

CURRICULUM VITAE

Kelly J. Henrickson MD

**Professor
Department of Pediatrics
Division of Infectious Disease**

OFFICE ADDRESS:

Children's Corporate Center
999 N 92 St
Milwaukee, WI 53226

EDUCATION:

1979 - Present BA, Pacific Lutheran University, Tacoma, WA
1984 - Present MD, University of Washington School of Medicine, Tacoma, WA

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

1984 - 1985 Pediatric Internship, Strong Memorial Hospital, Rochester, NY
1985 - 1987 Pediatric Residency, Strong Memorial Hospital, Rochester, NY
1987 - 1990 Fellowship, Pediatric Infectious Disease and Molecular Virology, St. Jude Children's Research Hospital, Memphis, TN

FACULTY APPOINTMENTS:

1990 - 1995 Assistant Professor, Pediatrics, Medical College of Wisconsin, Milwaukee, WI
1991 - 1993 Affiliate Member, Primate Center, University of Wisconsin, Madison, WI
1992 - 1995 Assistant Professor, Microbiology, Medical College of Wisconsin, Milwaukee, WI
1995 - 2005 Associate Professor, Pediatrics and Microbiology, Medical College of Wisconsin, Milwaukee, WI
2005 - Present Professor, Pediatrics and Microbiology, Medical College of Wisconsin, Milwaukee, WI
2007 Granted Tenure, Medical College of Wisconsin, Milwaukee, WI

HOSPITAL STAFF PRIVILEGES:

1990 - Present Children's Hospital of Wisconsin, 9000 West Wisconsin Avenue, Milwaukee, WI 53226
1990 - Present Froedtert Memorial Lutheran Hospital, 9200 West Wisconsin Avenue, Milwaukee, WI 53226

SPECIALTY BOARDS AND CERTIFICATION:

<u>Board Certified</u>	<u>Issue Date</u>	<u>Expiration</u>
National Board of Medical Examiners	1985	None
American Board of Pediatrics	1988	1995
Subboard in Pediatric Infectious Diseases	1994	2001
Subboard in Pediatric Infectious Diseases	2001	2008
American Board of Pediatrics - Recertified	2001	2007
Subboard in Pediatric Infectious Diseases - Recertified	2008	2015

<u>Licensure</u>	<u>Number</u>	<u>Issue Date</u>	<u>Expiration</u>
Wisconsin License	31214-20	10/31/2009	10/31/2011

AWARDS AND HONORS:

1985 - 1987 Gilbert Forbes Research Grants , University of Rochester
 1987 - 1990 NIH Research Fellowship
 1997 - Present David Hinds Memorial Lecture , American Society for Microbiology
 2003 - Present Keynote Address, International Congress on Respiratory Disease
 2009 - Present Gordon Research Conference presentation

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

1987 - Present Infectious Disease Society of America (Associate Member)
 1987 - Present American Society for Virology (Member)
 1987 - Present Pediatric Infectious Diseases Society of America (Member)
 1987 - Present American Society for Microbiology (Member)
 1990 - Present Infectious Diseases Society of Milwaukee (Member)
 1991 - 1996 National Respiratory and Enteric Virus Surveillance System (Member)
 1994 - Present Society for Pediatric Research (Member)

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Editorial Board
 2009 - Present Journal of Clinical Virology
 Journal Review
 1993 - Present Clinical Infectious Diseases
 1993 Immunology and Infectious Diseases
 1994 Clinical and Diagnostic Laboratory Immunology
 1994 - Present Journal of Infectious Diseases
 1999 American Thoracic Society
 1999 Aviron, Inc.
 2000 Infectious Diseases in children
 2000 Managing Influenza in Primary Care
 2003 - Present Pediatric Infectious Diseases Journal
 2004 Ophthalmic Plastic and Reconstructive Surgery
 2004 - Present Pediatric Hematology and Oncology
 2005 - Present Journal of Clinical Microbiology
 2006 - Present Scandinavian Journal of Infectious Diseases
 2006 - Present Journal of Medical Virology
 2006 - Present Emerging Infectious Diseases
 2007 Infectious Agents and Cancer
 2009 Virus Research

LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

1993 - 2005 Founder and Chairman, Board of Directors, Prodesse, Inc
 1994 - Present Grant Reviewer, Children's Hospital of Wisconsin Foundation
 04/19/2001 Member, Governor's Biotech Roundtable
 2001 - 2004 Wisconsin Biotech Association, Board of Directors
 07/22/2004 Panelist, Using science and technology accelerate economic growth in Southeastern Wisconsin
 06/22/2005 Respiratory Virus Consultant, WI Chapter of American Academy of Pediatrics and Managed Health Care Policy Meeting

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

1994 Grant Reviewer, North Carolina Biotechnology Center
 1995 Ad hoc Reviewer, NIH Study Section, Experimental Virology
 1996 Temporary member, NIH Study Section, Experimental Virology
 2003 Panelist/Reviewer, Military Infectious Diseases (USAMRII-D) Program (Army, Navy, Airforce)
 2003 Reviewer, Swiss National Science Academy

2004 Member, Special Emphasis Panel, NIH, Sars and Bioterrorism agents
 2004 - 2005 Member, Scientific Advisory Board, VII International Symposium on Respiratory Viral Infections, Chairman, Diagnostic Section
 2004 Member, Special Emphasis Panel, NIH, SBIR/IDM-M, Bacterial Biodefense Agents
 2005 Member, IDM-M Study Section, NIH, Bacterial Biodefense Agents
 2006 Member, IMM-K-03 Study Section, NIH, Vaccine Development
 2006 Reviewer, VA Grants, Special Session, Molecular diagnostics
 2006 Member, IMM-K 12B Study Section, NIH, Vaccine Development
 2006 Member, ZC17 FXR (13) Study Section, CDC, Non-pharmaceutical Intervention for Pandemic Influenza
 2007 Member, IMM-K Study Section, NIH, Vaccine Development
 2007 Member, Study Section, NIH, Special Emphasis Panel, Infectious agent detection and diagnostics
 2007 Member, ZAI1-CCH-M (M1) Study Section, NIH, Cooperative Research Partnerships for Influenza Product Development
 2008 Member, ZAI1-ESB-M, Special Emphasis Panel, NIH, Biodefense Therapeutics
 2008 Co-Chair, Study Section, CDC IP08-001 and IP08-002, Influenza vaccine effectiveness
 2009 Member, ZRG1 IDM-M (12) B, Study Section, NIH, Detection/Diagnosis, Food Safety, Sterilization, Disinfection, and Biomediation
 2009 Member, PHS 2009-1 (Part 017), Special Emphasis Panel, NIH, Clinical sample collection and processing technologies for infectious diseases diagnostics
 2010 Primary Author, White Paper to NIAID on need for paramyxovirus whole genome project
 2010 - Present Member, Microbiology Devices Panel of the Medical Devices Advisory Committee, CDRH, Food and Drug Administration
 2010 Member, Blue Ribbon Panel on Genomics, NIAID/DMID

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Prior

Peer Review

Title:	Molecular epidemiology of human parainfluenza virus I
Source:	CHW 90-35M
Role:	Principal Investigator
PI:	Self
Dates:	1990 - 1991
Direct Funds:	\$5,000
Title:	Molecular epidemiology of human parainfluenza virus I
Source:	MCW 2-26540
Role:	Principal Investigator
PI:	Self
Dates:	1990 - 1991
Direct Funds:	\$7,500
Title:	"Molecular epidemiology of childhood croup"
Source:	CHF 3315.254
Role:	Principal Investigator
PI:	Self
Dates:	1991 - 1992
Direct Funds:	\$11,339
Title:	"Molecular epidemiology of human parainfluenza virus I"
Source:	MCW 3-36556
Role:	Principal Investigator

