

CURRICULUM VITAE

KARIN ANN PACHECO M.D., M.S.P.H.

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EDUCATION

Postdoctoral Studies/Internship/Residency

- 2000-2001 National Research Service Award, NIAID, 2-year award
- 1998-2001 Residency, Occupational Medicine, National Jewish Medical and Research Center and University of Colorado School of Medicine
- 1990-1994 Fellowship, Allergy and Immunology, National Jewish Medical and Research Center and University of Colorado School of Medicine
- 1983-1986 Internship and Residency, Internal Medicine, University of Colorado Health Sciences Center

Graduate/Medical School

- 1998-2001 M.S.P.H., thesis with honors, Preventive Medicine and Biometrics, University of Colorado School of Medicine.
- 1979-1983 M.D. with honors, New York University School of Medicine.

Undergraduate

- 1976-1978 Premedical studies, New York University, New York, NY
- 1969-1973 B.A., Bryn Mawr College, Bryn Mawr, PA; double major Economics and French Literature.
- 1971-1972 L'Académie, junior year, Paris, France.

WORK EXPERIENCE

National Jewish Medical and Research Center, Department of Medicine

- Nov 2001- Staff Physician, Division of Environmental & Occupational Health Sciences
- 1994-1998 Staff Physician, Division of Allergy and Immunology

University of Colorado Health Sciences Center

- 2001- Assistant Professor, Preventive Medicine and Allergy/Immunology
- 1997-1998 Assistant Professor in Allergy and Immunology
- 1986-1990 Instructor in Medicine
- 1986-1987 Staff physician in Student and Employee Health

Denver Health and Hospitals, Department of Medicine

- 1989-1990 Director, Adult Medical and Walk-In Clinics
- 1987-1998 Director, Adult Allergy Clinic and Consultation Service
- 1986-1990 Staff physician in Internal Medicine and Ambulatory Care

New York University School of Medicine

- 1980-1983 Department of Microbiology, Honors Research
- 1979-1980 Department of Pathology, research technician

CERTIFICATIONS/LICENSES

2002 Diplomate, Occupational Medicine, Board of Preventive Medicine

1993, 2003 Diplomate, Allergy and Immunology

American Conjoint Board of Internal Medicine and Pediatrics

1986 Diplomate, Internal Medicine, American Board of Internal Medicine

Colorado Medical License DEA Licensed Level II accredited

RESEARCH SUPPORT

1. 1 K23 AI053572-01 Pacheco (PI) 06/01/03 – 05/31/08

NIH/NIAID

SAGE: Study of Allergen, Genetics, and Endotoxin

The major goals of this project are to identify exposures and genetic risk factors associated with symptoms and sensitization to laboratory animals in research scientists and technicians.

2. 1 R01 AI 59618-01A2 Pacheco (co-PI) 05/01/05 – 01/31/10

NIH/NIAID

SAGE: Study of Allergen, Genetics, and Endotoxin

The major goals of this project are to measure endotoxin and allergen exposures, and identify personal and genetic risk factors for the process of allergic sensitization and disease, using laboratory animal exposed scientists and technicians as a model.

HONORS/PROFESSIONAL AFFILIATIONS

New England Regional Scholarship, Bryn Mawr College

New York University MD with honors in microbiology

First Prize for Student Research

Bertran Gesner Memorial Prize for excellence in research in immunology

Liz Claiborne, Inc. Fellowship in Immunology 1990-1991

Della McShane Fellowship in Medicine (Allergy) 1992-1993

AAAI/Fisons Pharmaceuticals Research Award in Bronchial Asthma 1992-1993

Robert S. Olnick Fellowship in Occupational and Environmental Medicine

SOCIETIES/COMMITTEES

Fellow, American Academy of Allergy, Asthma and Immunology,

Environmental and Occupational Respiratory Disease (EORD) interest section

Representative, seminars series, EORD 2005-2009

Chair, Occupational Disease Committee, EORD 2006-2009

American Thoracic Society, Environmental/Occupational Health Section

American College of Occupational and Environmental Medicine

American College of Chest Physicians: Occupational Asthma Committee, contributing author to
"An evidence based guide for the diagnosis and management of occupational asthma."

