

REBECCA MILLER REGAN, PHD

EDUCATION

PhD; Grain Science; Kansas State University; Manhattan, KS; 1996

MS; Grain Science; Kansas State University; Manhattan, KS; 1992

BS; Bakery Science and Management; Kansas State University; Manhattan, KS; 1990

EXPERIENCE

Kansas State University Department of Grain Science; Manhattan, KS

- Research Associate Professor; *July 2014-present*
- Research Assistant Professor; *June 2009-June 2014*
- Wheat Quality Lab Director; *Oct 2006- present*

R&R Research Services, Inc.; Manhattan, KS

- Consultant; *Oct 2006-Dec 2014*
- Principal Research Scientist; *Jan 1997-Oct 2006*

Kansas State University Department of Grain Science; Manhattan, KS

- Research Associate; *Aug 1992-Feb 1997*
- Graduate Research Assistant; *Jan 1991-May 1992*

PROFESSIONAL ACTIVITIES

American Association of Cereal Chemists International (AACCI) (1991-present)

- Book Acquisitions Committee (*2010-present*); Chair (*2016-present*)
- Milling and Baking Division (*1991-present*); Secretary (*2014-present*)
- Bread Baking Methods Technical Committee (*2009-present*); Co-Chair (*2010-present*)
- Best Student Paper Competition Judge (*2015*)
- Edith A. Christensen Award Jury (*2012-2014*)
- Cereal Chemistry Associate Editor; Term 1 (*1998-2000*); Term 2 (*2001-2004*); Term 3 (*2007-2012*)
- Rheology Division (*1992-2011*); Chair (*2000-2001*); Vice Chair (*1999-2000*); Sec/Treas (*1998-1999*)
- Manhattan KS Section (*1991-2015*); Chair (*2013-2014*); Vice Chair (*2012-2013*); Sec/Treas (*2011-2012*)

Kansas Wheat Show Committee (2009-present)

Wheat Quality Council (2007-present)

- Collaborative Bake Panel (*2007-present*)
- Technical Board (*2007-2011*)

HONORS

- Rheology Division Young Scientist Award (AACCI); 1997
- International Wheat Gluten Association Best Paper Award (AACCI); 1995
- Hlynka Best Student Paper (AACCI); 1994

REBECCA MILLER REGAN, PHD

PUBLICATIONS, POSTERS and PRESENTATIONS

PEER-REVIEWED PUBLICATIONS

(*graduate student; undergraduate student; *corresponding author*)

