



Publications of Prof Kolomaznik

Selected international monograph chapters

Kolomaznik, K., 2010. Recovery and re-use of chromium from the waste generated by leather industry. In: Management of hazardous residues containing Cr(VI), Nova Science Publisher, New York, 215-228, ISBN: 978-1-61668-267-5.

Kolomaznik, K., Barinova, M., Pecha, J., Janacova, D., 2014. Rationalization of Salt-Related Processes in the Leather Industry as a Tool for Minimization of Their Environmental Impact. In: Advances in Environmental Research Vol. 32, Nova Science Publisher, Inc., Hauppauge, NY, USA, 137-164, ISBN: 978-1-63117-329-5.

Kolomaznik K., Janacova D., Vasek, V., Blaha, A., 2006. Chemical engineering and automatic control in leather technology. In: Advanced technologies Research-Development-Application, ARS International, Vienna, Austria, 475-516.

Honorary Paper:

Ela'mma, A., Kolomaznik, K., 2009. Presentation and acceptance of the 2009 Alsop Award. *Journal of the American Leather Chemists Association* 104(8), 288-289.

Publications in indexed journals (Web of Science)

First author

Kolomaznik, K., Pecha, J. Friebrova, Veronika, Janacova, D., Vasek, V., 2012. Diffusion of biostimulators into plant tissues. *Heat and Mass Transfer* 48(9), 1505-1512.

Kolomaznik, K., Furst, T., Barinova, M., 2010. Non-linear diffusion model for optimization of leather manufacturing: Lime extraction from calcimine. *Chemical Engineering Science* 65(2), 780-785.

Kolomaznik, K., Furst, T., Barinova, M., 2010. Mathematical Simulation of Calcimine Deliming in the Production of Gelatin. *AIChE Journal* 56(7), 1716-1725.

Kolomaznik, K., Pecha, J., Barinova, M., Sanek, L., 2010. Economic aspects of biodiesel production from tannery waste fats. *Journal of the American Leather Chemists Association* 105(10), 327-333.

Kolomaznik, K., Furst, T., Uhlířova, M., 2009. Relationship between mass transport and the quality of cured hide. *Canadian Journal of Chemical Engineering* 87(1), 60-68.

Kolomaznik, K., Uhlirova, M., Furst, T., 2009. Possibility of using tannery waste for biodiesel production. *Journal of the American Leather Chemists Association* 104(5), 177-182.

Kolomaznik, K., Adamek, M., Andel, I., Uhlirova, M., 2008. Leather waste-Potential threat to human health, and a new technology of its treatment. *Journal of Hazardous Materials* 160(2-3), 514-520.

Kolomaznik, K., Bailey, D. G., Taylor, M. M., 2007. Delimiting of un-bonded and bonded lime from white hide. *Journal of the American Leather Chemists Association* 102(5), 158-163.

Kolomaznik, K., Prokopova, Z., Vasek, V., Bailey, D. G., 2006. Development of a control algorithm for the optimized soaking of cured hides. *Journal of the American Leather Chemists Association* 101(9), 309-316.

Kolomaznik, K., Vasek, V., Zelinka, I., Mladek, M., Langmaier, F., 2005. Automatic control of recycling technology for chromium from liquid and solid tannery waste. *Journal of the American Leather Chemists Association* 100(3), 119-123.

Kolomaznik, K., Mladek, M., Langmaier, F., Shelly, D. C., Taylor, M. M., 2003. Closed loop for chromium in tannery operation. *Journal of the American Leather Chemists Association* 98(12), 487-490.

Kolomaznik, K., Mladek, M., Langmaier, F., Janacova, D., Taylor, M. M., 2000. Experience in industrial practice of enzymatic dechromation of chrome shavings. *Journal of the American Leather Chemists Association* 95(2), 55-63.

Kolomaznik, K., Blaha, A., Dederle, T., Bailey, D. G., Taylor, M. M., 1996. Non-ammonia delimiting of cattle hides with magnesium lactate. *Journal of the American Leather Chemists Association* 91(1), 18-20.