AMA: Reviewer/contributor to AMA Guides, 6th edition, in revision.

Reviewer for American Journal of Respiratory and Critical Care Medicine, Journal of Allergy and Clinical Immunology, Annals of Allergy, European Respiratory Journal, Clinical Experimental Allergy, Chest, and Allergy.

PUBLICATIONS

Research Papers

1. **Pacheco K**, Maier L, Silveira L, Goelz K, Noteware K, Luna B, Murphy J, Dubois R, and C Rose. Association of TLR4 alleles with symptoms and sensitization to laboratory animals. (manuscript in revision).
2. **Pacheco K**, Maier L, Silveira L, Goelz K, Noteware K, Luna B, and C Rose. Association of CD14 alleles with chest symptoms and lung function in laboratory animal researchers. (manuscript in preparation)
3. Fishwick D, Bradshaw L, ...**Pacheco K** et al. An international study of occupational asthma diagnostic probability. How does this relate to clinical information provided? (manuscript in preparation)
4. **Pacheco KA**, McCammon C, Thorne PS, O'Neill ME, Liu AH, Martyny JW, VanDyke M, Newman LS, CS Rose. Characterization of endotoxin and mouse allergen exposures in mouse facilities and research laboratories. *Ann Occup Hyg* 2006; 50 (6): 563-572. epub April 2006.
5. Tarlo SM, Malo JL, and other second Jack Pepys Occupational Asthma Workshop members (**K. Pacheco**). An ATS/ERS report: 100 key questions and needs in occupational asthma. *Eur Respir J* 2006; 27: 607-614.
6. Martyny J, Harbeck R, **Pacheco K**, Barker E, Sills M, Silveira L, Arbuckle S, and L Newman. Aerosolized Sodium Hypochlorite Inhibits Viability and Allergenicity of Mold on Building Materials. *J Allergy Clin Immunol*. 2005 Sep;116(3):630-5.
7. **Pacheco K**, McCammon C, Liu AH, Thorne PS, O'Neill ME, Martyny J, Newman LS, Hamman RF, and CS Rose. Airborne endotoxin predicts symptoms in nonsensitized technicians and research scientists exposed to laboratory mice. *Am J Resp Crit Care Med* 2003; 167: 983-990.
8. **Pacheco K**, Tarkowski M, Negri J, Sterritt C, Rosenwasser L, and L Borish. The influence of diesel exhaust particles on mononuclear phagocytic cell-derived cytokines: IL-10, TGF-beta and IL-1beta. *Clin Exp Immunol*. 2001 Dec; 126(3): 374-83.
9. Tarkowski M, **Pacheco K**, Klemm J, and LJ Rosenwasser. The effect of antigen stimulation on alpha(4), beta(1) and beta(7) chain integrin expression and function in CD4+ cells. *Int Arch Allergy Immunol*. 2000 Jan; 121(1): 25-33.
10. **Pacheco K**, Tarkowski M, Klemm J, and LJ Rosenwasser. CD49d expression and function on allergen stimulated T cells from blood and airway. *Am J Resp Cell Mol Biol* 1998; 18(2): 286-293.
11. Weiss J, **Muello K**, Victor M, Elsbach P. The role of lipopolysaccharides in the action of the bactericidal/permeability increasing neutrophil protein on the bacterial envelope. *J Immunol* 1984; 132: 3109-3115.
12. Carroll RB, **Muello K**, Melero J. Coordinate expression of the 48K host nuclear phosphoprotein and SV40 T Ag upon primary infection of mouse cells. *Virology* 1980; 102: 447-452.