- 1) Pervin Ari-Akin and **Rebecca A Miller*** (2017) Starch-Hydrocolloid Interaction in Chemically Leavened Gluten-Free Sorghum Bread. *Cereal Chem* 94:897-902. doi.org/10.1094/cchem-05-17-0094-r
- 2) Guorong Zhang*, Terry J Martin, Allan K Fritz, **Rebecca Miller**, Guihua Bai, Ming-Shun Chen and Robert L Bowden (2017) Registration of "Tatanka" Hard Red Winter Wheat. *J of Plant Registrations* doi:10.3198/jpr2017.04.0019crc
- 3) **Rebecca A Miller***, Orelia Dann, Amanda Oakley, Megan Angermayer and Katherine Brackebush (2017) Sucrose Replacement in High Ratio White Layer Cakes. *J Sci Food Agric* 97:3228-3232.
- 4) Guorong Zhang*, Terry J Martin, Allan K Fritz, **Rebecca Miller**, Ming-Shun Chen, Robert L Bowden and Guihua Bai (2016) Registration of "Joe" Hard White Winter Wheat. *J of Plant Registrations Vol 10(3)*:83-286. doi:10.3198/jpr2016.02.0007crc
- 5) **Rebecca A Miller*** and Elyse Bianchi (2016) Effect of RS4 Resistant Starch on Dietary Fiber Content of White Pan Bread. *Cereal Chem* 92:185-189.
- 6) Zhang, Guorong*, Martin, Terry J Fritz, Allan K, **Miller, Rebecca**, Ming-Shun, Chen, Bowden, Robert L and Johnson, Jerry J (2015) Registration of "Oakley CL" Wheat. *J of Plant Registrations Vol 9(2)*:190-195. doi:10.3198/jpr2014.04.0023crc
- 7) **R Miller*** (2014). The Case for Refined Grains in a Balanced Diet. *Cereal Foods World* 59(3):137-140.
- 8) Wansang Lim*, **Rebecca Miller** and Jungeun Park (2014). Consumer Sensory Analysis of High Flavonoid Transgenic Tomatoes. *J Food Sci.* 79 (6): S1212.
- 9) Martin, T J, Zhang, G*, Fritz, A K, **Miller, R**, & Chen, M-S. (2014) Registration of 'Clara CL' wheat. *J of Plant Registrations Vol 8(1)*:38-42. doi:10.3198/jpr2013.07.0040crc
- 10) **Rebecca Miller*** and Juhui Jeong (2013) Sodium Reduction in Bread Using Reduced Sodium Sea Salt. *Cereal Chem* 91:41-44.
- 11) Terry J Martin, Guorong Zhang*, Allan K Fritz, **Rebecca Miller** and Ming-Shun Chen (2013) Registration of "Tiger" Wheat. *J of Plant Registrations Vol 7 (2)*:201-204. doi:10.3198/jpr2012.09.0032crc
- 12) **Miller, Rebecca***, Seifers, Dallas and Martin, T J (2012) Impact of Triticum Mosaic Virus Infection on Hard Winter Wheat Milling and Baking Quality. *J Sci Food Agric* 92:772-775.
- 13) **Rebecca Miller***, Juhui Jeong, Clodualdo Maningat, (2011) Effect of Resistant Starch on Extruded RTE Breakfast Cereal Quality. *Cereal Chem* 88:584-588.
- 14) Shivananda, K Garimella Purna, **Miller, Rebecca A**, Seib, Paul A, Graybosch, Robert A and Shi, Yong-Cheng* (2011) Volume, Texture and Molecular Mechanism Behind the Collapse of Bread Made with Different Levels of Hard Waxy Wheat Flours. *J Cer Sci* 54(1):37-43
- 15) **R A Miller*** (2011) Increased Yield of Bread Containing Citrus Peel Fiber. *Cereal Chem* 88:174-178.
- 16) **R A Miller*** and J A Gwartz (2009) Effect of Sieve Tension in Quadrumat Senior Laboratory Milling. *Cereal Chem* 86:665-668.

- 17) **R A Miller***, R C Hoseney and C C Maningat (2008) Modified Starches Improve Bread Yield. Cereal Chem 85:713-715.
- 18) **R A Miller*** and R C Hoseney (2008) Role of Salt in Baking. Cereal Foods World 53(1):4-6.
- 19) **R A Miller***, C C Maningat and S D Bassi (2003) Effect of Gluten Fractions in Reducing Microwave-Induced Toughness of Bread and Buns. Cereal Foods World 48(2):76-77.
- 20) Lin Wang*, **R A Miller** and R C Hoseney (1998) Effects of (1-3), (1-4)- β -D-Glucans of Wheat Flour on Bread Making. Cereal Chem 75:629-633.
- 21) Yue Liao*, **R A Miller** and R C Hoseney (1998) Role of Hydrogen Peroxide Produced by Baker's Yeast on Dough Rheology. Cereal Chem 75:612-616.
- 22) **R A Miller***, R C Hoseney and C F Morris (1997) Effect of Formula Water on the Spread of Sugar-Snap Cookies. Cereal Chem 74:669-671.
- 23) **R A Miller*** and R C Hoseney (1997) Use of Elongational Viscosity to Estimate Cookie Diameter. Cereal Chem 74:614-616.
- 24) O K Chung*, J J Eastman, C E Lang, P J McCluskey, **R A Miller**, M A Shipman and C E Walker (1997) Regression Equation Predicting Absorption for 2-Gram Direct Drive Mixograph. Cereal Chem 74:400-402.
- 25) **R A Miller*** and R C Hoseney (1997) Factors in Hard Wheat Flour Responsible for Reduced Cookie Spread. Cereal Chem 74:330-336.
- 26) **R A Miller*** and R C Hoseney (1997) Method to Determine Microwave-Induced Toughness of Bread. J Food Sci 62(6):1202-1204.
- 27) **R A Miller***, R C Hoseney, E Graf and J Soper. (1997) Effect of Garlic on Dough Properties. J Food Sci 62(6):1198-1201.
- 28) A Beileia*, **R A Miller** and R C Hoseney (1996) Starch Gelatinization in Sugar Solutions. Starch 48:259-262.
- 29) **R A Miller***, R Mathew and R C Hoseney (1996) Use of a Thermo Mechanical Analyzer to Study an Apparent Glass Transition in Cookie Dough. J Thermal Anal 47:1329-1338.
- 30) **R A Miller*** and R C Hoseney (1996) Evaluating Wheat Gluten Quality. Cereal Foods World 41:412-416.
- 31) C A Thomasson, **R A Miller** and R C Hoseney* (1995) Chlorine Replacement for Cake Flour. Cereal Chem 72:616-620.
- 32) **R A Miller***, E Graf and R C Hoseney (1994) Leavened Dough pH Determination by an Improved Method. J Food Sci 59:1086-1087, 1090.
- 33) **R A Miller*** and R C Hoseney (1993) Role of Xanthan Gum in White Layer Cake. Cereal Chem 70:585-588.

