James A. Newell, Ph.D.

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Education

Ph.D.	Clemson University	Chemical Engineering	1994
M.S.	Penn State University	Chemical Engineering	1990
B.S.	Carnegie Mellon University	Chemical Engineering and Biomedical Engineering (double major)	1988

Professional Experience

Provost – Rowan University, Glassboro, NJ July 2011 – present

- Led Rowan University from a Master's Classified Institution with annual external research funding of less than $5M per year to a Research-2 University with external research funding projected to exceed $43M in FY19.
- Managed Academic Affairs through an expansion from just over 10,000 students in 2011 to 19,500 students in Fall 2018 (including over 14,000 FTE undergraduates)
- Played a critical role in the development of our new M.D.-granting medical school which graduated its first class in 2017 and received full LCME accreditation.
- Helped direct the integration of Rowan School of Osteopathic Medicine into Rowan University following the dissolution of UMDNJ.
- Hired over 240 new tenure track faculty over eight years.
- Negotiated with the Faculty Union (AFT) the creation of a new fulltime non-tenure track teaching line entitled "Lecturers." In three years, I have hired over 130 new lecturers in addition to the tenure track lines.
- Created a new School of Earth and Environment with new programs in Geology and Environmental Sciences that has become the college with highest per capita research funding in the university. The associated new Ric and Jean Edelman Fossil Park received a $25M donation to launch.
- Was the primary author of a proposal that provided for a 75%-state funded, new $70M engineering building.
- Have doubled the rate of international applications at the university while forging new partnerships in China, Japan, India, Turkey, and the Philippines.
- Led all of Academic Affairs including six academic colleges (Engineering, Business, Education, Humanities and Social Sciences, Communication and Creative Arts, Performing Arts, and Science and Mathematics), two schools (Earth and Environment and Health Professions), two Medical Schools (Rowan School of Osteopathic

Medicine and Cooper Medical School of Rowan University), libraries across three campuses, the registrar, assessment, the Honors College, and a School of Health Sciences that exists as a joint venture between Rowan and Rutgers-Camden.
- Launched the first three Ph.D. programs in the history of Rowan University-Engineering, Clinical Psychology, and Education.
- Evolved the honors program into an Honors College and hired its founding dean while increasing the size from less than 250 to over 400 students.
- Developed a new tuition and funding model for graduate education that stimulated research growth.
- Oversaw the faculty practice plan for Rowan Medicine, reversing three years of declining revenue and profits, and achieving top line growth and profit within my first year.
- Worked closely with development, including serving as the lead contact with a donor that led to a $500,000 gift, and have participated actively in larger fund raising initiatives that have led to gifts of $35M, $15M, and $3M.
- Managed the total academic affairs budget ($131.4M in FY19), Cooper Medical of Rowan University budget ($35.7M) and the School of Osteopathic Medicine budget ($141.7) for a total budgetary responsibility of $308.9M.
- Developed, had approved, and launched 39 new Bachelors' degree programs and 25 new Master's level programs between 2011 and January 2019. A full list is available upon request.
- Created a new micro-credential, the Certificate of Undergraduate Studies (CUGS), that allowed students to create differentiation within majors and non-matriculating students to develop stackable credentials that could stand alone or culminate in an eventual degree
- Helped drive a transformation in our partnerships with our primary county college feeders who changed their names to Rowan College of Gloucester County and Rowan College of Burlington County. Helped develop a new "3+1" degree model in which our partner colleges taught the third-year curriculum at the county college tuition rate in selected majors with Rowan University faculty teaching the fourth year.
- Served as a primary presenter at every accepted student event and at freshman orientation, totaling over 20 events per year.
- Developed and maintained highly positive and productive relationships with both the University Senate and the faculty union which enabled most issues to be resolved before formal grievances were necessary and allowed for innovation.

Associate Provost for Academic Affairs – Rowan University July 2007 – June 2011

- Developed the first true academic home for undeclared student – a highly successful exploratory studies program with a meaningful first year experience.
- Managed the Office of the Registrar, ROTC, the Faculty Center for Teaching Excellence, the Honors program, and the International Center.
- Expanded the Honors program from a small entity housed within the College of Liberal Arts and Sciences to a university-wide program.

- Oversaw the University Academic Integrity Violation Process (including convening and serving as moderator of all hearings), the grade grievance process, and all student complaints against faculty, excluding sexual harassment and Title IX violations.
- Handled all parental calls and complaints that came to either the President's or Provost's offices.

University Senate President – Rowan University July 2006 – June 2007

- Restored a sense of trust and cooperation between the faculty and the administration that had been compromised by a conspiracy-minded senate president and an ineffective and unpopular short-term provost.
- Led the faculty through the development and integration of our new extension college which included the development of online courses for the first time and the development of a new revenue sharing model.