Reviews/Editorials

1. Susan M. Tarlo MB, BS, FCCP¹ (Chair), John Balmes, MD, FCCP².....Karin Pacheco MD, MSPH et all. **ACCP Consensus Statement: Diagnosis and Management of Work-related Asthma**. (accepted, Chest).
2. Glazer C, **Pacheco K**. Making the diagnosis of occupational asthma: when to suspect it and what to do. *Primary Care Clinics in Office Practice* 35 (1): 61-80, 2008.
3. **Pacheco K**. New insights into laboratory animal exposures and allergic responses. *Curr Opin Allergy Clin Immunol* 7: 156-161, 2007.
4. **Pacheco K**. Of rats and men (and women), invited editorial. *Am J Respir Crit Care Med* 2006; 174: 1-2.

5. **Pacheco K**, and L Newman. Metal-induced granulomatous lung disease. *Pulm Crit Care Update* online 2002 16: lesson 8.
6. Kelleher P, **Pacheco K**, and L Newman. Inorganic dust pneumonias: the metal related parenchymal disorders. *Environ Health Perspect*. 2000 Aug; 108 Suppl 4:685-96.

Book Chapters

1. Maier L, and **Pacheco K**. ILD and other occupational exposures (Hard metal pneumoconiosis). In: *Interstitial Lung Disease*. Ed. MI Schwarz and TE King . 5th Edition. (manuscript in preparation)
2. **Pacheco K**, contributing author, Chapter 8 The skin, and Chapter 11 Ear, Nose, Throat and Related Structures. *AMA guides to the evaluation of permanent impairment*, 6th edition revised. 2008.
3. **Pacheco KA**, Rosenwasser LJ. Clinical and epidemiological aspects of respiratory allergy. In: *Allergic Hypersensitivities Induced by Chemicals. Recommendations for Prevention*. Ed. JG Vos, M Younes, E Smith. Boca Raton: CRC Press Inc. 77-104, 1995.
4. **Pacheco KA**, Rosenwasser LJ. Diagnosis and treatment of respiratory allergy. In: *Allergic Hypersensitivities Induced by Chemicals. Recommendations for Prevention*. Ed. JG Vos, M Younes, E Smith. Boca Raton: CRC Press, Inc. 104-124; 1995.

Reports

1. Esswein EJ, Boudreau Y, Gottschall EB, **Pacheco K**. NIOSH Hazard Evaluation and Technical Assistance Report No. 99-0035-2757. LDS Hospital, Salt Lake City, UT. US Department of Health and Human Services, US Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (1999).

Abstracts

1. **Pacheco K**, Maier L, Silveira L, Goelz K, Noteware K, and C Rose. Association between chest symptoms and lung function, and lab animal research work and the CD14/-1619 GG genotype. Accepted for oral presentation, Aspen Lung Conference June 2008, and the Proceedings of the American Thoracic Society for spring 2009.
2. **Pacheco K**, Noteware K, Luna B, Goelz K, Maier L, and C Rose. Symptoms to Work with Lab Animals are Predicted by Atopy, Exposure, and CD14 genetics. *Am J Respir Crit Care Med* 2007; 175: A563. ATS 2007 meeting, oral abstract.
3. **Pacheco K**, Barker E, Westcott J, Luna B, and J Martyny. Sodium Hypochlorite Inhibits Household Allergen Concentration and Recognition in Skin Testing. *Am J Respir Crit Care Med* 2007; 174: A476. ATS 2007 meeting, poster presentation.
4. Fishwick D, JE Sumner,**K Pacheco**, P. Blanc. International assessment of agreement for a diagnosis of occupational asthma. *Am J Respir Crit Care Med* 2007; 175: A426.
5. **Pacheco K**, Maier L, Rose C, Sato H, Luna B, Noteware K, Jonth A, Silveira L, and L Newman. Risk for laboratory animal allergy is associated with CD14 and TLR4 alleles. *Am J Respir Crit Care Med* 2006. ATS 2006 oral abstract.
6. **Pacheco K**, Jonth A, Sato H, Luna B, Silveira L, Newman LS, and C Rose. The CD14/-159 T allele is associated with sensitization to laboratory animals in research scientists and technicians who work with animals. *Am J Respir Crit Care Med* 2005; 2: A920.
7. Martyny, JW, **Pacheco K**, Harbeck RJ, Barker EA, Sills M, Arbuckle S, and Newman LS. Efficacy of chlorine bleach in killing and blocking allergic reactions to mold on contaminated building materials. AIHA conference 2005.