PI:	Self
Dates:	1991 - 1992
Direct Funds:	\$9,000
Title:	Equipment grant for "Epidemiology and diagnosis of LRI in young children"
Source:	CHF 3315.237
Role:	Principal Investigator
PI:	Self
Dates:	1991
Direct Funds:	\$16,402
Title:	"Molecular epidemiology of human parainfluenza virus I"
Source:	NIAID 1R29AI310-01
Role:	Principal Investigator
PI:	Self
Dates:	1992 - 1997
Direct Funds:	\$537,950
Title:	"Evaluation of attenuated strains of Influenza A and B viruses in infants and young children"
Source:	CHF 3314.354
Role:	Principal Investigator
PI:	Self
Dates:	1992 - 1995
Direct Funds:	\$34,290
Title:	"Evaluation of Attenuated Strains of Influenza A & B Viruses in Children"
Source:	CHW 92-19M
Role:	Principal Investigator
PI:	Self
Dates:	1992 - 1994
Direct Funds:	\$7,500
Title:	"Virus associated Bacterial Tracheitis in Children"
Source:	CHW 93-60M
Role:	Principal Investigator
PI:	Self
Dates:	1993 - 1995
Direct Funds:	\$7,500
Title:	"Multicenter Trial of Vancomycin/Heparin/Ciprofloxacin Flush Solution in the prevention of Central Venous Line Infections"
Source:	CHW 93/39M
Role:	Principal Investigator
PI:	Self
Dates:	1993 - 1995
Direct Funds:	\$7,500
Title:	"Multicenter Trial of Vancomycin/Heparin/Ciprofloxacin

Source:	Flush Solution in the Prevention of Central Venous Line Infections"
Role:	CHF 3303.456
PI:	Principal Investigator
Dates:	Self
Direct Funds:	1993 - 1996
	\$59,953
Title:	"Virus Associated Bacterial Tracheitis in Children"
Source:	Department of ENT
Role:	Principal Investigator
PI:	Self
Dates:	1994 - 1995
Direct Funds:	\$23,230
Title:	Equipment Grant for "Rapid Detection of HPIV Using PCR"
Source:	CHF 3312.660
Role:	Principal Investigator
PI:	Self
Dates:	1995
Direct Funds:	\$9,900
Title:	"Multicenter Trial of Vancomycin/Heparin/Ciprofloxacin Flush Solution in the Prevention of Central Venous Line Infections" (Continuation)
Source:	CHW 3363.788
Role:	Principal Investigator
PI:	Self
Dates:	1996 - 1998
Direct Funds:	\$65,000
Title:	"Epidemiology of common respiratory viruses in pediatric bone marrow transplant patients"
Source:	CHW 3011.0519
Role:	Principal Investigator
PI:	Self
Dates:	1999 - 2000
Direct Funds:	\$27,329
Title:	"Real Time detection of RSV A and B"
Source:	Genetic Institute
Role:	Principal Investigator
PI:	Self
Dates:	2000
Direct Funds:	\$29,700
Title:	"Protective mechanisms against pandemic respiratory viruses"
Source:	NIAID
Role:	Subcontract (Stanford)
Dates:	09/2003 - 08/2008
Direct Funds:	\$12,700

Title:	“Multiplex PCR detection of CDC “A” bioterrorism agents”
Source:	NIAID 1 U01 A1654374-01
Role:	Principal Investigator (35% effort)
PI:	Self
Dates:	2003 - 2007
Direct Funds:	\$1,267,184
Title:	“Diagnostic for sepsis and community acquired pneumonia”
Source:	U01-A1066584 NIAID
Role:	Clinical & MCW Principal Investigator, Co-Investigator
PI:	Self
Dates:	07/01/2005 - 03/31/2010
Direct Funds:	\$2,867,000 (MCW \$1,185,154)
Title:	“Pathogenesis of virus-induced acute otitis media”
Source:	NIDCD, NIH
Role:	Co-Investigator, PI Subcontract
Dates:	07/01/2006 - 06/30/2007
Direct Funds:	\$76,008
Title:	“Rapid point of care diagnostic for bioterrorism “A” agents and pandemic influenza”
Source:	U01-AI070428 NIAID
Role:	Principal Investigator
PI:	Self
Dates:	09/01/2006 - 08/31/2011
Direct Funds:	\$6,635,310
Title:	“Laboratory Influenza Test”
Source:	CDC contract (Nanogen/MCW/Handilab)
Role:	Subcontract – MCW PI
Dates:	06/01/2008 - 05/31/2010
Direct Funds:	\$10,000,000 (MCW \$654,551)
Title:	“Multiplex POC device for antigen/molecular detection of influenza and other viruses”
Source:	U01-AI077988 NIAID
Role:	Principal Investigator
PI:	Self
Dates:	06/01/2008 - 05/31/2012
Direct Funds:	\$2,000,000
Title:	“Rapid point of care diagnostic for bioterrorism “A” agents and pandemic influenza” (supplement)
Source:	U01-AI070428-0451 NIAID
Role:	Principal Investigator
PI:	Self
Dates:	09/01/2009 - 08/31/2010

Direct Funds:	\$383,449
Title:	“Rapid point of care diagnostic for bioterrorism “A” agents and pandemic influenza”
Source:	U01-AI070428-04 Revised NIAID
Role:	Principal Investigator
PI:	Self
Dates:	09/01/2009 - 08/31/2010
Direct Funds:	\$315,329
Title:	“QuickVue of Pediatric Flu-RSV Field Testing”
Source:	Quidel
Dates:	2009 - 2010
Direct Funds:	\$65,115
Title:	“Whole genome sequencing of RSV, hMPV, HPIV-1 and HPIV-3”
Source:	NIAID-NIH Sequencing Centers
Role:	Principal Investigator
PI:	Self
Dates:	2010 - 2012
Title:	“Laboratory Testing Services”
Source:	HHS/BARDA Contract
Role:	Co-Investigator
Dates:	2010 - 2015

Non-Peer Review

Title:	"Neutralizing monoclonal antibody to HPIV-1"
Source:	Connaught Labs
Role:	Principal Investigator
PI:	Self
Dates:	1993 - 1994
Direct Funds:	\$22,500
Title:	"Evaluation of safety of a combined DTaCP/PRP-D vaccine in 15-20 month old children"
Source:	Connaught Labs - Protocol No. 246-01-D
Role:	Principal Investigator
PI:	Self
Dates:	1993
Direct Funds:	\$2,100
Title:	"Evaluation of safety of a combined DTaCP/PRP-T vaccine in 15-20 month old children"
Source:	Connaught Labs - Protocol No. 468-03
Role:	Principal Investigator
PI:	Self
Dates:	1993 - 1995
Direct Funds:	\$43,332