Faculty Member – Rowan University Department of Chemical Engineering

Professor September 2002 - June 2007

Associate Professor September 1998 – August 2002

Faculty Member – University of North Dakota Department of Chemical Engineering

Assistant Professor August 1995 – July 1998

Visiting Faculty Member – Clemson University

Visiting Assistant Professor August 1994 – July 1995

Awards and Recognitions

- Received the 2005 William Corcoran Award for Best Paper in *Chemical Engineering Education*.

- Received the Ray M. Fahien award for contributions to Chemical Engineering Education by the Chemical Engineering Division of the American Society for Engineering Education, June 2001.

- Received the award for Best Paper in Professional Interest Council III (PIC-III) at the National Meeting of the American Society for Engineering Education, June 2001.

- Elected as Secretary/Treasurer of the Chemical Engineering Division of the American Society for Engineering Education, June 2000.

- Elected as a Director of the Chemical Engineering Division of the American Society for Engineering Education, June 1998.

- Named "Dow Outstanding New Faculty Member" of the North Midwest Section by the American Society for Engineering Education, June 1997.

- Nominated by Chemical Engineering students for Master Teacher Award, Clemson University, 1994.

- Received American Carbon Society's Mrozowski award for the best student paper presentation at the 21st Biennial Conference on Carbon, July 1993.

- Received Honorable Mention for Presentation at the 1993 Southeastern Graduate Polymer Symposium, May 1993.

Publications

Textbook

J. A. Newell, Essentials of Modern Materials Science and Engineering, John Wiley and Sons, 2009.

Textbook Chapters

D. D. Edie, J. J. McHugh, and J. A. Newell, "Spinning of Carbon Fiber Precursors," in *The Science of Carbon Materials*, Elsevier Science (1999).

Refereed Journal Articles (* indicates Dr. Newell's Undergraduate Student, ** indicates Dr. Newell's Graduate Student)

31. K. Dahm, J. A. Newell, R. Harvey, and H. Newell, "The Impact of Structured Writing and Developing Awareness of Learning Preferences on the Performance and Attitudes of Engineering Teams," *Advances in Engineering Education*, **1**, 1-17, (2009).

30. *J. D'Aloia, J. Newell, *D. Santino, *C. Hill, C. Del Vecchio, and K. Russell "Enhancement of the Compressive Strength of Kevlar 29/Epoxy Resin Unidirectional Composites," *High Performance Polymers*, **20** (3), 357-364 (2008).

29. J. A. Newell, "Survivor: A Method for Active Learning in the Classroom that Addresses Student Motivation," *Chemical Engineering Education*, **39**(3), 228-231 (2005).

28. J. A. Newell, K. D. Dahm. R. Harvey and H. L. Newell, "Developing Metacognitive Engineering Teams," *Chemical Engineering Education,* **38**(4), 316-320 (2004).
* Won Corcoran Award for Best Paper in *Chemical Engineering Education* *

27. *D. J. Sweeney and J. A. Newell, "A Non-Empirical Approach to Modeling the Fracture of Kevlar-29 Fiber in Recoil Compression," *High Performance Polymers*, **17** (2), 277-292 (2005).

26. J. A. Newell, "Carbon Fibers", in *The Encyclopedia of Polymer Science and Technology, 3rd edition,* John Wiley and Sons, New York, (2004)

25. J. A. Newell and D. D. Cleary, "Using an Undergraduate Materials Research Project to Foster Multidisciplinary Teaming Skills," *Journal of STEM Education,* **5** (1-2), 18-23 (2004).

24. * M. Spence, J. A. Newell, *M. Lynch, *C. Mattson and *J. Demetrio, "A Comparative Analysis of Techniques used to Estimate the Mean Recoil Compressive Strength of High Performance Polymers" *High Performance Polymers*, **16**, 381-390 (2004).

23. J. A. Newell, H. L. Newell, and K. D. Dahm, "Rubric Development for Assessment of Undergraduate Research: Evaluating Multidisciplinary Team Projects," *Chemical Engineering Education*, **38** (1), pp. 68-73 (2004).

22. **J. W. Downing, Jr. and J. A. Newell, "Characterization of Structural Changes in Thermally Enhanced Kevlar-29 Fibers," *Journal of Applied Polymer Science*, **91** (1), pp. 417-424 (2004).

21. D. D. Cleary, J. A. Newell, *C. D. Cassino, R. Tortorice and **B. Tyers, "Effect of Elevated Temperature on a Fiber Composite used to Strengthen Concrete Columns," *Journal of Reinforced Plastics and Composites*, **22** (10), pp. 881- 896 (2003).

20. J. A. Newell and *M. Spence, "Novel Applications for High Performance Polymers," *Recent Research Developments in Applied Polymer Science*, **37**, 313-332, (2002).