8. **Pacheco K**, Martyny JW, Harbeck RJ, Barker EA, Sills M, Arbuckle S, and Newman LS. Sodium hypochlorite inhibits viability and allergenicity of mold on building materials. *JACI* 2005; 115 (2): S98, A393.
9. **Pacheco K**, Liu AH, McCammon C, Thorne PS, O'Neill M, Martyny J, Newman L, Hamman RF, Rose C. Nonatopic research scientists and technicians with symptoms to laboratory mice are exposed to higher concentrations of endotoxin and mouse allergen than are atopic symptomatic workers. *Am J Respir Crit Care Med* 2003; 167:A503.
10. **Pacheco K**, Rose C, McCammon C, Martyny J, Thorne PS, O'Neill ME, Liu AH. Airborne endotoxin and mouse allergen are present on different mass particulates in research laboratories and animal rooms. *J All Clin Immunol* 2003; 111: S132.
11. **Pacheco K**, AH Liu, PS Thorne, ME O'Neill, C McCammon, J Martyny, L Newman, R Hamman, C Rose. Higher endotoxin exposure predicts symptoms from work with laboratory animals. *Am J Respir Crit Care Med* 2002; 165(8): A20.
12. **Pacheco K**, Rose C, Thorne P, McCammon C, Newman L, Hamman R, Liu AH. Airborne endotoxin is a significant determinant of symptoms in laboratory animal workers. *J All Clin Immunol* 2002; 109:S281.
13. **Pacheco K**, Negri J, Skerritt C, Borish L. The effect of diesel exhaust particles on IL-10 is dependent on the order of exposure to pro-inflammatory agents. *Am J Resp Crit Care Med* 2000;161:A913.
14. **Pacheco K**, Negri J, Tarkowski M, Rosenwasser LJ, Borish L. Diesel exhaust particles suppress IL-10 and TFG- α production; benzo[a]pyrene mimics the effect. *J All Clin Immunol* 1997; 99:404.
15. Tarkowski M, **Pacheco K**, Rosenwasser LJ. VLA-4 expression on memory/activated CD4+ T cells and their adhesion are upregulated by antigen stimulation. *J All Clin Immunol* 1997; 99: 386.
16. **Pacheco K**, Negri J, Rosenwasser LJ, Borish L. Diesel exhaust particles downregulate IL-10 and enhance CD 23 in PBMCs from allergic and non-allergic individuals. *J All Clin Immunol* 1996; 97:247.
17. Tarkowski M, **Pacheco K**, Katlan M, Rosenwasser LJ. VLA-4 expression on allergen, tetanus and candida T cell lines. *J All Clin Immunol* 1996; 97:411.
18. **Pacheco K**, Fennelly K, Kreiss K, Rosenwasser L. Chronic inflammation in building-related asthma and sinusitis. *J All Clin Immunol* 1995; 94: 211.
19. **Pacheco K**, Dresbach J, Rosenwasser L. Upregulation of adhesion molecules by allergen challenged T cells from blood and BAL. *J All Clin Immunol* 1993; 91: 185.
20. **Pacheco K**, Watson C, Rosenwasser L. Expression of adhesion molecules on allergen activated T cell clones. *J All Clin Immunol* 1992;89:223.
21. Dishuk J, **Pacheco K**, Watson C, Rosenwasser L. Cytokine usage by human allergic T cells. *J All Clin Immunol* 1992; 89:239.