Title:	"A Randomized Open Label Comparison of Cefipime Versus Ceftazi-dime in the Treatment of Severe Bacterial Infections in Children"
Source:	Bristol-Myers Squibb - Protocol No. A1411-213
Role:	Principal Investigator
PI:	Self
Dates:	1994 - 1995
Direct Funds:	\$25,000
Title:	"A Multicenter Comparative Study of Cefepime Versus Ceftriaxone in the Treatment of Meningitis in Pediatric Patients"
Source:	Bristol-Myers Squibb - Protocol No. A1411-224
Role:	Principal Investigator
PI:	Self
Dates:	1994 - 1995
Direct Funds:	\$25,000
Title:	"A double-blind, randomized, placebo-controlled study to assess the safety and efficacy of multiple doses of SB 209763 in infants and young children with underlying diseases as prophylaxis"
Source:	Smith Kline Beecham
Role:	Principal Investigator
PI:	Self
Dates:	1995 - 1996
Direct Funds:	\$49,000
Title:	"Microneutralization assay for HPIV-1,2,3"
Source:	Connaught Labs
Role:	Principal Investigator
PI:	Self
Dates:	1995
Direct Funds:	\$14,251
Title:	"A single-blind immunogenicity and safety trial to determine the consistency of consecutively released lots of the tetravalent rhesus rotavirus vaccine (Rota-vax)"
Source:	Wyeth-Ayerst
Role:	Principal Investigator
PI:	Self
Dates:	1995 - 1996
Direct Funds:	\$16,000
Title:	"Development of rapid diagnostic assays"
Source:	Prodesse 3300150
Role:	Principal Investigator
PI:	Self

Dates:	1997 - 2000
Direct Funds:	\$92,899
Title:	“A double-blind, randomized placebo-controlled, parallel-group, multi-center study to investigate the efficacy and safety of inhaled Zanamivir (GG167)
Source:	Glaxo 3300633
Role:	Principal Investigator
PI:	Self
Dates:	1997 - 1998
Direct Funds:	\$30,000
Title:	“A double-blind, randomized placebo-controlled, parallel-group, multi center study to investigate the efficacy and safety of inhaled Zanamivir (GG167)
Source:	Glaxo
Role:	Principal Investigator
PI:	Self
Dates:	1998 - 1999
Direct Funds:	\$30,000
Title:	“Detection and surveillance of airborne respiratory pathogens”
Source:	Roche
Role:	Principal Investigator
PI:	Self
Dates:	1999 - 2000
Direct Funds:	\$15,000
Title:	“Development of rapid diagnostic assays”
Source:	Prodesse 3301007
Role:	Principal Investigator
PI:	Self
Dates:	2000 - 2004
Direct Funds:	\$20,000
Title:	“Development of respiratory virus gene chip”
Source:	Nanogen
Role:	Principal Investigator
PI:	Self
Dates:	2003
Direct Funds:	\$20,000
Title:	“Epidemiology of influenza and other respiratory viruses in adult repeat blood donors”
Source:	Blood Research Institute - Subcontract
Role:	Principal Investigator
PI:	Self
Dates:	2005 - 2006
Direct Funds:	\$25,000
Title:	“RSV Epidemiology”

Source:	Medimmune MA-133
Role:	Principal Investigator-MCW site
PI:	Self
Dates:	2006 - 2008
Direct Funds:	\$302,000
Title:	“A Phase 2, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate a Single Intravenous Dose of Motavizumab (MEDI-524)”
Source:	Medimmune CP-141
Role:	Principal Investigator – MCW site
PI:	Self
Dates:	2007 - 2008
Direct Funds:	\$2,000
Title:	“A Phase 1/2a, Randomized, Double-Blind, Placebo-Controlled, Dose-Escalation Study to evaluate the Safety, Tolerability, Immunogenicity and Vaccine-like Viral Shedding of MEDI-534”
Source:	MedImmune CP-178
Dates:	2008 - 2009
Direct Funds:	\$8,187
Title:	“Respiratory Virus Sequencing”
Source:	University of Texas
Dates:	2008
Direct Funds:	\$6,200
Title:	“Evaluation of the Accuracy of the Nanogen Flu ID TM Influenza A/B Assay for CLIA Waiver Application”
Source:	Flu-Nanogen/CDC
Role:	Principal Investigator – MCW site
PI:	Self
Dates:	2008 - 2009
Direct Funds:	\$100,000
Title:	“Comparison of fluIDTM Rapid Influenza and BinaxNOW® Influenza A&B”
Source:	Nanogen
Dates:	2009
Direct Funds:	\$13,905
Title:	“Report Study. RSV-Epidemiology MI-213-An Observational Prospective Study to Assess RSV Respiratory Events Among Premature Infants – Outcomes and Risk Tracking Study”
Source:	Medimmune
Dates:	2009 - 2011
Direct Funds:	\$3,000
Title:	“Multiplex Real Time Influenza Assay

	Development"
Source:	Handy Lab
Dates:	2009
Direct Funds:	\$4,814
Title:	"Preparation and Purification of HA/N Antigen"
Source:	Nanogen
Dates:	2009
Direct Funds:	\$3,135
Title:	"Validation of Fluid Test with Avian Influenza Strains"
Source:	Nanogen
Dates:	2009
Direct Funds:	\$6,728
Title:	"Testing for FDA EUA of QuickVue Influenza A&B Dipstick"
Source:	Quidel
Dates:	2009
Direct Funds:	\$6,500
Title:	"Growing and quantitating 38 strains of influenza and other respiratory viruses"
Source:	Cepheid
Dates:	2010
Direct Funds:	\$32,100

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

Local

Discussant on Panel Discussion - "New Vaccines", Appleton, WI, 02/1993 - Present

Focus 1996, "Acute Viral LRI in Pediatrics", Milwaukee, WI, 1996 - Present

"Advances in the Diagnosis of Viral Respiratory Disease", Wisconsin Virology Conference, Madison, WI, 06/05/1997 - Present

"LRI and RSV, Polio", Cool topics in Pediatrics, Lake Geneva, WI, 01/1998 - Present

"Advances in the Diagnosis of Viral Respiratory Disease", American Academy of Pediatrics-Wisconsin Branch Annual Meeting, 05/15/1998 - Present

"Advances in the Diagnosis of Viral Respiratory Disease", University of Wisconsin, Madison, WI, 08/26/1998 - Present

"Infectious Disease Update", Columbia Hospital, Milwaukee, WI, 09/15/1998 - Present

"Pertussis", Appleton, WI, 1998 - Present

"Advances in the Diagnosis of Viral Respiratory Disease in Adults", Meriter Hospital, Madison, WI, 03/11/1999 - Present

"RSV-Current Status", St. Joseph's Hospital, Milwaukee, WI, 12/07/1999 - Present

"Influenza in the New Millenium", Milwaukee, WI, 11/14/2000 - Present

"Known and New Approaches to Preventing Influenza", Protect All Kids Coalition, Milwaukee, WI, 09/18/2002 - Present

"Burden and Prevention of Influenza", Milwaukee, WI, 11/13/2003 - Present

"Burden and Prevention of Influenza", Milwaukee, WI, 11/18/2003 - Present

"Advances in the prevention of community acquired respiratory viruses", Medical Associates, Waukesha, WI, 10/04/2004 - Present

"Advances in the prevention of community acquired respiratory viruses", Medical Associates, Menomonee Falls, WI, 10/05/2004 - Present

"Burden and Prevention of Influenza", St. Vincent Hospital, Green Bay, WI, 02/25/2005 - Present

"Burden and Prevention of Influenza", Oneida Health Clinic, Oneida Reservation, WI, 02/25/2005 - Present

"Burden and prevention of influenza", Milwaukee, WI, 04/07/2005 - Present
 "Burden and prevention of influenza", Shoreview Pediatrics, Milwaukee, WI, 08/02/2005 - Present
 "Burden and Prevention of Influenza", Clinical Manager's Society Meeting, Madison, WI, 08/25/2005 - Present
 "Advances in the Epidemiology and Prevention of Influenza", Stevens Point, WI, 04/25/2006 - Present
 "Rotavirus Burden and Prevention", Arlington Heights Medical Clinic, Arlington Heights, IL, 04/26/2006 - Present
 "Avian Influenza", MCW Alumni Clinical Day, Milwaukee, WI, 05/06/2006 - Present
 "Rotavirus Burden and Prevention", Brookfield, WI, 06/21/2006 - Present
 "Rotavirus Burden and Prevention", La Crosse, WI, 07/24/2006 - Present
 "Burden and Prevention of Influenza", Noon Conference, Children's Hospital of Wisconsin, Fox Valley, WI, 08/22/2006 - Present
 "Pandemic influenza", MCW Board Winter Meeting, Milwaukee, WI, 01/10/2007 - Present