Kolomaznik, K., Saha, P., Blaha, A., Janacova, D., Bailey, D. G., 1994. Reduction of waste of tannery industry by recycling of dairy by products. *Journal Of Hazardous Materials* 37(1), 143-151.

Kolomaznik, K., Sara, A., Dolnik, L., Soukup, J., 1978. Optimization of flow in wetted reactor by use of flow redistributors-i. *Collections of Czechoslovak Chemical Communications* 43(4), 1017-1026.

Kolomaznik, K., Soukup, J., Prchlik, J., Zapletal, V., Ruzicka, V., 1974. Liquid distribution in trickle bed reactors .2. Experimental determination of spreading coefficient. *Collections of Czechoslovak Chemical Communications* 39(1), 216-219.

Kolomaznik, K., Soukup, J., Zapletal, V., Ruzicka, V., Vacha, J., 1970. Hydrogenation and dehydrogenation catalysts .6. effect of reduction of nickel catalyst pellets on hydrogenation kinetics modified by transport phenomena. *Collections of Czechoslovak Chemical Communications* 35(3), 819-+.

Kolomaznik, K., Ruzicka, V., Soukup, J., Zapletal, V., 1968. Hydrogenation and dehydrogenation catalysts .2. Dependence of nickel catalyst activity on kieselguhr on reduction conditions. *Collections of Czechoslovak Chemical Communications* 33(8), 2449-+.

Co-author

- Beltran-Prieto, J. C., Kolomaznik, K., 2018. Mathematical model of the bleaching process with chemical kinetics of first and general order. *Reaction Kinetics Mechanisms and Catalysis* 123(2), 485-503.
- Kocurek, P., Kolomaznik, K., Barinova, M., Hendrych, J., 2017. Total control of chromium in tanneries - thermal decomposition of filtration cake from enzymatic hydrolysis of chrome shavings. *Waste Management & Research* 35(4), 444-449.
- Sanek, L., Pecha, J., Kolomaznik, K., Barinova, M., 2016. Pilot-scale production of biodiesel from waste fats and oils using tetramethylammonium hydroxide. *Waste Management* 48, 630-637
- Pecha, J., Sanek, L., Furst, T., Kolomaznik, K., 2016. A kinetics study of the simultaneous methanolysis and hydrolysis of triglycerides. *Chemical Engineering Journal* 288, 680-688.
- Sanek, L., Pecha, J., Kolomaznik, K., Barinova, M., 2015. Biodiesel production from tannery fleshings: Feedstock pretreatment and process modeling. *Fuel* 148, 16-24.
- Kocurek, P., Kolomaznik, K., Barinova, M., Hendrych, J., 2015. Dechroming Spent Tanning Liquor Using Filtration Cake from Enzymatic Hydrolysis of Chromium Shavings. *Journal of the Society of Leather Technologists and Chemists* 99(6), 288-292.
- Beltran-Prieto, J. C., Slavik, R., Kolomaznik, K., 2014. Electrooxidation of Glycerin by Potential Sweep Technique and Controlled Potential Electrolysis. *International Journal of Electrochemical Science* 9(12), 6910-6923.
- Beltran-Prieto, J. C., Kolomaznik, K., Slavik, R., 2014. Non-isothermal modeling of glycerol oxidation reaction and estimation of thermodynamic parameters. *Russian Journal of General Chemistry* 84(11), 2228-2233.
- Janacova, D., Charvatova, H., Kolomaznik, K., Fialka, M., Mokrejs, P., Vasek, V., 2013. Interactive software application for calculation of non-stationary heat conduction in a cylindrical body. *Computer Applications in Engineering Education* 21(1), 89-94.
- Beltran-Prieto, J. C., Kolomaznik, K., Pecha, J., 2013. A Review of Catalytic Systems for Glycerol Oxidation: Alternatives for Waste Valorization. *Australian Journal of Chemistry* 66(5), 511-521.
- Sanek, L., Pecha, J., Kolomaznik, K., 2013. Simultaneous determination of main reaction components in the reaction mixture during biodiesel production. *Journal of Separation Science* 36(6), 1029-1036.
- Beltran-Prieto, J. C., Kolomaznik, K., Veloz-Rodriguez, R., 2013. Removal of chromium from tannery wastewater using waste-building material. *Fresenius Environmental Bulletin* 22(2A), 573-578.
- Beltran-Prieto, J. C., Pecha, J., Kasparkova, V., Kolomaznik, K., 2013. Development of an HPLC method for the determination of glycerol oxidation products. *Journal of Liquid Chromatography & Related Technologies* 36(19), 2758-2773.
- Svoboda, P., Trivedi, K., Svobodova, D., Kolomaznik, K., Inoue, T., 2012. Influence of supercritical CO₂ and initial melting temperature on crystallization of polypropylene/organoclay nanocomposite. *Polymer Testing* 31(3), 444-454.