19. J. A. Newell, *T. J. Kurzeja, *M. Spence, and *M. Lynch, "Analysis of Recoil Compressive Failure in High Performance Polymers Using Two- and Four-Parameter Weibull Models," *High Performance Polymers,* **14** (4), 425-434, (2002).

18. J. A. Newell, **A. A. Puzianowski, and *L. R. Schmidt, "The Influence of E-Beam Radiation on the Tensile and Compressive Strengths of Kevlar-29," *High Performance Polymers*, **14** (2), 133-143 (2002).

17. *D. J. Sweeney, J. A. Newell, *S. Picerno, and *T. Kurzeja, "Influence of Thermal Treatment Conditions on the Recoil Compressive Strength of Kevlar-29 Fibers," *High Performance Polymers*, **14** (2), 145-153 (2002).

16. J. A. Newell, K. D. Dahm and H. L. Newell, “Rubric Development and Inter-Rater Reliability Issues in Assessing Learning Outcomes,” *Chemical Engineering Education*, **36** (3), 212-215 (2002).

15. S. H. Farrell, J. A. Newell, and M. J. Savelski, “Teaching Product Design through the Investigation of Commercial Beer,” *Chemical Engineering Education*, **36** (2), pp. 108-113 (2002).

14. J. A. Newell and **J. M. Gustafson, "An Improved Interpretation of Recoil Compressive Failure Data for High Performance Polymers," *High Performance Polymers*, **13** (2), pp. 251-257 (2001).

13. J. A. Newell, S. H. Farrell, R. P. Hesketh, and C. S. Slater, "Introducing Emerging Technologies into the Curriculum through a Multidisciplinary Research Experience," *Chemical Engineering Education*, **35** (4) pp. 296-299 (2001).

12. S. H. Farrell, R. P. Hesketh, J. A. Newell, and C. S. Slater, "Introducing Freshmen to Reverse Process Engineering and Design through Investigation of the Brewing Process," *The International Journal of Engineering Education*, **17** (6), pp. 588-592 (2001).

11. K. D. Dahm and J. A. Newell, "Baseball Stadium Design: Teaching Engineering Economics and Communication in a Multi-Disciplinary Setting," *Journal of SMET Education* **2** (1), pp. 9-12 (2001).

10. J. A. Newell, "The Business Meeting - An Alternative to the Classic Design Presentation," *Chemical Engineering Education* **35** (2), 104-106 (2001).

9. J. A. Newell, H. L. Newell, T. C. Owens, J. Erjavec, R. Hasan, and S. P. K. Sternberg, "Issues in Developing and Implementing an Assessment Plan in Chemical Engineering Departments," *Chemical Engineering Education* **34** (3), 268-271 (2000).

8. J. A. Newell, A. J. Marchese, R. P. Ramachandran, B. Sukumaran, and R. Harvey, "Multi-Disciplinary Design and Communication: a Pedagogical Vision," *International Journal of Engineering Education* **15** (5), 376-382, (1999).

7. J. A. Newell and *M. T. Sagendorf, “Experimental Verification of the End-Effect Weibull Model as a Predictor of the Tensile Strength of Kevlar-29 at Different Gauge Lengths," *High-Performance Polymers* **11**, 297-305 (1999).

6. J. A. Newell and **A. A. Puzianowski, “Development of a Pneumatic Spreading System for Kevlar-Based Carbon Fiber SiC Precursor Tows,” *High-Performance Polymers* **11**, 197-203 (1999).

5. J. A. Newell, “Using Peer Review in the Undergraduate Laboratory,” *Chemical Engineering Education* **32** (3), 194-196 (1998).

4. J. A. Newell, D. K. Ludlow, and S. P. K. Sternberg, "Development of Oral and Written Communication Skills Across an Integrated Laboratory Sequence," *Chemical Engineering Education* **31** (2), 116-119 (1997).

3. J. A. Newell, D. D. Edie, and E. L. Fuller, Jr., "The Kinetics of Carbonization and Graphitization of PBO Fiber," *Journal of Applied Polymer Science* **60**, 825-833 (1996).

2. J. A. Newell and D. D. Edie, "Factors Limiting the Tensile Strength of PBO-Based Carbon Fibers," *Carbon* **34**(5), 551-560 (1996).

1. J. A. Newell, D. K. Rogers, D. D. Edie, and C. C. Fain, "Direct Carbonization of PBO Fiber," *Carbon* **32**(4), 651-658 (1994).

Technical Reports

"Development of an Air-Comb Spreading System for SiC Precursor Tows," submitted to IHPTET Fiber Development Consortium, September 1996.

Editorial Reviews

Engineered Materials Handbook, American Society of Materials, April 2001.

Conference Presentations

National and International – Refereed

J. A. Newell, K. D. Dahm, R. Harvey, and H. L. Newell, "Developing Metacognitive Engineering Teams," Innovation, Good Practice, and Research in Engineering Education, Wolverhampton, England, June 2004.