Regional

"Antigenic, Genetic, and Evolutionary Change in HPIV-1", St. Louis University, St. Louis, MO, 04/1992 - Present
 "Multicenter trial of vancomycin/heparin/ciprofloxacin flush solution in the prevention of central venous line infections.", Butterworth Hospital, Michigan, 11/08/1993 - Present
 "Update on Polio and Pertussis", Indianapolis, IN, 10/02/1996 - Present
 "Applications of RT-PCR", International Symposium for Influenza and Other Respiratory Viruses, Maui, HI, 12/04/1998 - 12/06/1998
 "Influenza: Prevention and Treatment Symposium, Epidemiology and Diagnosis", American College of Allergy, Asthma, Immunology, Chicago, IL, 11/12/1999 - Present
 "Influenza Update", Internal Medicine Grand Rounds, University of Michigan, Kalamazoo, MI, 01/19/2000 - Present
 "Influenza Update", Family Practice Grand Rounds, University of Michigan, Kalamazoo, MI, 01/20/2000 - Present
 "Advances in the epidemiology and prevention of influenza", Grand Rounds, Devos Children's Hospital, Great Falls, MI, 02/14/2006 - Present
 "Advances in Molecular Diagnostics for Infectious Diseases", Gordon Research Conference, Galveston, TX, 01/19/2009 - Present

National

"Update on Polio and Pertussis", Buffalo, NY, 10/30/1996 - Present
 "Multiplex PCR for Respiratory Virus Diagnosis", David Hinds Memorial Lecture, Pediatric Clinical Microbiology Society in Conjunction with the 97th Annual Meeting of the American Society of Microbiology, Miami, FL, 05/04/1997 - Present
 "Influenza, New Horizons in Prevention, Diagnosis, and Treatment", Symposium, Infectious Diseases Society of America, Denver, CO, 11/12/1998 - Present
 "Vaccines for the Prevention of HPIV-1 and 2", Connaught Laboratories, Swiftwater, PA, 12/15/1998 - Present
 "Epidemiology of HPIV and RSV at Children's Hospital of Wisconsin during 1996-1998", Aviron, Sunnyvale, CA, 03/12/1999 - Present
 "Applications of multiplex PCR in the diagnosis of viral respiratory diseases", Aviron, Sunnyvale, CA, 03/12/1999 - Present
 "Multiplex RT-PCR for the diagnosis of respiratory viruses", Molecular Biology Workshop, 15th Annual Clinical Virology Symposium, Clearwater, FL, 05/08/1999 - Present
 "Influenza: Epidemiology and Diagnosis", Influenza Prevention, and Treatment Symposium, American Academy of Physician Assistants Conference, Atlanta, GA, 05/29/1999 - Present
 "Epidemiology, Diagnosis, and Public Health Impact of Influenza: New Treatment Options", Diagnosis and Management of Influenza, American Academy of Nurse Practitioners Conference, Atlanta, GA, 06/17/1999 - Present
 "Multiplex PCR for the Diagnosis of Respiratory Viruses", Grand Rounds, Salt Lake City, UT, 10/15/1999 - Present
 "Influenza: Prevention and Treatment Symposium, Epidemiology and Diagnosis", American Academy of Chest Physicians, 11/02/1999 - Present

“Multiplex PCR for the Diagnosis of Respiratory Viruses”, Biostar, Boulder, CO, 11/09/1999 - Present
 “Advances in the diagnosis of viral respiratory disease”, ASM Symposium on Molecular Sequencing and Genotyping, Los Angeles, CA, 05/20/2000 - Present
 “Influenza Prevention and Treatment”, American College of Allergy and Immunology Annual Meeting, Seattle, WA, 11/02/2000 - Present
 “Use of Multiplex PCR for the Diagnosis of RSV and HPIV-3”, CRANDA National Meeting, Orlando, FL, 02/11/2001 - Present
 “Viral testing and gold standards”, Key Note Lecture The 2003 International Congress on Respiratory Diseases, Chantilly, VA, 04/2003 - Present
 “Advances in the diagnosis of viral respiratory disease”, Pediatric Infectious Diseases Grand Rounds, Vanderbilt, University, 04/28/2004 - Present
 “Advances in the prevention of community acquired respiratory viruses”, Grand Rounds, Fairbanks Memorial Hospital, Fairbanks, AK, 09/09/2004 - Present
 Advances in the prevention of community acquired respiratory viruses, Grand Rounds, Anchorage, AK, 09/10/2004 - Present
 “Advances in the epidemiology and prevention of influenza”, Grand Rounds, Fargo, ND, 10/21/2004 - Present
 “Rapid detection of respiratory pathogens”, Workshop, Association for Molecular Pathology, Los Angeles, CA, 11/12/2004 - Present
 “Advances in the epidemiology and prevention of influenza”, Portland Academy of Medicine, Portland, OR, 02/03/2005 - Present
 “Burden and prevention of influenza”, ProVo Hospital and Clinics, Provo, UT, 03/24/2005 - Present
 “Advances in the prevention of influenza”, Symposium, “Making Flu Prevention a Priority”, San Antonio, TX, 05/13/2005 - 05/14/2005
 “Advances in the epidemiology and prevention of influenza”, Northern Nevada Immunization Coalition, Reno, NV, 05/25/2005 - Present
 “Burden and prevention of influenza”, Grand Rounds, St. Cloud, MN, 09/16/2005 - Present
 “Burden and prevention of influenza”, Grand Rounds, Children’s Medical Center, Dayton, OH, 09/28/2005 - Present
 “Advances in the epidemiology and prevention of influenza”, Helena, Bozeman, and Great Falls, MT, 10/24/2005 - 10/25/2005
 “Microarray – Multiplexed PCR detection of respiratory agents”, ASM Symposium, ASM National Meeting, Orlando, FL, 05/21/2006 - 05/25/2006
 “Antiviral therapy and vaccines for pandemic influenza”, Scientific Therapeutic Information, 08/29/2006 - Present
 “Influenza: Epidemiology, Burden, and Prevention”, Texas Association of Health Plans Annual Meeting, 10/24/2006 - Present
 “Seasonal and pandemic influenza 2007”, Centers for Disease Control, 02/01/2007 - 02/02/2007
 “Advances in the Molecular Diagnosis of Infectious Diseases”, St. Jude Children’s Research Hospital, Memphis, TN, 11/26/2007 - Present
 “Progress on Diagnostics for CAP/sepsis, Bioterrorism Agents, and Seasonal Pandemic Influenza”, NIAID, Bethesda, MD, 09/23/2008 - Present

International

“Antigenic, Genetic, and Evolutionary Change in HPIV-1”, Connaught Laboratories, Toronto, Canada, 06/1992 - Present
 “Epidemiology, Molecular Virology, and Evolution of Human Parainfluenza Virus Type One”, Beijing Children's Hospital, Chinese Academy of Medical Sciences and National Institute of Virology, Beijing, China, 03/11/1996 - Present
 “Epidemiology, Molecular Virology, and Evolution of Human Parainfluenza Virus Type One”, Suzhou Children’s Hospital and Suzhou Medical College, Suzhou, China, 03/15/1996 - Present
 “Epidemiology, Molecular Virology, and Evolution of Human Parainfluenza Virus Type One”, Shanghai Children's Hospital and Shanghai First Medical University, 03/18/1996 - Present
 “Advances in the diagnosis of viral respiratory disease”, ASM Symposium on Molecular Sequencing and Genotyping, Hong Kong, China, 12/14/2000 - Present
 “Epidemiology and Diagnosis of Influenza in Children”, European Society of Pediatric Infectious Diseases, Istanbul, Turkey, 03/27/2001 - Present