NON-PEER-REVIEWED PUBLICATIONS

*(graduate student; undergraduate student; *corresponding author)*

- 1) **Rebecca Miller*** and Jane Lingenfelser (2017) Bread Baking Quality of Kansas Hard Winter Wheat Varieties – 2017. KSU Extension Bulletin MF1077. www.ksre.ksu.edu/bookstore/pubs/MF1077.pdf
- 2) **Rebecca Miller*** and Jane Lingenfelser (2015) Milling and Bread Baking Quality of Kansas Hard Winter Wheat Varieties – 2015. KSU Extension Bulletin MF1077. www.ksre.ksu.edu/bookstore/pubs/MF1077.pdf
- 3) **Rebecca Miller*** (2014) Case for Refined Grains in a Balanced Diet. Cereal Foods World 59(3):137-140.

- 4) **Rebecca Miller*** and Jane Lingenfelter (2013) Tortilla Making Quality of Kansas Hard Winter Wheat Varieties – 2014. KSU Extension Bulletin MF3009. www.ksre.ksu.edu/bookstore/pubs/MF3099.pdf
 - 5) **Rebecca Miller*** and Jane Lingenfelter (2014) Milling and Bread Baking Quality of Kansas Hard Winter Wheat Varieties – 2014. KSU Extension Bulletin MF1077. www.ksre.ksu.edu/bookstore/pubs/MF1077.pdf
 - 6) **Rebecca Miller*** and Jane Lingenfelter (2013) Milling and Bread Baking Quality of Kansas Hard Winter Wheat Varieties – 2013. KSU Extension Bulletin MF1077. www.ksre.ksu.edu/bookstore/pubs/MF1077.pdf
 - 7) **Rebecca Miller*** and Jane Lingenfelter (2013) Tortilla Making Quality of Kansas Hard Winter Wheat Varieties – 2013. KSU Extension Bulletin MF3009. www.ksre.ksu.edu/bookstore/pubs/MF3099.pdf
 - 8) **Rebecca Miller*** and Jane Lingenfelter (2012) Milling and Bread Baking Quality of Kansas Hard Winter Wheat Varieties – 2012. KSU Extension Bulletin MF1077.
 - 9) K. Shelke* and **R A Miller** (2012) Almonds for Nutritious and Delightful Breakfast Cereals. Cereal Foods World 57(2):64-67.
 - 10) **Rebecca Miller***, Bradford W Seabourn, Jane Lingenfelter and Leland McKinney (2007) Preferred Hard Winter Wheat Varieties for Kansas 2007 KSU Extension Bulletin MF-1077.
 - 11) **Rebecca Miller** and R. Carl Hosenev (2000) Choose Dough Conditioners According to Desired Functions. Sept 2000. Ingredient Spotlight article in Baking Management magazine.
 - 12) R C Hosenev and **R Miller*** (1998) Current Understanding of Staling of Bread. AIB Tech Bull. Vol XX, #6.
 - 13) **R A Miller*** and R C Hosenev Effect of Enzymes on Dough Rheology (1994) National Notes 1(2):7-10.
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BOOK CHAPTERS