J. A. Newell and K. D. Dahm, "Developing Metacognitive Engineering Teams – Preliminary Results," ASEE National Meeting, Salt Lake City, UT, June 2004.

J. A. Newell, "Survivor: A Method for Active Learning in the Classroom that Addresses Student Motivation," ASEE National Meeting, Salt Lake City, UT, June 2004.

J. A. Newell, "Developing Metacognitive Engineering Teams," ASEE National Meeting, Nashville, TN, June 2003.

J. A. Newell and K. D. Dahm, "Rubric Development for Assessment of Multidisciplinary Team Projects," ASEE National Meeting, Nashville, TN, June 2003.

R. Harvey, K. Hollar, D. Hutto, A. Marchese, and J. Newell, "Models for Integrating Writing Instruction into the Engineering Curriculum: The Team-Taught Integrated Writing and Design Course at Rowan University," Nashville, TN, June 2003.

J. A. Newell, K. D. Dahm and H. L. Newell, “Rubric Development and Inter-Rater Reliability Issues in Assessing Learning Outcomes,” ASEE National Meeting, Montreal, Canada, June 2002.

J. A. Newell, S. H. Farrell, R. P. Hesketh, and C. S. Slater, " Introducing Emerging Technologies into the Curriculum through a Multidisciplinary, Industrially-Sponsored Research Experience," ASEE National Meeting, Albequerque, June 2001.

K. Dahm and J. Newell, “Baseball Stadium Design: Teaching Engineering Economics and Technical Communication in a Multidisciplinary Setting,” ASEE National Meeting, Albequerque, June 2001. *** WON PIC-III BEST PAPER AWARD ***

R. Hesketh, D. Dorland, C. Slater, S. Farrell, M Savelski, K. Hollar, K. Dahm and J. Newell, “Applying Green Engineering Throughout the Curriculum” ASEE National Meeting, Albequerque, June 2001.

J. A. Newell, "The Business Meeting - An Alternative to the Classic Design Presentation," ASEE National Meeting, St. Louis, June 2000.

J. A. Newell and M. T. Sagendorf, "Experimental Verification of the End-Effect Weibull Model," Carbon ‘99, 24th Biennial Conference on Carbon, Charleston, SC, July 1999.

J. Newell, H. Newell, J. Erjavec, R. Hasan, T. Owens, and S.P.K. Sternberg, "A Process for Developing and Implementing an Assessment Plan in Chemical Engineering Departments," ASEE National Meeting, Charlotte, June 1999.

A. J. Marchese, J. A. Newell, R. P. Ramachandran, B. Sukumaran, J. L. Schmalzel, and J. Mariappan, "The Sophomore Engineering Clinic: An Introduction to the Design Process through a Series of Open Ended Problems," ASEE National Meeting, Charlotte, June 1999.

R. P. Hesketh, S. Farrell, C. S. Slater, Z. Keil and J. Newell, "Outreach and Recruitment to Attract Students to Chemical Engineering: Fermenting Students' Interest in Engineering," ASEE National Meeting, Charlotte, June 1999.

*T. L. Ostlie-Dunn, S. R. Mattson, R. Domack, J. A. Newell, and E. I. Kozliak, “Fiber-Based Trickle-Bed Bioreactors for Air Purification,” 1998 USC-TRG Conference on Biofiltration, Los Angeles, October, 1998.

J. A. Newell, “If You Let Them Build It, They Will Come: Use of Hands-On Projects to Enhance Student Interest and Retention,” ASEE National Meeting, Seattle, June 1998.

J. A. Newell, “Lab Sequencing and Peer Review”, presented as part of the Communications Skills Workshop at the ASEE Chemical Engineering Summer School, Snowbird, Utah, August, 1997.

J. A. Newell and A. A. Puzianowski, "Development of a Pneumatic Spreading System for Kevlar-Based Carbon Fiber SiC Precursor Tows," Carbon '97, 23rd Biennial Conference on Carbon, State College, PA, pp. 508-509, July 1997.

J. A. Newell, "The Use of Peer Review in the Undergraduate Laboratory," ASEE National Meeting, Milwaukee, June 1997.

J. A. Newell, "Teaching Data Analysis Techniques using Practical Polymer Examples," ASEE National Meeting, Washington D. C., June 1996.

J. A. Newell, D. D. Edie and E. L. Fuller, Jr., "A Kinetic Model for the Carbonization of PBO Fiber," Carbon '95, 22nd Biennial Conference on Carbon, San Diego, pp. 40-41, July, 1995.

J. A. Newell and D. D. Edie, "The Influence of Precursor Flaws and Nitrogen Puffing on the Tensile Failure of PBO-Based Carbon Fibers," Carbon '94, Granada, Spain, pp. 676-677, July, 1994.

J. A. Newell, D. K. Rogers, D. D. Edie, and C. C. Fain, "Carbonization of PBO Fibers," 21st Biennial Conference on Carbon, Buffalo, pp. 240-241, June, 1993.

