

Paper Science and Engineering Scholarship Activities 2001

Publications

1. **Almquist, C.B.** and P. Biswas, "A mechanistic approach to modeling the effect of dissolved oxygen in photo-oxidation reactions on titanium dioxide in aqueous systems," *Chemical Engineering Science*, (2001) vol. 56 (11), pp 3421-3430.
2. **Almquist, C.B.** and P. Biswas, "The photo-oxidation of cyclohexane on titanium dioxide: an investigation of competitive adsorption and its effects on product formation and selectivity," *Applied Catalysis a-General*, (2001) vol. 214 (2), pp 259-271.
3. **Lavalle-Castellanos, L.E., Peterson, R.C.** (Advisor), and Sommer, A. "Evaluation of the Use of Infrared Spectroscopy and Multivariate Analysis as Tools for Pulp Characterization," Presented at TAPPI Conference, , Seattle, WA, 36 pp. November 6, 2001
4. **Scott, W.E.** and **Garg, P.** "Potential Application of Predictive Tensile Strength Models in Paper Manufacture: Part I--Development of a Predictive Tensile Strength Model from the Page Equation," Proceedings of 2001 TAPPI Papermakers Conference,, Cincinnati, OH 9 pp. March 12-16, 2001
5. **Scott, W.E.** and **Shirt, R.** "Potential Application of Predictive Tensile Strength Models in Paper Manufacture: Part II – Integration of a Tensile Strength Model with a Dynamic Paper Machine Material Balance Simulation," Proceedings of 2001 TAPPI Papermakers Conference, Cincinnati, OH. 9 pp. March 11-14, 2001
6. **Scott, W.E.** and **Gupta, A.** "Automating the Britt Jar RPM Scan Measurement," Proceedings of 2001 TAPPI Papermakers Conference, March 11-14, 2001, Cincinnati, OH. pp17.
7. **Scott, W.E.** and **Shirt, R.** "Dynamic problems in paper production systems: Development of a Micro-Particle Retention Simulation Model," Proceeding of COST E14 & PTS-Environmental Technology Symposium 2001, Munich, Germany, October 14-16, 2001.
8. **Sikora, M.D.**, "Effect of Mixing Conditions on Wet End Additive Performance," Proceedings of 2001 TAPPI Papermakers Conference, March 12-16, 2001, Cincinnati, OH.
9. **Springer, A.M.** and **Walendzak, D.** Benchmarking the Movement Toward Sustainability in Secondary Fiber Systems- PT 2 "How Does Your Mill Compare To Similar Mills," TAPPI Environmental Conference 2001, Charlotte, NC April 22-25, 2001
10. **Springer, A.M.** , "The Future of Environmental Control Research in the Pulp and Paper Industry," TAPPI Environmental Conference and IBEROAMERICAN Congress on Pulp and Paper Research 2000 Iguazu, Argentina October 18-20, 2000
11. **Waller, M.H.** , "On-Line Papermaking Sensors: An Historical Perspective," in The Science of Papermaking, Transactions of the 12th Fundamental Research Symposium held in Oxford: September 2001, C.F. Baker, ed., The Fundamental Research Society, Bury, Lancashire, vol. 2, pp 785-895, 2001.

12. **Ward, R.F.** , “Municipal Solid Waste Collection, Utilization, and Disposal,” *II Congreso Internacional de Biotecnología Actualidad Y Perspectivas, Arequipa, Peru.* pp 127-148. July 16-20, 2001
13. **Ward, R.F.**, “Wastewater Treatment and Sludge Disposal for a Paper Mill in Hamilton, Ohio,” *II Congreso Internacional de Biotecnología Actualidad Y Perspectivas, Arequipa, Peru.* pp 166-178, July 16-20-2001.

Unrefereed Publications

None

Technical Reports

1. **Sikora, M.D.**, “The role of fiber morphology in developing paper properties influencing market volume” Report to Southworth Company, November, 2001.
2. **Waller, M.H.**, “Design Summary for Tube Manufacturing/Drying,” for Cin-Made Co., Cincinnati, OH, May 2001, 5 pages

Presentations

(some are previously listed as publications)