- “Multiplex PCR for the Diagnosis of Respiratory Viruses”, VII International Symposium on Respiratory Viral Infections, Curacao, 03/04/2005 - Present
- “Advances in Molecular Diagnostics for Infectious Diseases”, Soochow University Children’s Hospital, Suzhou, China, 08/05/2008 - Present
- “Advances in Molecular Diagnostics for Infectious Diseases”, Huazhong Agricultural University, College of Veterinary Medicine, Wuhan, China, 08/08/2008 - Present
- “Advances in Molecular Diagnostics for Infectious Diseases”, China Centers for Disease Control, Beijing, China, 08/11/2008 - Present
- “Advances in Molecular Diagnostics for Infectious Diseases”, Capital Institute of Pediatrics, Beijing, China, 08/13/2008 - Present

COMMITTEE SERVICE:

Medical College of Wisconsin

- 1991 - 1992 Member, Faculty Retreat Committee, Department of Pediatrics, Medical College of Wisconsin
- 1994 - 1995 Member, Pediatric Research Committee, Medical College of Wisconsin
- 1994 - 1995 Member, Pediatric Task Force on Responsible Conduct of Research, Medical College of Wisconsin
- 1995 - 1999 Member, Advisory Committee, General Clinical Research Center (GCRC), Medical College of Wisconsin
- 1996 - 1997 Member, Search Committee for Chair of Orthopedic Surgery, Medical College of Wisconsin
- 2002 - 2003 Member, Bioterrorism Task Force, Medical College of Wisconsin
- 2002 Member, Pediatric Clinical Research Center Task Force, Medical College of Wisconsin
- 2002 - 2005 Member, Pathogen Committee, review protocols for gene therapy in humans, Medical College of Wisconsin
- 2003 - 2005 Member, BSL-3 Committee, Medical College of Wisconsin
- 2005 - 2007 Member, Task Force on Conflict of Interest, Department of Pediatrics, Medical College of Wisconsin
- 2005 - Present Member, Institutional Biosafety Committee, Medical College of Wisconsin
- 2005 Member, Strategic Planning Subcommittee on Clinical Research, Department of Pediatrics, Medical College of Wisconsin
- 2010 Member, NIH Leveraging Task Force, Medical College of Wisconsin

Hospital

- 1991 - 2010 Member, Infection Control Committee, Children's Hospital of Wisconsin
- 1993 Member, Isolation Task Force, Children's Hospital of Wisconsin
- 1995 - 1998 Member, Central Venous Line Committee, Children's Hospital of Wisconsin
- 1995 - 1997 Member, Nutritional Support Subcommittee, Children's Hospital of Wisconsin
- 2003 Member, “SARS” Task Force, Children's Hospital of Wisconsin

MEDICAL COLLEGE TEACHING ACTIVITIES:

Community/Lay Public

- 1997 Pathology Conference – “Advances in the Diagnosis of Viral Respiratory Disease”, Milwaukee, WI

Medical Student Education

- 1990 "Fever and Neutropenia"
- 1990 - 2007 Pediatric Infectious Diseases Attending (M4’s, PL-2’s, PL-3’s, occasional adult ID fellows)
- 11/1991 CHW CME Course "Viral LRI in Children"
- 1991 Microbiology Course "Viral LRI in Children"
- 1991 - Present Pediatric General Ward Teaching Attending (M3’s, M4 subinterns, PL-1’s, PL3’s)
- 1991 "Infections in Child Day Care Centers"
- 1992 "Fever and Neutropenia"
- 1993 Advanced Virology Course "Paramyxoviruses"
- 1993 Preparation for Internship Course "Antibiotics"
- 1994 "Central Venous Catheter Infections"

1998 "Epidemiology of RSV"
09/1999 "New Topics in Vaccination"
11/1999 "Influenza"
2003 "Human Virology"
2004 "Burden and Prevention of Influenza"
11/2005 "Epidemiology and natural history of epidemic and pandemic influenza"
2006 "Rotavirus Burden and Prevention"

EXTRAMURAL TEACHING:

Medical Student Education

1991 Medical College of Wisconsin, Department of Pediatrics Academic Conference, "Molecular Epidemiology of Human Parainfluenza Virus I"
1995 Medical College of Wisconsin, Department of Pediatrics Academic Conference, "Antigenic and Genetic Analysis of HPIV-1 from the 1991 Milwaukee Epidemic"
1998 Medical College of Wisconsin, Department of Pediatrics Academic Conference, "Epidemiology of Common Respiratory Viruses at CHW Using RT-PCR"
2003 Medical College of Wisconsin, Department of Pediatrics Academic Conference, "Advances in molecular diagnostics"
2005 Medical College of Wisconsin, Department of Pediatrics Academic Conference, "From Anthrax to Bird Flu, Advances in Molecular Diagnostics for Infectious Diseases"
2008 Medical College of Wisconsin, Department of Pediatrics Academic Conference, "Adenovirus therapy"

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Medical Students

Medical College of Wisconsin, 1993 - Present Advisor for Third Year Students

Graduate Students

MS Committees

Noah Leigh, Medical College of Wisconsin, 2004 - 2005 Advisor

Clinical/Research Fellows

Jie He, Medical College of Wisconsin, 2006 - Present virology fellow in my laboratory
Angela Peck, MD, Medical College of Wisconsin, 2006 - 2007 PID Fellow K23 consultant
Lihua Wang, Medical College of Wisconsin, 2007 - 2008 virology fellow in my laboratory
Cecilia Rebuffo Scheer, Medical College of Wisconsin, 2008 - 2010

Residents

Fatoumata Ceesay, Medical College of Wisconsin, 2004 - 2006 Pediatric Resident

EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:

Postdoctoral Students

Swati Kumar, MD, 2007 - Present

PROGRAMMATIC DEVELOPMENTS:

Educational Programs

Student

05/19/2004 - Present Panelist, Biotechnology Round Table, MCW
2007 - Present Director, Midwest Respiratory Virus Program, CRI, Department of Pediatrics, Medical College of Wisconsin

Clinical Programs

2007 - 2008 Clinical Translational Science Institute (CTSI) - Novel Methodologies Key Function Director

CONTINUING MEDICAL EDUCATION:

