. Keller, A. Lesnik, T.A. Romanowski, W.E. Keig, B. Nelson, D.A. Park, R. Winston, C.E.W. Ward and J. Watson, "Measurement of the Electron Asymmetry in the Beta Decay of Polarized Σ^- Hyperons", *Phys. Rev. Letters* **48**, 971 (1982).

Publications: (continued)

with J.R. Sauer, A.B. Wicklund, M.W. Arenton, D.S. Ayres, R. Diebold, E.N. May, L. Nodulman, M. Calkin, M.D. Corcoran, J. Hoftiezer and G. Mutchler, "A Search for Narrow Resonances in $pp \rightarrow p\pi^+n$ at 2 GeV/c", *Proceedings of the XX International Conference on High Energy Physics at Madison*.

with N. Lockyer, T.A. Romanowski, J.D. Bowman, C.M. Hoffman, R.E. Mischke, D.E. Nagle, J.M. Potter, R.L. Talaga, D.M. Alde, D.R. Moffett and J. Zyskind, "Parity Nonconservation in Proton-Nuclear Scattering at 6 GeV/c", *Phys. Rev. Letters* **45**, 1821 (1980).

with S. Kooijman, M.W. Arenton, D.S. Ayres, R. Diebold, E.N. May, L. Nodulman, J.R. Sauer and A.B. Wicklund, "Search for Baryonium States in the Reaction $pp \rightarrow p\bar{p}p\bar{p}$ at 11.75 GeV/c", *Phys. Rev. Letters* **45**, 316 (1980).

with J.D. Bowman, C.M. Hoffman, R.E. Mischke, D.E. Nagle, J.M. Potter, R.L. Talaga, N. Lockyer, T.A. Romanowski, D.M. Alde and D.R. Moffett, "Parity Violation in Proton-Nucleon Scattering at 6 GeV/c", in *Polarization Phenomena in Nuclear Physics--1980 (Fifth International Symposium, Santa Fe)*, ed. G.G. Ohlsen, et al. (American Institute of Physics, New York, 1981), p. 1449.

with I. Ambats, M.W. Arenton, D.S. Ayres, J. Dawson, R. Diebold, E.N. May, J.R. Sauer, E. Walschon and A.B. Wicklund, "A Recoil Proton Detector Using Cylindrical Multiwire Proportional Chambers with Delay-line Cathode Readouts", *Nucl. Instrum. and Meth.* **174**, 427 (1980).

with D.E. Nagle, J.D. Bowman, C.M. Hoffman, R.E. Mischke, J.M. Potter, N. Lockyer, T.A. Romanowski, D.R. Moffett, B. Nelson, W.H. Sawyer, R.L. Talaga and D.M. Alde, "Search for Parity Violation in Polarized Proton Scattering at 6 GeV/c", in *High Energy Physics with Polarized Beams and Targets*, ed. G.H. Thomas (American Institute of Physics, New York, 1979), p. 231.

with J. Lindquist, R.L. Sumner, J.M. Watson, R. Winston, D.M. Wolfe, K. Reibel, D.M. Schwartz, A.J. Stevens and T.A. Romanowski, "Measurement of the Angular Correlation Parameters in the β Decay of Polarized Λ Hyperons", *Phys. Rev.* **D16**, 2104 (1977).

with D.S. Ayres, I. Ambats, R. Diebold, R.J. Jost, S.L. Kramer, W.T. Meyer, A.J. Pawlicki, C.E.W. Ward, A.B. Wicklund, R.R. Crittenden, H.A. Neal, D.R. Rust, A. Lesnik and D.M. Schwartz, "Observation of Asymmetry in Inclusive Proton Production by 6 GeV/c Polarized Protons", *Phys. Rev.* **D15**, 1826 (1977).