- 1) **Miller R.** (2016) Biscuits, Cookies and Crackers: Nature of the Products. In: The Encyclopedia of Food and Health Vol. 1, pp. 445-450. Caballero, B., Finglas, P., and Toldrá, F. (Eds). Oxford: Academic Press.
 - 2) **Miller R.** (2016) Emulsifiers: Types and Uses. In: The Encyclopedia of Food and Health Vol. 2, pp. 498-502. Caballero, B., Finglas, P., and Toldrá, F. (Eds). Oxford: Academic Press.
 - 3) **Miller R.** (2016) Leavening Agents. In: The Encyclopedia of Food and Health Vol. 1, pp. 523-528. Caballero, B., Finglas, P., and Toldrá, F. (Eds). Oxford: Academic Press
 - 4) **Miller R.** (2016) Cakes: Types of Cakes. In: The Encyclopedia of Food and Health Vol. 1, pp. 579-582. Caballero, B., Finglas, P., and Toldrá, F. (Eds). Oxford: Academic Press.
 - 5) M Tilley, Y R Chen and **R A Miller.** (2012) Wheat Breeding and Quality Evaluation in the US. In: Breadmaking: Improving Quality 2nd Edition. Stanley P. Cauvain (Ed). Woodhead Publishing Ltd.
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PATENTS

- 1) **Rebecca A. Miller** and Russell C. Hosenev (1996). Method and Apparatus for Determining Toughness of Baked Products. US Patent 5,515,718.
- 2) Hosenev, R. Carl; **Miller, Rebecca Ann**; Bassi, Sukh C.; Maningat, Clodualdo (2002). Microwaveable Bread Products. US Patent 6,482,454 B2.

PLANT VARIETY PROTECTION (PVP) CERTIFICATES

- 1) KanMark Common Wheat (2016) Allan K Fritz*, T Joe Martin, Andrew S Auld, Kimberly Suther, **Rebecca A Miller** and William W Bockus. US PVP Certificate No. 201500379.
 - 2) Hot Rod Common Wheat (2016) Allan K Fritz*, T Joe Martin, Andrew S Auld, Kimberly Suther, **Rebecca A Miller** and William W Bockus. 5/25/17. US PVP Certificate No. 201500382.
 - 3) 1863 Common Wheat (2014). Allan K Fritz*, T Joe Martin, Andrew S Auld, Kimberly Suther, **Rebecca A Miller** and William W Bockus. 9/26/14. US PVP Certificate No. 201300456.
 - 4) Oakley CL Common Wheat (2014) Martin, T Joe, Zhang, Guorong*, Fritz, Allan K, **Miller, Rebecca**, & Chen, Ming-Shun. 9/26/14. US PVP Certificate No. 201400132.
 - 5) Clara CL Common Wheat (2014) Martin, T Joe, Zhang, Guorong*, Fritz, Allan K, **Miller, Rebecca**, & Chen, Ming-Shun. 9/11/14. US PVP Certificate No. 201200429.
 - 6) Everest Common Wheat (2010) Allan K Fritz*, T Joe Martin, Andrew S Auld, Kimberly Suther, **Rebecca A Miller** and William W Bockus. 11/22/10. US PVP Certificate No. 201000387.
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ORAL PRESENTATIONS