- 1997 "Update on Pertussis", Edelweiss - Pertussis - Pediatric CME Course. Connaught Laboratories – Edelweiss Cruise, Milwaukee, WI
- 10/02/1999 "Influenza: Epidemiology and Diagnosis", CME Course, Boca Raton, FL
- 10/09/1999 "Influenza: Epidemiology and Diagnosis", CME Course, Pasadena, CA
- 12/04/1999 "Influenza: Prevention and Treatment Symposium, Epidemiology and Diagnosis", CME Course, Seattle, WA
- 01/15/2000 "Influenza: Prevention and Treatment Symposium, Epidemiology and Diagnosis", CME Course, Chicago, IL
- 01/19/2000 "Influenza Update", Dinner Symposium, CME Course, Kalamazoo, MI
- 01/09/2001 "Advanced Strategies for Influenza Therapy: Taking a Direct Approach", Dinner Symposium CME Course, Chicago, IL
- 01/23/2001 "Advanced Strategies for Influenza Therapy: Taking a Direct Approach", Dinner Symposium CME Course, Chicago, IL
- 10/03/2002 "Known and New Approaches to Preventing Influenza", Dinner Symposium, CME Course, Chicago, IL
- 09/16/2004 "Advances in the prevention of influenza," Dinner Symposium, CME Course, Milwaukee, WI
- 10/04/2004 "Advances in the prevention of influenza," Dinner Symposium, CME Course, Madison, WI
- 12/13/2004 "The burden and prevention of influenza and RSV," Dinner Symposium, CME Course, La Crosse, WI
- 02/02/2005 "Advances in the prevention of influenza," Dinner Symposium, CME Course, Portland, OR
- 02/24/2005 "The burden and prevention of influenza", Dinner Symposium, CME Course, Appleton, WI
- 03/23/2005 "Advances in the prevention of influenza," Dinner Symposium, CME Course, Salt Lake City, UT
- 06/09/2005 "The burden and prevention of influenza," Dinner Symposium, CME Course, Seattle, WA
- 08/22/2006 "The burden and prevention of influenza," Dinner Symposium, CME Course, Greenberg, WI

PATENTS SUBMITTED:

- 12/1997 U.S. Patent - Human Parainfluenza Virus I, II, and III Assay
- 01/18/2000 U.S. Patent - Hexaplex assay for rapid viral diagnosis
- 06/2000 Australian Patent

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. HENRICKSON KJ, Powell KR, Schwartz CL. A dilute solution of vancomycin and heparin retains antibacterial and anticoagulant activities. *J Infect Dis* 157:600-601, 1988.
2. HENRICKSON KJ, Powell KR, Ryan DH. Evaluation of acridine orange stained buffy-coat smears for identification of bacteremia in children. *J Pediatr* 112:65-66, 1988.
3. HENRICKSON KJ, Shenep JL, Flynn PM, Pui C-H. Primary cutaneous *Bacillus cereus* in neutropenic children. *Lancet* 1:601-603, 1989.
4. HENRICKSON KJ, Shenep JL. Fulminating *Staphylococcus epidermidis* bacteremia. *South Med J* 83:231-234, 1990.
5. HENRICKSON KJ, Portner A. Antibody response in children to antigenic sites on human PIV-3 HN: Correlation with known epitopes mapped by monoclonal antibodies. *Vaccine* 8:75-80, 1990.
6. Schwartz C, HENRICKSON K, Roghmann K, Powell K. Prevention of catheter associated bacteremia in patients with tunneled central venous catheters. *J Clin Oncol* 8:1591-1597, 1990.
7. HENRICKSON KJ, Kingsbury DW, Van Wyke Coelingh KL, Naeve CW, Portner A. Known neutralizing epitopes of human parainfluenza virus type 3 HN are conformational and cannot be imitated by synthetic peptides. *Vaccine* 9:243-249, 1991.
8. HENRICKSON KJ. Monoclonal antibodies to human parainfluenza virus type 1 detect major antigenic changes in clinical isolates. *J Infect Dis* 164:1128-34, 1991.
9. Henwick S, HENRICKSON KJ, Leggiadro R. Disseminated trichosporan *beigelii* in a normal neonate. *Pediatr*

- Infect Dis J 11:50-52, 1992.
10. HENRICKSON KJ, Dunne WM. Modification of a central venous catheter flush solution improves in vitro antimicrobial activity. *J Infect Dis* 166:944-946, 1992.
 11. HENRICKSON KJ, Savatski L. Genetic variation and evolution of human parainfluenza virus type 1: Analysis of 12 clinical isolates. *J Infect Dis* 166:995-1005, 1992.
 12. HENRICKSON KJ, Kuhn SM, Savatski LL, Sedmak J. Recovery of human parainfluenza virus types one and two. *J Virologic Methods* 46:189-206, 1994.
 13. Gershan WM, Rusakow LS, HENRICKSON KJ, Splaingard ML. Fungal brain abscess in childhood cystic fibrosis. *Chest* 106:601-603, 1994.
 14. HENRICKSON KJ, Kuhn SM, Savatski LL. Epidemiology and cost of human parainfluenza virus type one and two infections in young children. *Clinical Infectious Diseases* 18:770-779, 1994.
 15. HENRICKSON KJ, Savatski LL. Two distinct human parainfluenza virus type one geno-types detected during the 1991 epidemic. *J Clin Microbiol* 34:695-700, 1996.
 16. Fan J, HENRICKSON KJ. Rapid diagnosis of human parainfluenza virus type 1 infection by quantitative RT-PCR-EHA. *J Clin Microbiol* 24:1914-1917, 1996.
 17. HENRICKSON KJ, Savatski LL. Antigenic structure, function and evolution of the hema-gglutinin neuraminidase protein of human parainfluenza virus type 1. *J Infect Dis* 176:867-75, 1997.
 18. Fan J, HENRICKSON KJ. Rapid simultaneous diagnosis of RSV A, B, influenza A, B, human parainfluenza virus type 1, 2, and 3 infection by multiplex quantitative RT-PCR enzyme hybridization (HexaplexTM) assay. *Clin Infect Dis* 26:1397-1402, 1998.
 19. HENRICKSON KJ, Axtell RA, Hoover S, Kuhn SM, Kehl S, Pritchett J, Hutchinson C, Pelz C. Prevention of central venous catheter-related infections and thrombotic events in immuno-compromised children by the use of vancomycin/ciprofloxacin/heparin (VHC) flush solution. A randomized, multi center, double-blind trial. *J Clin Oncology* 18:1269-1278, 2000.
 20. Chonmaitree T, HENRICKSON KJ. Detection of respiratory viruses in the middle ear fluids of children with acute otitis media by multiplex reverse transcription - polymerase chain reaction assay. *Pediatr Infect Dis J* 19:258-260, 2000.
 21. Osterhaus A, Hedrick JA, HENRICKSON KJ, Makela M, Webster A, Keene O. Clinical efficacy of inhaled zanamivir for the treatment of influenza B: A pooled analysis of randomized, placebo-controlled studies. *Clin Drug Invest* 20(4):223-228, 2000.
 22. Kehl S, HENRICKSON KJ. Comparison of three diagnostic methods; Hexaplex, tissue culture, and rapid EIA for the detection of respiratory viruses in children. *J Clin Microbiol* 39:1696-1701, 2001.
 23. Ramirez, S, Hild T, Rudolph C, Sty JR, Kehl SC, Havens P, HENRICKSON KJ, Chusid MJ. Increased diagnosis of Lemierre Syndrome and other *Fusobacterium necrophorum* infections at a Children's Hospital. *Pediatrics* 112:e380-e385, 2003.
 24. HENRICKSON KJ, Hoover S, Kehl KS. National disease burden of respiratory viruses detected in children using PCR. *Pediatr Infect Dis J* 23:S11-18, 2004.
 25. HENRICKSON KJ. Advances in the laboratory diagnosis of viral respiratory disease. *Pediatr Infect Dis J* 23:S6-10, 2004.
 26. Harrington K, Khanna M, Waters CR, HENRICKSON KJ. Adenoplex: Rapid detection and identification of human adenovirus species by a multiplex PCR-EHA based assay. *J Clin Microbiol* 42:4072-4076, 2004.
 27. Khanna M, Fan J, Harrington K, Waters C, Kehl S, HENRICKSON KJ. The Pneumo-plex: A multiplex PCR-EHA based assay simultaneously detects *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, *Legionella pneumophila* and *micdadei*, and *Bordetella pertussis* infections in a single test *Journal of Clinical Microbiology* 43:565-571, 2005.
 28. Garland JS, Alex CP, HENRICKSON KJ, McAuliffe TL, Maki DG. A vancomycin-heparin lock solution for prevention of nosocomial bacteremia in critically ill neonates with peripherally diverted central venous catheters. *Pediatrics* 116(2):e198-205, 2005.
 29. HENRICKSON KJ. Cost effective use of rapid diagnostic techniques in the treatment and prevention of viral respiratory infections *Pediatric Annals* 34:24-31, 2005.
 30. HENRICKSON KJ, Kraft A, Shaw J, Canter D. Comparison of electronic microarray (NGEN RVA) to enzyme hybridization assay (Hexaplex) for multiplex RT-PCR detection of common respiratory viruses in children. *Clinical Microbiology Newsletter* 29:113-119, 2007.
 31. Bermingham A, HENRICKSON KJ, Hayden F, Zambon M. Workshop report: VIII International Symposium on Respiratory Viral Infections. *Antivir Ther* 12, 2007.
 32. HENRICKSON KJ, Hall C. Diagnostic assays for determining RSV activity *Pediatric Infectious Diseases*

Journal 26:S36-40, 2007.