Pecha, J., Furst, T., Kolomaznik, K., Friebrova, V., Svoboda, P., 2012. Protein biostimulant foliar uptake modeling: The impact of climatic conditions. *AIChE Journal* 58(7), 2010-2019.

Svoboda, P., Trivedi, K., Svobodova, D., Mokrejs, P., Kolomaznik, K., 2012. Effect of initial melting temperature on crystallization of polypropylene/organoclay nanocomposites. *Macromolecular Research* 20(7), 659-666.

Pecha, J., Kolomaznik, K., Barinova, M., Sanek, L., 2012. High quality biodiesel and glycerin from fleshings. *Journal of the American Leather Chemists Association* 107(10), 312-322.

Svoboda, P., Poongavalappil, S., Theravalappil, R., Svobodova, D., Mokrejs, P., Kolomaznik, K., Ougizawa, T., Inoue, T., 2011. Cross-Linking of Ethylene-Octene Copolymer (EOC) by Dicumyl Peroxide (DCP). *Journal of Applied Polymer Science* 121(1), 521-530.

Janacova, D., Charvatova, H., Kolomaznik, K., Vasek, V., Mokrejs, P., Drga, R., 2011. Computer Simulation of Bound Component Washing To Minimize Processing Costs. *Acta Montanistica Slovaca* 16(1), 39-46.

Charvatova, H., Janacova, D., Fialka, M., Kolomaznik, K., 2010. Mass analysis of the components separated from printed circuit boards. *Acta Montanistica Slovaca* 15(1), 58-61.

Svoboda, P., Theravalappil, R., Svobodova, D., Mokrejs, P., Kolomaznik, K., Mori, K., Ougizawa, T., Inoue, T., 2010. Elastic properties of polypropylene/ethylene-octene copolymer blends. *Polymer Testing* 29(6), 742-748.

Vasek, V., Dolinay, J., Dostalek, P., Kolomaznik, K., Janacova, D., Vasek, L., 2010. Modern approach to automatic control of enzymatic hydrolysis of tannery waste. *Journal of the American Leather Chemists Association* 105(9), 297-302.

Mokrejs, P., Langmaier, F., Mladek, M., Janacova, D., Kolomaznik, K., Vasek, V., 2009. Extraction of collagen and gelatine from meat industry by-products for food and non food uses. *Waste Management & Research* 27(1), 31-37.

Kasparkova, V., Kolomaznik, K., Burketova, L., Sasek, V., Simek, L., 2009. Characterization of low-molecular weight collagen hydrolysates prepared by combination of enzymatic and acid hydrolysis. *Journal of the American Leather Chemists Association* 104(2), 46-51.

Mokrejs, P., Langmaier, F., Janacova, D., Mladek, M., Kolomaznik, K., Vasek, V., 2009. Thermal study and solubility tests of films based on amaranth flour starch-protein hydrolysate. *Journal of Thermal Analysis and Calorimetry* 98(1), 299-307.