GRADUATE AND MEDICAL SCHOOL TEACHING

1. 2008 AAAAI workshop. ACCP Consensus Statement for Management of Work-Related Asthma: What's New for the Allergist. *Allergy Diagnostic Testing: new evidence supporting its use in occupational asthma.*
2. 2007 AAAAI workshop. *Treatment and prevention of occupational allergic diseases.*
3. 2007 AAAAI workshop. *Immunosurveillance and prevention of occupational lung disorders.*
4. 2007 AAAAI. Invited speaker for Environmental and Occupational Respiratory Disease interest section meeting. *Immunopathogenesis of Laboratory Animal Allergy.*
5. 2006 ATS workshop. *Endotoxin exposures and health outcomes.* Co-chair.
6. 2006 AAAAI workshop on occupational respiratory diseases. *Risk factors for occupational asthma and hypersensitivity pneumonitis.*

7. 2005 ATS Postgraduate course: New Issues and Controversies in Occupational and Environmental Lung Disease. *Occupational disease of the united airway.*
8. 2005 AAAAI Workshop: Occupational Allergy and Asthma. *Immune Mechanisms in Occupational Respiratory Disease.*
9. 2008 University of Colorado Public Health Program–PRMD 6614: Intro to Occupational and Environmental Health. Course co-director.
10. 2008 *Occupational Epidemiology.* University of Colorado Public Health Program–PRMD 6614: Intro to Occupational and Environmental Health.
11. 2004-8 *Overview of Occupational Medicine.* University of Colorado Public Health Program–PRMD 6614: Intro to Occupational and Environmental Health.
12. 2005-8 *Epidemiology of Asthma,* UCHSC Public Health Program PRMD 6341.
13. 2005-2008 *Isocyanates, an overview of uses and health effects.* Colorado State University, industrial hygiene graduate school lecture.
14. 2005-2008 *Occupational Asthma.* University of Colorado: Pulmonary Update.
15. 2004-2008 *Bioaerosols.* University of Colorado Public Health Program – PRMD 6615 Problem- based learning course in occupational medicine.
16. 2004-2008 *Pulmonary and Dermatology Impairment Rating* for level II accreditation. Colorado Division of Workers' Compensation.
17. 2003, 2005 *Occupational Asthma.* National Jewish Center Allergy Grand Rounds.
18. 2004, 2005, 2006 *Health effects of mold exposure.* AIHA Rocky Mountain Regional Meeting.
19. 2004 AAAAI Workshop: Occupational Lung Diseases that may mimic asthma. *Beryllium and cobalt related lung diseases.*
20. 2004 *Challenge Chamber: a diagnostic tool for asthma and VCD.* NJC Second Opinion.
21. 2003 Big Sky Pulmonary and Critical Care Winter Conference. *Mold and Lung Disease: Risks, recognition and management.*
22. 2002 ATS seminar. *Occupational Allergies: causative agents and clinical management of patients.*
23. 2001 *Update on the diagnosis and management of Latex Allergy.* University of New Mexico: Regional Issues in Occupational and Environmental Health for the Primary Care Provider.
24. 2001 *Occupational and Environmental Causes of Rhinosinusitis.* American Academy of Otolaryngology.
25. 2001 *Laboratory Animal Workers Study.* Rocky Mountain Academy of Occupational and Environmental Medicine Regional Conference.
26. 2000 *Case studies in laboratory animal allergy.* Rocky Mountain Academy of Occupational and Environmental Medicine Regional Conference.
27. 1999 *Review of Laboratory Animal Allergies.* Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC), Mile High Council.
28. 1998-2004 Annual training on laboratory animal allergies to NJMRC animal handlers.
29. 1996 *Air pollution and allergies.* Maryland Medical Society annual meeting.
30. 1996 *The effect of diesel exhaust particulates on the development of allergies,* Allergy Grand Rounds, National Jewish Medical & Research Center.
31. 1995 *Multiple Chemical Sensitivities.* Medical Grand Rounds, Glenwood Springs Regional Hospital.
32. 1994-1998 Annual lecture on *Drug Allergies* to allergy/immunology fellows at NJRMC.

33. 1994-1998 Attending physician for allergy fellows and medical residents in Adult Allergy Clinic at Denver Health & Hospitals (DH&H).
34. 1986-1990 Attending physician in medical residents' clinic/adult medicine wards DH&H.