Publications: (continued)

with I. Ambats, E.R. Hayes, C.E.W. Ward, W.E. Keig, D.A. Park, R. Winston and T.A. Romanowski, "A Novel Large-Acceptance Threshold Gas Čerenkov Counter", Nucl. Instrum. and Meth. **138**, 61 (1976).

with H.L. Anderson, R.L. Talaga, D.M. Alde, P.G. Debrunner, D.E. Good, J.D. Bowman, C.M. Hoffman, R.E. Mischke, D.E. Nagle and J.M. Potter, "Parity Violation at 6 GeV/c", in *High Energy Physics with Polarized Beams and Targets*, ed. M.L. Marshak (American Institute of Physics, New York, 1976), p. 273.

with J. Lindquist, R.L. Sumner, J.M. Watson, R. Winston, D.M. Wolfe, P.R. Phillips, K. Reibel, D.M. Schwartz, A.J. Stevens and T.A. Romanowski, "Measurement of the Angular Correlation Parameters in the β Decay of Polarized Λ Hyperons", J. Phys. **G2**, L211 (1976).

"Some Recent Polarized Proton Beam Experiments at the Argonne National Laboratory Zero Gradient Synchrotron", in *Nuclear and Particle Physics at Intermediate Energies*, ed. J.B. Warren (Plenum Pub. Co., New York, 1976), p. 573.

with A. Lesnik, D.M. Schwartz, I. Ambats, E. Hayes, W.T. Meyer, C.E.W. Ward, T.M. Knasel, R. Winston and T.A. Romanowski, "Observation of a Difference Between Polarization and Analyzing Power in Λ^0 Production with 6 GeV/c Polarized Protons", Phys. Rev. Letters **35**, 770 (1975).

with D.R. Rust, R.R. Crittenden, R.M. Heinz, H.A. Neal, I. Ambats, D.S. Ayres, R. Diebold, R.J. Jost, S.L. Kramer, W.T. Meyer, A.J. Pawlicki, C.E.W. Ward, A.B. Wicklund, A. Lesnik and D.M. Schwartz, "Measurement of the Polarization Parameter in Small Angle Proton-Proton Elastic Scattering at 6 GeV/c", Physics Letters **58B**, 114 (1975).

with A. Garcia, "Implications of Recent Data on $\Sigma^- \rightarrow ne^- \bar{\nu}$ for the Cabibbo Model", Phys. Rev. Letters **35**, 467 (1975).

with T.M. Knasel, J. Lindquist, B. Nelson, R.L. Sumner, R. Winston, D.M. Wolfe, P.R. Phillips, K. Reibel, D.M. Schwartz, A.J. Stevens, T.A. Romanowski and J.M. Watson, "Experimental Study of the Reaction $\pi^- p \rightarrow \Lambda^0 K^0$ at Beam Momenta Between 930 and 1130 MeV/c", Phys. Rev. **D11**, 1 (1975).

"Polarization Effects in Inclusive Λ^0 Production: Prospects for Polarized Hyperon Beams", in *Proceedings of the Symposium on High Energy Physics with Polarized Beams*, Argonne National Laboratory, ANL/HEP-7440, p. XI-1 (February, 1974).

"Polarized Hyperon Production with a High Energy Polarized Proton Beam", Physics Letters **49B**, 91 (1974).

Publications: (continued)

with R. Oehme and R. Winston, "The Relative Sign of Strangeness Changing Axial Vector and Vector Currents", *Phys. Rev.* **D8**, 2124 (1973).

with B. Nelson, T.M. Knasel, J. Lindquist, R.L. Sumner, R. Winston, D.M. Wolfe, P.R. Phillips, K. Reibel, D.M. Schwartz, A.J. Stevens, T.A. Romanowski and J.M. Watson, "Search for Structure in $\pi^-p \rightarrow \Lambda^0 K^0$ at ΣK Threshold", *Phys. Rev. Letters* **31**, 901 (1973).

with D. Hodges, J. Lindquist, B. Nelson and D.M. Schwartz, "Application of the ALICE Flying Spot Digitizing System to Oscilloscope and Spark Chamber Data", *Nucl. Instrum. and Meth.* **108**, 551 (1973).