33. Bose M, Fan J, Patzer A, Littrell, Kraft AJ, HENRICKSON KJ. Website development for the advancement of influenza primer and probe design (www.IPDR.mcw.edu). *Influenza and other respiratory viruses* 2:23-31, 2008.
34. Chonmaitree T, Revai K, Grady JJ, Clos A, Patel J, Nair S, Fan J, HENRICKSON KJ. Viral upper respiratory tract infection and otitis media complication in young children. *Clin Infect Dis* 46:815-213, 2008.
35. Kumar S, Wang L, Fan J, Kraft AJ, Bose M, Tiwari S, Van Dyke M, Haigis R, Luo T, Ghosh M, Tang H, Haghnia M, Mather EL, Weisburg WG, HENRICKSON KJ. Detection of 11 common viral and bacterial pathogens causing community-acquired pneumonia or sepsis in asymptomatic patients using Multiplex RT-PCR assay with manual (enzyme hybridization) or automated detection (electronic microarray). *J Clin Microbiol* 46(9):3063-72, 2008. Epub July 23, 2008.
36. Huang Y, Tang H, Duffy S, Hong Y, Norman S, Ghosh M, He J, Bose M, HENRICKSON KJ, Fan J, Kraft AJ, Weisburg WG, Mather EL. Multiplex assay for simultaneously typing and subtyping influenza viruses by use of an electronic microarray. *J Clin Microbiol* 47:390-396, 2009.
37. He J, Kraft AJ, Fan J, Van Dyke M, Wang L, Bose M, Khanna M, Metallo J, HENRICKSON KJ. Simultaneous detection of CDC category "A" DNA bioterrorism agents by use of multiplex PCR and RT-PCR enzyme hybridization assays. *Viruses* 1(3):441-459, 2009.
38. Kumar S, Chusid MJ, Willoughby RE, Havens PL, Kehl SC, Ledebor NA, Li SH, HENRICKSON KJ. Introduction of a novel swine-origin influenza A (H1N1) virus into Milwaukee, Wisconsin in 2009. *Viruses* 1(1):72-83, 2009; doi:10.3390/v1010072 - published on line June 11, 2009.
39. Beck ET, Jurgens LA, Kehl SC, Bose E, Patitucci T, LaGue E, Darga P, Wilkinson K, Witt LM, Fan J, He J, Kumar S, HENRICKSON KJ. Rapid automated detection of influenza A, influenza B, and RSV A/B by multiplex real-time RT-PCR during the 2009 H1N1 swine-origin influenza virus (S-OIV) epidemic in Milwaukee, Wisconsin. *J Mol Diagn* 12(1):74-81, 2010. Epub December 3, 2009.
40. Bose ME, Beck ET, Ledebor N, Kehl SC, Jurgens LA, Patitucci T, Witt L, LaGue E, Darga P, He J, Fan J, Kumar S, HENRICKSON KJ. Rapid semi-automated subtyping of influenza during the 2009 swine-origin influenza A H1N1 virus epidemic in Milwaukee, Wisconsin. *J Clin Microbiol* 47(9):2779-86, 2009. Epub August 4, 2009.
41. He J, Bose ME, Beck ET, Fan J, Tiwari S, Metallo J, Jurgens LA, Kehl SC, Ledebor N, Kumar S, Weisburg W, HENRICKSON KJ. Rapid multiplex RT-PCR typing of influenza A and B and subtyping of influenza A into H1, 2, 3, 5, 7, 9, N1 (human), N1 (animal), N2 and N7 including typing of novel swine-origin influenza A (H1N1) virus during the current 2009 outbreak in Milwaukee, Wisconsin. *J Clin Microbiol* 47(9):2772-78, 2009. Epub August 4, 2009.
42. Bonner A, Mallory M, Abujamra L, HENRICKSON KJ, Staat M, Makari D for the Emergency Department RSV Collaborative Study Group. Seasonal variation in respiratory syncytial virus-associated lower respiratory tract infection or apnea in infants presenting to the Emergency Department. *Pediatrics* (Submitted).
43. Nelson M, Spiro D, Wentworth D, Beck E, Fan J, Ghedin E, Halpin R, Bera J, Hine E, Proudfoot K, Stockwell T, Lin X, Griesemer S, Kumar S, Bose M, Viboud c, Holmes E, and HENRICKSON KJ. The early diversification of influenza A/H1N1 pdm. *PLoS curr Influenza* November 9:RRN1126, 2009.
44. Kalu S, Loeffelholz M, Beck E, Patel J, Revai K, Fan J, HENRICKSON KJ, Chonmaitree T. Persistence of adenovirus nucleic acids in nasopharyngeal secretions: a diagnostic conundrum. *Pediatr Infect Dis J* March 19, 2010.
45. Kumar S, Chusid MJ, Willoughby RE, Havens PL, Kehl S, Ledebor N, Simpson P, VanDyke M, Davis E, Gaffney K, Li S, Bose M, HENRICKSON KJ. Epidemiologic Observations from Passive and Targeted Surveillance During The First Wave of the 2009 H1N1 Influenza Pandemic in Milwaukee, WI. *Viruses* 2:782-795, 2010.
46. Kumar S, Havens PL, Chusid MJ, Willoughby RE, HENRICKSON KJ. Clinical and Epidemiologic characteristics of children hospitalized with 2009 pandemic H1N1 influenza A infection. *Pediatr Infect Dis J* 29:1-4, 2010.
47. Rebuffo-Sheer C. RSV Sequencing paper (manuscript in preparation).
48. Kumar S. Immune response to H1N1 in emergency department employees. *Pediatr Emerg Care*. Accepted.
49. HENRICKSON KJ. RSV A and B clinical characteristics (manuscript in preparation).
50. Nelson MI, Tan Y, Ghedin E, Wentworth DE, St. George K, Edelman L, Beck ET, Fan J, Lam TTY, Spiro DJ, Simonsen L, Viboud C, Holmes EC, HENRICKSON KJ, and Musser JM. Phylogeography of the

spring and fall waves of the H1N1/09 pandemic influenza virus in the United States. *J Virol* 85:828-34, 2011.

51. Kumar S. Review of influenza molecular diagnostics during 2009 pandemic (invited). *Review of Clinical Microbiology*.