*(graduate student; undergraduate student; *presenter)*

- 1) Katherine Brackebush* and **Rebecca Miller**. Whole Wheat Bread Baking Method. Oral presentation at AACCI Milling and Baking Division Spring Technical Conference; Baltimore, MD; April 2017
- 2) Laura Ehmke* and **Rebecca Miller**. Wheat Sprouting. Oral presentation at AACCI Milling and Baking Division Spring Technical Conference; Baltimore, MD; April 2017
- 3) Pervin Ari Akin* and **Rebecca Miller**. Starch-Hydrocolloid Interactions in Chemically Leavened Gluten Free Sorghum Bread. AACCI Annual Meeting, Savannah, GA. Oct 2016.
- 4) **Rebecca Miller***. The Need for Objective Bread in a Wheat Breeding Program. In: Developing a Bakery Quality Score through Image Analysis Symposium at AACCI Annual Meeting, Providence, RI. Oct 2014.
- 6) **Rebecca Miller*** and Juhui Jeong. Whole Grain Milling and Baking Method for Testing Pure Wheat Varieties. In: Milling and Baking Symposium at AACCI Annual Meeting, Providence, RI. Oct 2014.
- 7) Orelia Dann, Emily Fort and **Rebecca Miller**. Strategies for Sugar and Egg Reduction in Cakes. In: Milling and Baking Symposium at AACCI Annual Meeting, Providence, RI. Oct 2014.
- 8) Orelia Dann* and **Rebecca Miller**. Selecting Wheat Varieties for Tortilla Production. K-State Research Forum. Kansas State University, Manhattan, KS. Mar 2013
- 9) **Rebecca Miller***, Juhui Jeong and Cloduoldo Maningat. Effect of Resistant Starch on Dietary Fiber Content of Extruded RTE Breakfast Cereal Quality. AACCI Annual Meeting, Palm Springs, CA. Oct 2011.
- 10) Gabriela Rattin*, Jon Faubion, **Rebecca Miller** and Jeff Wilson. Effect of Genotype and Environment on Wheat Flour Water Absorption Tolerance. AACCI Annual Meeting, Boston, MA. Oct 2010.
- 11) **Rebecca Miller***. Functionality and Utilization of Citrus Fiber in Consumer Products. International Citrus & Beverage Conference, Tampa Bay, FL. Sept 2009.
- 12) **Rebecca Miller*** and R. Carl Hoskeney. The Oxidizing Effect of Yeast. AACCI Annual Meeting, San Diego, CA. Oct 1997.

- 13) **Rebecca Miller*** and R. Carl Hosenev. Glass Transitions in Cereal Products. AACC Annual Meeting, San Diego, CA. Oct 1997.
- 14) **Rebecca Miller*** and R. Carl Hosenev. Oxidases in Baking. IBC Food Enzyme Symposium, Chicago, IL. Aug 1997.
- 15) **Rebecca Miller*** and R. Carl Hosenev. Factors Affecting the Set Time of Sugar-Snap Cookies. AACC Annual Meeting, Baltimore, MD. Sept 1996.
- 16) **Rebecca Miller*** and R. Carl Hosenev. Factors Affecting the Spread Rate of Sugar-Snap Cookies. AACC Annual Meeting, Baltimore, MD. Sept 1996.
- 17) **Rebecca Miller*** and R. Carl Hosenev. Factors Affecting the Set Time of Sweet Biscuits. ICC Cereal and Bread Congress, Porto Carras, Greece. June 1996.
- 18) **Rebecca Miller*** and R. Carl Hosenev. Factors in Hard Wheat Flour Responsible for Reduced Cookie Spread. Soft Wheat Quality Conference, Wooster, OH. Apr 1996.
- 19) **Rebecca Miller*** and R. Carl Hosenev. Method to Determine Gluten Quality. AACC Annual Meeting, San Antonio, TX. Nov 1995.
- 20) **Rebecca Miller***. Effect of Enzymes on Dough Rheology. AIB Symposium, Kansas City, MO. Oct 1995.
- 21) **Rebecca Miller***, Renu Mathew and R. Carl Hosenev. TMA to Study Glass Transition in Cookie Dough. RACI Cereal Conference, Adelaide, Australia. Sept 1995.
- 22) **Rebecca Miller*** and R. Carl Hosenev. Method to Determine Microwave-Induced Toughness of Bread. ICC Jubilee, Vienna, Austria. May 1995.
- 23) **Rebecca Miller*** and R. Carl Hosenev. Method to Determine Microwave-Induced Toughness of Bread. AACC Annual Meeting, Nashville, TN. Oct 1994.
- 24) **Rebecca Miller*** and R. Carl Hosenev. The Role of Xanthan Gum in White Layer Cakes. AACC Annual Meeting, Minneapolis, MN. Sept 1992.