1. **Lavalle-Castellanos, L.E.** (Presenter), **R.C. Peterson**, and A. Sommer. “Evaluation of the Use of Infrared Spectroscopy and Multivariate Analysis as Tools for Pulp Characterization,” Presented at TAPPI Conference, , Seattle, WA, 36 pp. November 6, 2001
2. **Scott, W.E.** (Presenter), and **Garg, P.** “Potential Application of Predictive Tensile Strength Models in Paper Manufacture: Part I--Development of a Predictive Tensile Strength Model from the Page Equation,” Proceedings of 2001 TAPPI Papermakers Conference, March 12-16, 2001, Cincinnati, OH, 9 pp.
3. **Scott, W.E.** (Presenter) and Shirt, R. “Potential Application of Predictive Tensile Strength Models in Paper Manufacture: Part II – Integration of a Tensile Strength Model with a Dynamic Paper Machine Material Balance Simulation,” Proceedings of 2001 TAPPI Papermakers Conference, March 11-14, 2001, Cincinnati, OH. 9 pp.
4. **Scott, W.E.** (Presenter), and **Gupta, A.** “Automating the Britt Jar RPM Scan Measurement,” Proceedings of 2001 TAPPI Papermakers Conference, March 11-14, 2001, Cincinnati, OH. 17 pp.
5. **Scott, W.E.** (Presenter) and Shirt. R. “Dynamic problems in paper production systems: Development of a Micro-Particle Retention Simulation Model,” Proceeding of COST E14 & PTS-Environmental Technology Symposium 2001, Munich, Germany, October 14-16, 2001.
6. **Sikora, M.D.** (Presenter), “Effect of Mixing Conditions on Wet End Additive Performance,” Proceedings of 2001 TAPPI Papermakers Conference, March 12-16, 2001, Cincinnati, OH.
7. **Sikora, M.D.** (Presenter), “Size Press and Surface Applications Panel Discussion” TAPPI Papermakers Conference, Cincinnati, OH, 2001
8. **Sikora, M.D.** (Presenter), “Personal and Cognitive Development – The Consequences of Dissonance, Disequilibrium, and Decentering,” Miami University CELT Seminar, February, 2001.
9. **Springer, A.M.** (Presenter), “The Future of Environmental Control Research in the Pulp and Paper Industry,” TAPPI Environmental Conference and

IBEROAMERICAN Congress on Pulp and Paper Research, Iguazu, Argentina
October 18-20, 2000

10. **Ward, R.F.** (Presenter), "Municipal Solid Waste Collection, Utilization, and Disposal," *II Congreso Internacional de Biotecnología Actualidad Y Perspectivas, Arequipa, Peru.* Pages 127-148. July 16-20, 2001
11. **Ward, R.F.** (Presenter), "Wastewater Treatment and Sludge Disposal for a Paper Mill in Hamilton, Ohio," *II Congreso Internacional de Biotecnología Actualidad Y Perspectivas, Arequipa, Peru.* Pages 166-178, July 16-20-2001.

Published Reviews

None

External Research Grants, Proposals Submitted (not funded or pending)

1. **Almquist, C.B.** (PI), "An investigation of self-assembled Nano-structured Vanadia/Titania catalysts for de-Nox and VOC oxidation", NSF, December 14, 2001.

External Research Grants Awarded

None

Internal Research Grants Submitted (not funded or pending)

1. **Almquist, C.B.** (PI), "The photo-reduction of carbon dioxide over Nano-structured titanium dioxide. OAST \$3000 grant to promote research.

Internal Research Grants Awarded

None

Theses Completed

1. **Claus, H.B.**, "Feasibility Study of Sludge Lysis and Modified Recycle in the Activated Sludge System", advisor **Allan Springer**, 2001
2. **Lavalle-Castellanos, L.E.**, "Evaluation of the Use of Infrared Spectroscopy and Multivariate Analysis as Tools for Pulp Characterization" advisor **R.C. Peterson**, 2001.
3. **Walendzak, D.**, "Monitoring the Movement Towards Sustainability", advisor **Allan Springer**, 2001

Undergraduate Summer Scholars

None

Other Grants Awarded

1. **Contract Research Awards**, 30 companies, total invoices \$ 92,216.65
2. **Scott, W.E.**, Served as member of an SEAS team that put together a proposal for the President's Academic Enrichment Award. The title of the proposal was *The Fusion Project: Engineering, Computing, Technology, and Liberal Arts Education at Miami.*
3. **Peterson, R.C.**, "All Paper Sail Competition," Department of Energy and Institute of Paper Science and Engineering: Energy Challenge 2002 \$2,000 award. (Note: Competition winner of third place and \$5,000 prize.)

4. **Waller, M.H.**, From the Fundamental Research Society, Bury, Lancashire, U.K., waiver of Fundamental Research Symposium 12 Registration, \$970.