<u>National – Non-Refereed</u>

J. A. Newell, D. K. Ludlow, and S. P. K. Sternberg, "A Strategic Implementation of Oral and Written Presentations Across an Integrated Laboratory Sequence," AIChE Annual Meeting, Chicago, November 1996.

*F. S. Philbrick and J. A. Newell, "Enhanced Compressive Strengths of High-Performance Polymers through Heat-Treatment," AIChE National Meeting, Chicago, November 1996.

J. A. Newell and *A. A. Puzianowski "Development of a Pneumatic Spreading System for Kevlar-Based SiC Precursor Fibers," AIChE National Meeting, Chicago, November 1996.

**M. T. Sagendorf and J. A. Newell, "Verification of the End-Effect Weibull Model," AIChE National Meeting, Chicago, November 1996.

**S. Mattson, J. Newell, and E. Kozliak, "Development of a Trickle-Bed Bioreactor for Air Purification," AIChE National Meeting, Chicago, November 1996.

J. A. Newell and D. D. Edie, "Factors Limiting the Tensile Strength of PBO-Based Carbon Fibers ," Paper 207f, AICHE Annual Meeting, San Francisco, November, 1994.

J. A. Newell and W. R. Curtis, “Optimization of Secondary Metabolite Production from Plant Tissue Culture Combining Nutrient Limitation and Fungal Elicitation,” Paper 70E, AICHE Annual Meeting, San Francisco, November, 1989.

Regional

**D. Sweeney, S. Picerno, B. Tyers and J. Newell, “Influence of Thermal Treatment on the Compressive Properties of Kevlar,” 2001 AIChE MidAtlantic Regional Meeting, Morgantown, West Virginia, April 2001.

**T. J. Kurzekja, B. Wissel, and J. Newell, “Statistical Modeling of Recoil Compressive Failure in High Performance Polymers,” 2001 AIChE MidAtlantic Regional Meeting, Morgantown, West Virginia, April 2001.

R. Harvey, F. Johnson, A. Marchese, J. Mariappan, R. Ramachandran, and B. Sukumaran, and J. Newell, "Teaching Quality: An Integrated TQM Approach to Technical Communication and Engineering Design", 1999 Regional ASEE Meeting, Monmouth, April 1999.

**C. Cassino, T. Francis, M. Ciarlante, and J. Newell, "Thermal Processing of Kevlar Fibers," Regional AIChE Meeting, Newark, DE, March 1999.

**C. Cassino, T. Francis, T. Priestley, and J. Newell, "Thermal Processing of Kevlar Fibers," 1999 Delaware Valley Engineers Week Student Paper Competition, Widener, PA, February 1999.

**L. R. Schmidt and J. A. Newell, “The Effects of Electron-Beam Radiation on the Compressive and Tensile and Strengths of Kevlar Fibers,” 40th Annual Regional Symposium, AIChE-Twin Cities Section, St. Paul, MN, March 1998

**R. Domack , J. A. Newell, and E. I. Kozliak, “The Influence of Matrix Material on the Bioremediation of Volatile Organic Compounds (VOCs) Using a Trickle-Bed Bioreactor,” 1998 Rocky Mountain Regional AIChE Conference, Fort Collins, Colorado, March 1998.

*Jodi M. Gustafson and James A. Newell, “Development of an Improved Method to Interpret Recoil Compressive Failure Data,” 1998 Rocky Mountain Regional AIChE Conference, Fort Collins, Colorado, March 1998.

**K. Kuether, J. Newell, and E. Kozliak, “Gas-Phase Mercury Chloride Removal with a Trickle-Bed Bioreactor,” 1998 Rocky Mountain Regional AIChE Conference, Fort Collins, Colorado, March 1998.

J. A. Newell and F. Philbrick, "Enhancement of the Compressive Strength of Kevlar Fiber Through Thermal Crosslinking," Joint North Dakota/South Dakota State EPSCoR Conference, Brookings, SD, September 1997.

**M. T. Sagendorf and J. A. Newell, "Verification of the End-Effect Weibull Model," Midcontinent Undergraduate Research Conference and Competition, Minot, ND, February 1997.

**S. Mattson, J. Newell, and E. Kozliak,"Development of a Trickle-Bed Bioreactor for Air Purification," Midcontinent InstituteUndergraduate Research Conference and Competition, Minot, ND, February 1997.

J. A. Newell, D. K. Ludlow, and S. P. K. Sternberg, "Progressive Development of Oral and Written Presentation Skills Across an Integrated Laboratory Sequence," ASEE Northwest Regional Meeting, Fargo, ND, October 1996.

J. A. Newell, "Carbon Fibers From High-Performance Polymers," 38th Annual Regional Symposium, AIChE-Twin Cities Section, St. Paul, MN, February 1996.