POSTER PRESENTATIONS

*(graduate student; undergraduate student; *presenter)*

- 1) Emily Fort*, **Rebecca Miller**, Scott Bean and Christopher Miller. Effect of Reducing Agents on Batter Consistency and Physical Characteristics of Bread from Sorghum Flour. AACCI Annual Meeting, Savannah, GA. Oct 2016.
- 2) Harrison Helmick* and **Rebecca Miller**. Freezing Whole Wheat Dough. Gamma Sigma Delta Undergraduate Research Forum. Kansas State University, Manhattan, KS. Apr 2016.
- 3) **Rebecca Miller*** and Amanda Oakley. Improved Method for Measuring Whole Wheat Flour Mixing Properties. AACCI Annual Meeting, Minneapolis, MN. Sept 2015.
- 4) Orelia Dann*, **Rebecca Miller**, Megan Angermayer and Amanda Oakley. Sugar Replacement in High Ratio White Layer Cakes. AACCI Annual Meeting, Minneapolis, MN. Sept 2015.
- 5) Emily Fort*, **Rebecca Miller**, Megan Angermayer and Katherine Brackebusch. Effect of Wheat Protein Isolates as Egg Replacers in Bakery Products. AACCI Annual Meeting, Minneapolis, MN. Sept 2015.
- 6) **Rebecca Miller*** and Amanda Oakley. Improved Method for Measuring Whole Wheat Flour Properties. IFT, New Orleans, LA. June 2014.

- 7) Orelia Dann* and **Rebecca Miller**. Developing a Rye Tortilla. IFT, New Orleans, LA. June 2014.
- 8) Xinzhong Zhang*, Guorong G. Zhang, Guihua Bai, and **Rebecca A Miller**. Effects of High Molecular Weight Glutenin on Wheat Quality. ASA/CSSA/SSSA, Long Beach, CA. Nov 2014.
- 9) Elyse N. Buckley*, **Rebecca A. Miller** and Michael Tilley. Factors in Wheat Affecting Water Absorption Tolerance. K-State Research Forum, Kansas State University, Manhattan, KS. Mar 2013.
- 10) Orelia Dann*, **Rebecca Miller**, Michael Tilley and Jeff Wilson. Selecting Wheat Varieties for Tortilla Production. AACCI Annual Meeting, Albuquerque, NM. Sept 2013.
- 11) Elyse Buckley* and **Rebecca Miller**. Phosphorylated Cross-Linked Resistant Wheat Starch (RS4) Application in White Pan Bread. AACCI Annual Meeting, Albuquerque, NM. Sept 2013.
- 12) Juhui Jeong* and **Rebecca Miller**. Analytical Bread Baking Method for Whole Wheat Bread. AACCI Annual Meeting, Albuquerque, NM. Sept 2013.
- 13) Juhui Jeong* and **Rebecca Miller**. Effect of Reduced-Sodium Salt in Bread Baking. K-State Research Forum. Kansas State University, Manhattan, KS. Mar 2012.
- 14) Juhui Jeong* and **Rebecca Miller**. Effect of Reduced-Sodium Salt in Bread Baking. Student Research Presentations to KS Board of Regents. Kansas State University, Manhattan, KS. Apr 2012
- 15) Juhui Jeong* and **Rebecca Miller**. Effect of Reduced-Sodium Salt in Bread Baking. Gamma Sigma Delta UG Research Showcase, Kansas State University, Manhattan, KS. Apr 2012.
- 16) Juhui Jeong* and **Rebecca Miller**. Effect of Reduced-Sodium Salt in Bread Baking. AACCI Annual Meeting. Hollywood, FL. Oct 2012.
- 17) Paul Mitchell*, Hulya Dogan, **Rebecca Miller**. Effects of Tempering Conditions on First Break Performance in Wheat Milling. AACCI Annual Meeting, Hollywood FL. Oct 2012.
- 18) S.D. Battenfield*, A.K. Fritz, R.P. Singh, J.A. Poland, R.J. Pena and **R.A. Miller**. Genomic Selection Modeling of End-Use Quality Traits in CIMMYT Spring Wheat. World Food Prize. Oct 2012.
- 19) **Rebecca Miller***, Juhui Jeong, Cloduoldo Maningat. Effect of Resistant Starch on Dietary Fiber Content of Extruded RTE Breakfast Cereal Quality. AACCI Annual Meeting, Palm Springs, CA. Oct 2011.
- 20) Gabriela Rattin*, Jon Faubion, **Rebecca Miller** and Jeff Wilson. Effect of Genotype and Environment on Wheat Flour Water Absorption Tolerance. AACCI Annual Meeting, Boston, MA. Oct 2010.
- 21) **Rebecca Miller*** and R. Carl Hosney. Leavened Dough pH Determination by an Improved Method. ISE '94. Beijing, China. Nov 1994.