Barinova, M., Kolomaznik, K., Vasek, V., Matyasovsky, J., Jurkovic, P., 2009. Optimization of raw hide curing using two-component counter-current diffusion model. *Journal of the American Leather Chemists Association* 104(12), 397-404.

Mokrejs, P., Janacova, D., Mladek, M., Langmaier, F., Kolomaznik, K., Vasek, V., 2008. Studying solubility of biodegradable films prepared from collagen hydrolysate. *Research Journal of Chemistry and Environment* 12(1), 13-22.

Hernandez Balada, E., Marmer, W. N., Kolomaznik, K., Cooke, P. H., Dudley, R. L., 2008. Mathematical model of raw hide curing with brine. *Journal of American Leather Chemists Association* 103(5), 167-173.

Langmaier, F., Mokrejs, P., Kolomaznik, K., Mladek, M., 2008. Biodegradable packing materials from hydrolysates of collagen waste proteins. *Waste Management* 28(3), 549-556.

Langmaier, F., Mladek, M., Mokrejs, P., Kolomaznik, K., 2008. Biodegradable packing materials based on waste collagen hydrolysate cured with dialdehyde starch. *Journal of Thermal Analysis and Calorimetry* 93(2), 547-552.

Mokrejs, P., Janacova, D., Langmaier, F., Mladek, M., Kolomaznik, K., Vasek, V., 2008. The influence of thermal crosslinking on solubility of films prepared from collagen hydrolysate. *Journal of American Leather Chemists Association* 103(9), 314-322.

Mokrejs, P., Hrcirik, J., Janacova, D., Langmaier, F., Mladek, M., Kolomaznik, K., Vasek, V., Dvorackova, M., 2008. Removal of MgO from the chrome cake produced by enzymatic hydrolysis of chrome shavings. *Asian Journal of Chemistry* 20(1), 649-662.

Mokrejs, P., Sukop, S., Langmaier, F., Kolomaznik, K., Mladek, M., 2007. Properties of collagen hydrolyzates obtained from leather shavings. *Asian Journal of Chemistry* 19(2), 1207-1216.

Langmaier, F., Mokrejs, P., Kolomaznik, K., Mladek, M., Karnas, R., 2007. Cross-linking epoxide resins with hydrolysates of chrome-tanned leather waste. *Journal of Thermal Analysis and Calorimetry* 88(3), 857-862.

Jelinek, J., Kolomaznik, K., Jelinek, M., 2006. The protein concentrates from amaranth. *Journal of Peptide Science* 12, 238-238.

Langmaier, F., Kolomaznik, K., Mladek, M., Sivarova, J., 2005. Curing urea-formaldehyde adhesives with hydrolysates of chrome-tanned leather waste from leather production. *International Journal of Adhesion and Adhesives* 25(2), 101-108.

Hrcirik, J., Dvorackova, M., Hruska, F., Kupec, J., Kolomaznik, K., 2005. Kinetics of alkaline hydrolysis of the insoluble protein fraction following enzymatic hydrolysis of chrome-tanned shavings. *Journal of the American Leather Chemists Association* 100(1), 1-7.

Langmaier, F., Sivarova, J., Mladek, M., Kolomaznik, K., 2004. Curing adhesives of urea-formaldehyde type with collagen hydrolysates of chrome-tanned leather waste. *Journal of Thermal Analysis and Calorimetry* 75(1), 205-219.

Langmaier, F., Sivarova, J., Kolomaznik, K., Mladek, M., 2004. Curing of urea-formaldehyde adhesives with collagen type hydrolysates under acid condition. *Journal of Thermal Analysis and Calorimetry* 76(3), 1015-1023.

Mukhopadhyay, S. N., Khas, H., Saha, N., Saha, L., Saha, P., Kolomaznik, K., 2004. Retrieval of biodegradable polymer and value added products from leather industry waste through process biotechnology: A progress review. *Journal of the American Leather Chemists Association* 99(11), 449-456.