**M. T. Sagendorf and J. A. Newell, "Development of an Experimental Method to Verify the End-Effect Weibull Model," Midcontinent Undergraduate Research Conference and Competition, Minot, ND, April 1996.

J. A. Newell, D. D. Edie, and J. J. McHugh, "The Development of Structure During the Spinning of Liquid Crystalline Materials," Polymer Processing Society Regional Meeting for the Americas, Morgantown, WV, August, 1993.

D. D. Edie, J. J. McHugh, and J. A. Newell, "Development of Structure During the Extrusion of Liquid Crystals," Paper 5b, Fiber Producer Conference, Greenville, SC, May 1993.

J. A. Newell, D. D. Edie and C. C. Fain, "The Direct Carbonization of PBO Fibers," Southeastern Graduate Polymer Symposium, Atlanta, March, 1993.

Invited Lectures

J. A. Newell, "Research and Undergraduate Education are Not Antonyms," Rose-Hulman Institute of Technology, February 1998.

J. A. Newell, "High-Performance Polymers as Precursor Materials: Carbon Fibers and Beyond," Florida Institute of Technology, October 1997.

J. A. Newell, "High-Performance Polymers as Precursor Materials: Carbon Fibers and Beyond," University of Missouri-Rolla Chemical Engineering Seminar Series, October 1997.

J. A. Newell, "High-Performance Polymers as Precursor Materials: Carbon Fibers and Beyond," NDSU Polymers and Coatings Distinguished Lecture Series, October 1996.

J. A. Newell, "Development of a Venturi-Effect Spreading System for Kevlar-Based Carbon Fibers," IHPTET Fiber Consortium Meeting, Chicago, IL, July 22, 1996.

J. A. Newell, "The Development of an Air-Comb Spreading System for SiC Precursor Fiber Tows," IHPTET Fiber Consortium Meeting, Cocoa Beach, FL, January 22, 1996.

J. A. Newell, "The Conversion of a High-Performance Polymer (PBO) to Carbon Fiber," Department of Chemical Engineering, Auburn University, March 6, 1995.

J. A. Newell, "The Conversion of a High-Performance Polymer (PBO) to Carbon Fiber," Polymer Division, Exxon Chemical Company, Baytown, Texas, March 2, 1995.

J. A. Newell, "The Conversion of a High-Performance Polymer (PBO) to Carbon Fiber," Department of Chemical Engineering, Louisiana State University, December 19, 1994.

J. A. Newell, "The Carbonization Behavior of PBO-Fiber," School of Materials, University of Leeds, England, December 13, 1993.

Grants, Contracts, and Gifts Received (Total as PI or Co-PI $3,466,922 including match)

Federal or State Grants

1."Development of Metacognitive Engineering Teams through Selected Cognitive Writing Exercises and Understanding Learning Preferences", NSF Engineering Education, (Co-PI), $130,773. July 2004.

Project focused on making students aware of how their learning preferences impacted the nature of team dynamics and effective communication between members. The resulting paper won the Corcoran Award for the best paper in the journal *Chemical Engineering Education.*

2. **"**Hands-on Learning in an Interdisciplinary Material Science Curriculum", NSF –CCLI, (Co-PI) $68,920, June 2001.

Grant submitted by Cleary, Newell, Von Lockette and Kadlowec to upgrade materials test equipment to enable large scale testing to be used in attracting junior/senior clinic projects and be demonstrated in classes. Newell and Kadlowec had pending CCLIs and so were ineligible to serve as PI on this grant.

3. "Expanding the Educational Opportunities for Undergraduates in the Study of Advanced Materials for Commercial Applications," (Co-PI) New Jersey Commission on Higher Education, $1,400,000 external ($1,900,000 total), June 2001.

The grant focused on the acquisition of cutting edge equipment including a field emission SEM to better prepare New Jersey students to enter the high tech workforce. Since most equipment is to be housed in the new science building, a Chem/Phys person was selected as PI. My role included submission of a detailed polymeric research plan, involvement in

the summer workshops to train teachers, and development of all assessment activities in the grant.

4. “Acquisition of Funds for NMR Instrumentation to Enhance Undergraduate Research and Course Instruction at Two Institutions in South Jersey” (Co-PI), NSF-MRI, $280,140, May 2001.

Two engineers (Newell and Dahm) joined two chemistry/physics professors in proposing research activities that could be enhanced with improved MRI capabilities.

5. "Application of Hierarchical Cognitive Model to Education of Undergraduate Engineering Students," (Co-PI), submitted to NSF CCLI Program, June 1999, $492,184 (submitted jointly with Clemson University).

This grant is a large, multi-university effort to examine the influence of inductive learning in teaching chemical engineering students. My role was to develop a plan for assessing Rowan University students before and after inductively taught courses, to provide a baseline of comparison to the Clemson data. Rowan University received $14,000 plus licenses to use four distinct learning styles and personality indexes on all chemical engineering students.