with R. Abrams, S. Aronson, D.M. Schwartz and T.A. Romanowski, "The Study of Unpolarized $\Lambda^0 \rightarrow p e^- \bar{\nu}$ Decays in a 'Quasi-Beam' Configuration at the ZGS", *Proceedings of the 1971 Zero Gradient Synchrotron Summer Workshop*, Argonne National Laboratory, ANL/HEP-7208, vol. I, p. 369 (July, 1971).

with K. Reibel, C.J. Rush, D.M. Schwartz, A.J. Stevens, T.A. Romanowski, R.L. Sumner, J.M. Watson, R. Winston and D.M. Wolfe, "Direct Momentum Determination of a Medium-Energy Particle Beam Using Time-of-Flight and Range Techniques", *Nucl. Instrum. and Meth.* **97**, 207 (1971).

with J. Lindquist, R.L. Sumner, J.M. Watson, R. Winston, D.M. Wolfe, P.R. Phillips, K. Reibel, D.M. Schwartz, A.J. Stevens and T.A. Romanowski, "Measurement of the Up-Down Asymmetries in the β Decay of Polarized Λ Hyperons", *Phys. Rev. Letters* **27**, 612 (1971).

with G.J. Marmer, K. Reibel, D.M. Schwartz, A. Stevens, R. Winston, D. Wolfe, C.J. Rush, P.R. Phillips and T.A. Romanowski, "Differential Production Cross Sections of Low-Momentum Particles from 12.3 BeV/c Protons on Beryllium and Copper", *Phys. Rev.* **179**, 1294 (1969).

Invited Presentations:

Hyperon Beta Decay and Cabibbo–Kobayashi–Maskawa Unitarity: An Appreciation, **Nicola Cabibbo Memorial Symposium**, Sapienza - Università di Roma, Rome, Italy, November 12, 2010.

Hyperon Beta Decay and CKM Unitarity: An Appreciation, **Simposio CINVESTAV-UNAM en Física de Altas Energías - In Memoriam Augusto García (1942-2009)**, Mexico, D.F., November 30-December 1, 2009.

Vus Panel, **KAON 2005 International Workshop**, Northwestern University, June 14, 2005.

Science, Pseudoscience, and Self-deception, **International Association of Torch Clubs 2003 Convention**, Chicago, IL, June 20, 2003.

Invited Presentations (continued):

Hyperon Beta Decay: A (Somewhat Biased) Review, **pbar 2000 International Symposium**, Illinois Institute of Technology, August 3, 2000.

Symmetry and Asymmetry: Keys to the Fundamental Forces of Nature, **Presentations in Honor of the Inauguration of Bryant L. Cureton as Twelfth President of Elmhurst College**, Elmhurst College, November 5, 1994.

From Hyperons to Applied Optics: "Winston Cones" After the ZGS Era, **Symposium in Honor of the 30th Anniversary of the Zero Gradient Synchrotron**, Argonne National Laboratory, May 6, 1994. This presentation was featured in the September, 1994 issue of the CERN Courier.

Critical Tests of the Cabibbo Model, **VII Warsaw Symposium on Elementary Particle Physics**, May, 1984. (I was unable to attend because of U.S. restrictions on support of travel to Poland.)

Search for Parity Violation in the Scattering of Free Protons at 6 GeV/c, **Zero Gradient Synchrotron Planning Workshop**, Argonne National Laboratory, June, 1978.

Technology and Scientific Inquiry, **Midwest Faculty Institute Seminar**, University of Chicago, March, 1977.

Hyperons, Crab Eyes and Solar Energy: From Basic Science to Practical Applications, **Arthur H. Compton Lectures (fourth series)**, a series of ten public lectures, University of Chicago, Enrico Fermi Institute, January-March, 1977.

Public lecture and faculty seminar as Visiting Scholar, Western Michigan University, October, 1976.

Visiting Lecturer on Weak Interactions, Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional, Mexico City, Mexico, January, 1976.