Langmaier, F., Kolomaznik, K., Mladek, M., 2003. Modifying products of enzymatic breakdown of chrome-tanned leather wastes with glutaraldehyde. *Journal of the Society of Leather Technologists and Chemists* 87(2), 55-61.

Sara, N., Kresalkova, M., Saha, L., Kolomaznik, K., 2003. The effect of anaerobic digestion on chrome sludge - A by-product of tanned leather waste. *Journal of the American Leather Chemists Association* 98(7), 256-262.

Langmaier, F., Mladek, M., Kolomaznik, K., Sivarova, J., Sukop, S., 2002. Calorimetry of the reactions of hydrolysates of chromed shavings with aldehydes. *Journal of Thermal Analysis and Calorimetry* 67(3), 659-666.

Langmaier, F., Mladek, M., Kolomaznik, K., Maly, A., 2002. Hydrolysates of chromed waste as raw materials for the production of surfactants. *Tenside Surfactants Detergents* 39(1), 47-51.

Langmaier, F., Mladek, M., Kolomaznik, K., Maly, A., 2002. Degradation of chromed leather waste hydrolysates for the production of surfactants. *Tenside Surfactants Detergents* 39(2), 31-34.

Kresalkova, M., Knanikova, L., Kupec, J., Kolomaznik, K., Alexy, P., 2002. Application of protein hydrolysate from chrome shavings for polyvinyl alcohol-based biodegradable material. *Journal of the American Leather Chemists Association* 97(4), 143-149.

Kupec, J., Dvorackova, M., Rudlova, S., Ruzicka, J., Kolomaznik, K., 2002. Deproteination of chrome waste by washing and enzymatic hydrolysis. *Journal of the American Leather Chemists Association* 97(9), 349-354.

Langmaier, F., Stibora, M., Mladek, M., Kolomaznik, K., 2001. Gel-sol transitions of chrome tanned leather waste hydrolysate. *Journal of the Society of Leather Technologists and Chemists* 85(3), 100-105.

Alexy, P., Bakos, D., Crkonova, G., Kolomaznik, K., Krsiak, M., 2001. Blends of polyvinylalcohol with collagen hydrolysate: Thermal degradation and processing properties. *Macromolecular Symposia* 170, 41-49.

Crkonova, G., Alexy, P., Bakos, D., Kolomaznik, K., Simkova, B., Precnerova, L., 2001. Blends of polyvinylalcohol with collagen hydrolysate: Properties of water-soluble blown films. *Macromolecular Symposia* 170, 51-59.

Langmaier, F., Kolomaznik, K., Sukop, S., Mladek, M., 1999. Products of enzymatic decomposition of chrome-tanned leather waste. *Journal of the Society of Leather Technologists and Chemists* 83(4), 187-195.

Taylor, M. M., Cabeza, L. F., Marmer, W. N., Brown, E. M., Kolomaznik, K., 1998. Functional properties of hydrolysis products from collagen. *Journal of the American Leather Chemists Association* 93(2), 40-50.

Blaha, A., Kolomaznik, K., 1989. Mathematical-model of soaking .1. *Journal of the Society of Leather Technologists and Chemists* 73(5), 136-140.

Blaha, A., Kolomaznik, K., Dederle, T., 1989. Mathematical-model of the soaking process .2. *Journal of the Society of Leather Technologists and Chemists* 73(6), 172-174.

Sara, A., Kolomaznik, K., Dolnik, L., Soukup, J., 1979. Flow optimization by flow redistributors in wetted reactor-ii. *Collections of Czechoslovak Chemical Communications* (since 2012 published under the name ChemPlusChem by Wiley-V C H) 44(3), 711-718.

Soukup, J., Kolomaznik, K., Zapletal, V., Ruzicka, V., Prchlik, J., 1973. Liquid distribution in trickle bed reactors .1. Spreading coefficient in randomly packed porous beds. *Collections of Czechoslovak Chemical Communications* 38(12), 3742-3748.