6. “Novel Approach for Prevention and Control of Trace Metals and Other Hazardous Air Pollutants: Task 2 - Metal and VOC Removal from Gas Streams by Novel Filter-Based Trickle-Bed,” (Co-PI), U.S. Environmental Protection Agency, August 1997, Received $45,000.

This grant was a partnership with Yuvguenii Kozliak, a chemist specializing in bacterial bioremediation. Kozliak provided the bacterial expertise. I designed the chemical reactor and examined the influence of the polymer used in the filter.

7. “Renovation of Harrington Hall,” submitted to NSF Academic Research Infrastructure Program, March 1996, (Co-PI), Received $138,000.

This proposal was a joint effort of chemical engineering professor Steve Sternberg (the PI), a member of Geological engineering, and me to gain funding to refit an abandoned DOE lab on the second floor of the engineering building as a common-use analytical laboratory. Funding included cost of labor and money to purchase equipment including spectrophotometers, a microscopy system and analytical balances.

8. “The Development of an Air-Comb Spreading System for Spreading of SiC-Precursor Tows,” IHPTET Fiber Consortium, December 1995, Received $42,916.

This grant, on which I was the only investigator, received money to develop a new method of producing Silicon Carbide fibers. IHPTET is a joint venture of five turbine engine companies that functions from Department of Defense flow down dollars. The grant resulted in a technical report and a refereed journal article.

9. “Improved Manufacture of High-Performance Composites Using Kevlar,” submitted to the ND-EPSCoR Office, December 1995, Received $20,000.

I was the sole investigator on this grant which bought an Instron Tensile testing machine and supported a graduate student. Several publication have resulted from this NSF EPSCoR sponsored grant.

10. “Portfolio Development for Chemical Engineering Undergraduates,” submitted to NSF-Sponsored Writing Across the Curriculum, October 1995, Received $2,000.

I was the sole PI on this proposal that provided $2000 to develop a plan to integrate a design portfolio across the chemical engineering curriculum.

Equipment Acquisition

1. "ERLE Grant for a Universal Test System," U. S. Department of Energy, November 1999, $239,983.

ERLE (Energy-Related Laboratory Equipment) is a program by which University professors can request used but fully functional equipment from DOE labs. The PI writes a brief (2-3 page) description of plans for the equipment. If accepted, the PI receives the equipment for the cost of shipping and is responsible to generate a follow-up report on the use of the equipment. Because the shipping costs constitute a “match”, the request must pass through the Rowan University Sponsored Research office, gain all University signatures and is given a formal grant number. The value of the equipment is provided by DOE.

2. "Acquisition of Polymeric Materials Characterization Equipment," Sony Corporation, June 2000, $42,215.

Paris Von Lockette and I arranged for the donation of many pieces of materials testing equipment from Sony including temperature baths, rheometers, viscometers, and plastometers. The value of the equipment was provided by Sony and approved by the Rowan Foundation.

3. "Acquisition of Two Applied Test Systems, Series 2330 Creep Machines," Mobil Technology Company, May 1999, Received $29,300

T.R. Chandrupatla and I arranged for the donation of the creep stands from Mobil in Paulsboro.

4. “ERLE Grant for a Graphite Furnace,” submitted to U. S. Department of Energy, October 1995, Received $5,491.

See description of the ERLE program above

M. S. Projects Completed:

Fernanda Santos Philbrick - "Enhancing Compressive Strengths of High-Performance Polymers", University of North Dakota, December 1996.

Allan Puzianowski - " Development of a Pneumatic Spreading System for Spreading of SiC-Precursor Tows", University of North Dakota, December, 1996.

Tanim Ahmed - "Statistical Analysis of Compressive Failure in High-Performance Polymers", University of North Dakota, December 1997.

Jodi Gustafson - "Improved Recoil Compressive Strengths through Partial Crosslinking of High-Performance Polymers", University of North Dakota, August 1998.

Brad Tyers – "Thermal Enhancement of Kevlar Fibers," Rowan University, May 2001.

James Downing – "Mechanistic Analysis of the Thermal Treatment of Kevlar", Rowan University, December 2001.

Senior Honors Thesis Projects Completed:

Jodi Gustafson - "A Novel Approach to Recoil Compression Testing of High-Performance Polymers," University of North Dakota, May 1997.

Steve Mattson - "Development of a Trickle-Bed Bioreactor," University of North Dakota, May 1997.

Matthew Sagendorf - "Experimental Verification of the End-Effect Weibull Model for the Tensile Failure of Carbon Fibers", University of North Dakota, May 1997.

Ryan Domack - "The Influence of Matrix Material on the Bioremediation of Volatile Organic Compounds (VOCs) Using a Trickle-Bed Bioreactor," University of North Dakota, May 1998.