Polarization Effects in Inclusive A^0 Production: Prospects for Polarized Hyperon Beams, **Symposium on High Energy Physics with Polarized Beams**, Argonne National Laboratory, February, 1974.

Various seminars and colloquia, including presentations at Cornell University, Ohio State University, Argonne National Laboratory, University of Chicago, University of Massachusetts, Loyola University (Chicago), Illinois Institute of Technology, Virginia Polytechnic Institute, Columbia University, Barnard College, Elmhurst College, Lake Forest College, Earlham College, Washington University (St. Louis), Notre Dame University, Michigan State University, TRIUMF, and University of Maryland.

Advisory Activities:

Member, Organizing Committee for **KAON 2005 International Workshop**, Northwestern University, June 13-17, 2005.

Member, KTeV Collaboration Council, 1991-present; Governance Task Force, 1997

Member, Search Committee for the twelfth President of Elmhurst College, 1993-94.

Member, Working Group on *Kaons at the Main Injector* (KAMI), Fermi National Accelerator Laboratory, 1990-1991.

Member, Special Review Committee for Parity Violation Program, TRIUMF, Vancouver, British Columbia, 1986.

Consultant, possible uses for Argonne National Laboratory muon beam facility, Accelerator Research Facilities Division, Argonne National Laboratory, 1979-1980.

Consultant, data acquisition, Solar Energy Group, Argonne National Laboratory, 1975-1977.

Member, Zero Gradient Synchrotron Technical Advisory Panel on Polarized Beam Utilization, 1976-1977.

Member, University of Chicago Committee on Non-Faculty Academic Appointments, 1975-1977.

Member, Zero Gradient Synchrotron New Spectrometer Study Committee, 1974-1975.

Reports and Contributed Papers:

Author or coauthor of over 100 additional technical reports and contributed papers on experimental elementary particle physics, elementary particle phenomenology, instrumentation, higher education, and physics instruction.

Elmhurst College Institutional Activities:

Founding Director, Center for Scholarship and Teaching, 2008 - 2011.

Faculty Personnel Board, 2004 - 2007; 2010, 2011, 2012.

Faculty Development Committee, 1999 - 2011; Chairperson, 2000 - 2011.

Coordinator, *New Faculty Mentoring*, 1999 - 2011.

Co-Coordinator, *36th Annual ACCA Student Symposium*, April 5, 2003.

Co-Coordinator, *35th Annual ACCA Student Symposium*, April 13, 2002.

Elmhurst College Institutional Activities (continued):

Coordinator, *34th Annual ACCA Student Symposium*, April 7, 2001.

Special Task Force on New Faculty Mentoring, continuing member.

Office of Diversity Education Advisory Committee, 2001 - 2004.

Faculty Appeals Board, 2000 - 2003.

Student Success Task Force.

Committee on Diversity; Chairperson, 1996-97.

Governance Task Force.

College Council, two Terms; Chairperson, 1994-95.

Faculty Liaison, *Council on Undergraduate Research*.

Education Subcommittee, *AIDS Memorial Quilt Project*.

Faculty participant in *Associated Colleges of the Chicago Area (ACCA)*, past Student Symposium Coordinator.

Search for twelfth President of Elmhurst College.

Admissions, Retention, and Financial Aid Committee, led first analysis of CIRP data.

Child Care Task Force.

Search for Director of Multi-cultural Affairs.

Faculty Council, two Terms as Chairperson.

Brought Dr. Walter E. Massey, Dr. Robert G. Sachs, and author Sara Paretsky to Elmhurst College as Honorary Degree recipients.

Academic Council, as Division Chairperson.

First Computer Acquisition Task Force.

College Honors Committee, past Chairperson, a leader in creation of the renewed *College Honors Program*, mentored first Elmhurst College Fulbright Scholar.

Ad Hoc Committee on Computing Resources.

Educational Resources Subcommittee for North Central Association Self-study.

Intellectual and Cultural Life Committee