Kaleb Kuether - "Design and Construction of a Trickle-Bed Bioreactor for Mercury Removal," University of North Dakota, May 1998.

Lucas Schmidt - "The Effects of Electron-Beam Radiation on the Compressive and Tensile and Strengths of Kevlar Fibers," University of North Dakota, May 1998.

Other Thesis Committees:

Peter Argument, M.S. Thesis, University of North Dakota, Chemical Engineering, 1996
Heidi Hitchcock, M.S. Thesis, University of North Dakota, Chemical Engineering, 1996
Theo Kestner, M.S. Thesis, University of North Dakota, Chemical Engineering, 1998

Teaching Evaluations

Summary of Course Evaluations at Rowan University

Semester	Class	Number Responding	Score (of 5) (to the question *Considering everything, how would you rate this teacher*
Spring 2003	Principles of Chemical Processes II	13	4.85
Spring 2003	Freshman Clinic II – Section	18	4.67
Fall 2002	Polymer Engineering	17	4.82
Fall 2002	Intro to Humanities	17	4.65
Fall 2002	Materials Science	13	4.62
Spring 2002	Principles of Chemical Processes II	14	4.93
Spring 2002	Freshman Clinic II – Section 5	15	4.87
Fall 2001	Transport Phenomena	10	4.90
Fall 2001	Material Science	21	4.62
Spring 2001	Principles of Chemical Processes II	20	4.80
Spring 2001	Freshman Clinic II – Section 5	14	4.57
Fall 2000	Transport Phenomena	13	4.85
Fall 2000	Material Science	10	4.70
Spring 2000	Freshman Clinic II - Section 3	17	4.76
Spring 2000	Principles of Chemical Processes II	7	4.71
Fall 1999	Polymer Processing	17	4.47
Fall 1999	Engineering Materials I	12	4.92
Spring 1999	Sophomore Clinic II - Section 3	10	4.60
Spring 1999	Sophomore Clinic II - Section 4	16	4.88
Spring 1999	Engineering Materials I	19	4.68
Fall 1998	Engineering Materials I	20	4.53
Fall 1998	Sophomore Clinic I	54	4.52

Cumulative Average = 4.68/5.00

Summary of Course Evaluations at the University of North Dakota

Semester	Class	Number Responding	Score (of 5) to the question *Overall Rating of Teacher*
Spring 1998	Engineering Economics	29	4.41
Spring 1998	Introduction to Chemical Engineering	12	4.42
Spring 1998	Chemistry of Engineered Materials	7	4.57
Fall 1997	Chemical Engineering Lab II	24	4.29
Fall 1997	Advanced Transport Phenomena	8	4.38
Spring 1997	Engineering Economics	14	3.86
Spring 1997	Introduction to Chemical Engineering	36	4.42
Spring 1997	Chemistry of Engineered Materials	5	4.20
Fall 1996	Chemical Engineering Lab II	25	4.04
Fall 1996	Readings in Chemical Engineering	9	4.89
Summer 1996	Engineering Economics	10	4.40
Spring 1996	Plant Design		No formal evaluation made
Spring 1996	Advanced Transport Phenomena	6	4.83
Spring 1996	Special Topics	8	4.38
Fall 1995	Chemical Engineering Lab II		No formal evaluation made

Summary of Course Evaluations at Clemson University

Spring 1995	Transport Phenomena	60	4.66
Spring 1995	Numerical Methods in Chemical Eng.	35	4.35

Fall 1995	Numerical Methods in Chemical Engineering	72	4.42
Fall 1995	Introduction to Chemical Engineering	40	4.55
Spring 1994	Introduction to Chemical Engineering	32	4.70*

* Nominated by Students for University-Wide Master Teacher Award

References

Although I am providing a list of specific references, I hereby authorize those involved in the search to contact any person that they wish to discuss my past performance, demeanor, character, and qualifications for the position.

1. Dr. Ali Houshmand, President, Rowan University, Houshmand@rowan.edu, 856-256-4100.

2. Dr. Annette Reboli, Dean, Cooper Medical School of Rowan University, Reboli@rowan.edu, 856-361-2810.

3. Dr. Monika Shealey, Senior Vice President for Equity, Diversity, and Inclusion, Rowan University, Shealey@Rowan.edu, 856-256-4751.

4. Dr. Tom Cavalieri, Dean of the Rowan School of Osteopathic Medicine, Cavalita@rowan.edu, 856-923-6229.

5. Dr. Kenneth Blank, Senior Vice President of Health Sciences (retired), Rowan University, Kenblank99@yahoo.com, (215) 651-1932.

6. Dr. Nawal Ammar, Dean, College of Humanities and Social Sciences, Rowan University, Ammar@Rowan.edu, 856-256-5841.

7. Dr. Sue Lehrman, Dean, Rohrer College of Business, Rowan University, Lehrman@rowan.edu, 856-256-5225.