Books, Chapters, and Reviews

1. HENRICKSON KJ. Infections in child day care centers, in Summitt RL (ed) *Comprehensive Pediatrics*, Chapter 27. CV Mosby Co., St. Louis, 1990, pp. 889-891.
2. HENRICKSON KJ. A second species of *Bacillus* causing primary cutaneous disease. *Int J Dermatol* 29:1-2, 1990.
3. HENRICKSON KJ. *Capnocytophaga*, in Patrick CC (ed) *Infections in immunocompromised infants and children*. Churchill Livingstone, New York, 1992, pp. 516-522.
4. Clinical reviewer for antimicrobial chapters in "Physicians 1992 Drug Handbook", Springhouse Corp., Springhouse, PA, 1992.
5. HENRICKSON KJ. Lower respiratory viral infections in immunocompetent children, in Aronoff SC (ed) *Advances in Pediatric Infectious Diseases*. Mosby-Year Book, Inc., Chicago, Illinois, 1994, pp. 59-96.
6. HENRICKSON KJ, Belshe RB. Parainfluenza, in Mandell, Bennett D (ed) *Principals and Practices of Infectious Diseases*, Edition 4. Churchill Livingston, New York, 1994.
7. HENRICKSON KJ. Parainfluenza viruses, in Lennette EH (ed) *Diagnostic procedures for viral, rickettsial, and chlamydial infections*. American Public Health Association, Washington, D.C., 1995.
8. HENRICKSON KJ. Viral pneumonia, in Wald E (ed) *Seminars in Pediatric Infectious Diseases Volume 9*, Number 3, July, 1998, pp 217-233.
9. HENRICKSON KJ. Parainfluenza viruses, in Lennette EH (ed) *Diagnostic procedures for viral rickettsial, and chlamydial infections*. American Public Health Association, Washington, D.C., 1999.
10. Bankowski MJ, HENRICKSON KJ, et al. Laboratory diagnosis of viral respiratory disease. *Cumulative techniques and procedures in clinical microbiology*. American Society for Microbiology (2001).
11. Glezen WP, Gravenstein S, HENRICKSON KJ, Subbarao K. Influenza: new horizons in prevention, diagnosis, and treatment (monogram), 1999.
12. HENRICKSON KJ, Axtell RA, Hoover S, Kuhn SM, Kehl S, Pritchett J, Hutchinson C, Pelz C. Prevention of central venous catheter-related infections and thrombotic events in immunocompromised children by the use of vancomycin/ciprofloxacin/heparin (VHC) flush solution. A randomized, multi center, double-blind trial. *Infections in Oncology Volume 5*, Number 3, pp 6-10, 2001.
13. Chonmaitree T, HENRICKSON KJ. Use of a multiplex RT-PCR assay to detect viruses in middle ear fluids. *Proceedings of the Seventh International Symposium Recent Advances in Otitis Media*. Chapter 184, 2002.
14. Garland JS, HENRICKSON KJ, Maki DG. The 2002 Hospital Infection Control Practices Advisory Committee Centers for Disease Control and Prevention Guideline for Prevention of Intravascular Device-Related Infection. *Pediatrics* 110:1009-1013, 2002.
15. HENRICKSON KJ. Parainfluenza viruses, *Clinical Microbiology Reviews*. April, 2003, p. 242-264).
16. HENRICKSON KJ. Parainfluenza, in Gorbach SL, Bartlett JG, Blacklow NR (eds) *Infectious Diseases*, third edition, Lippincott Williams, Philadelphia, 2004.
17. Fan J, Kraft AJ, HENRICKSON KJ. Current methods for the rapid diagnosis of bioterrorism related infectious agents. *Pediatr Clin N Am* 53:817-842, 2006.
18. HENRICKSON KJ. Parainfluenza, in Prober C, Long S, Pickering L (eds) *Principles and Practices of Pediatric Infectious Disease*, 3rd edition, 2007.

Editorials, Letters to Editor, Other

1. Sheth KJ, HENRICKSON KJ. Prevention of recurrent central venous catheter infections with a novel flush solution in a patient on long-term hemodialysis. *Pediatric Nephrology* 7:506-508, 1993.
2. HENRICKSON KJ. Another Reader Writes. *Pediatric Infectious Diseases Journal Newsletter*, Volume 19, 2000.
3. HENRICKSON, KJ, Kehl S. Diagnostic tests for influenza, *Pediatric Infectious Diseases Journal Newsletter*. *Pediatr Infect Dis J* 23, 2004.

Abstracts

1. Schwartz CL, HENRICKSON KJ, Powell KR. Prevention of intraluminal catheter infections by vancomycin/heparin. (Presented at ASCO May 21-23, 1989, San Francisco, California.)

2. Schwartz CL, HENRICKSON KJ, Powell KR. Prevention of intraluminal catheter infections by vancomycin/heparin. (Presented at SPR, May 1, 1989, Washington, D.C.)
3. HENRICKSON KJ, et al. Primary cutaneous *Bacillus cereus* in neutropenic children. *Clinical Digest Series*, pp. 306-307, 1990.
4. HENRICKSON KJ, et al. Primary cutaneous *Bacillus cereus* in neutropenic children. *Dermatology Digest* 9:3-4, 1990.
5. Dunne WM, HENRICKSON KJ. In vitro antimicrobial activity of a modified central venous catheter flush solution. (Presented, American Society of Microbiology, May 1992)
6. Schwartz C, HENRICKSON KJ, Roghmann K, Powell K. Prevention of bacteremia attributed to luminal colonization of tunneled central venous catheters with vancomycin-susceptible organisms. *Yearbook of Infectious Diseases*, 1992.
7. HENRICKSON KJ, Savatski L. Genetic variation and evolution in clinical isolates of human parainfluenza virus type 1. (American Society for Virology, July 11, 1992.)
8. Fan J, HENRICKSON KJ. Rapid diagnosis of human parainfluenza virus type 1 infection by quantitative RT-PCR-EHA. (Society of Pediatric Research, 1996)
9. Fan J, HENRICKSON KJ. Multiplex quantitative RT-PCR-Enzyme hybridization assay for rapid diagnosis of human parainfluenza virus type 1, 2, 3, influenza virus type A, B, respiratory syncytial virus type A & B infection. (American Society for Virology, 1997).
10. Fan J, HENRICKSON KJ. Multiplex quantitative RT-PCR-Enzyme hybridization assay for rapid diagnosis of human parainfluenza virus type 1, 2, 3, influenza virus type A, B, respiratory syncytial virus type A & B infection. (ICAAC, 1997)
11. Kehl S, HENRICKSON KJ. Comparison of three diagnostic methods; Hexaplex, tissue culture, and rapid EIA for the detection of respiratory viruses in children. (ICAAC, 1998).
12. HENRICKSON KJ, Axtell RA, Hoover S, Kuhn SM, Kehl S, Pritchett J, Hutchinson C, Pelz C. Prevention of central venous catheter-related infections and thrombotic events in immuno-compromised children by the use of vancomycin/ciprofloxacin/heparin (VHC) flush solution. A randomized, multi center, double-blind trial. (ICAAC, 1998)
13. HENRICKSON KJ. Molecular epidemiology of influenza RSV and HPIV in the United States. Published in *Antiviral Research* 42:149-175, page 153, 1999.
14. Chonmaitree T, HENRICKSON KJ. Detection of respiratory viruses in the middle ear fluids of children with acute otitis media by multiplex reverse transcription polymerase chain reaction assay (7th International Symposium on Recent Advances in Otitis Media, 1999).
15. Kehl S, HENRICKSON KJ. Cost effective utilization of a Multiplex RT-PCR assay (Hexaplex-R) for respiratory virus detection at a Children's Hospital. (2nd International Symposium for Influenza and Other Respiratory Viruses, December 10, 1999).
16. Kehl S, HENRICKSON KJ. Comparison of three diagnostic methods; Hexaplex, tissue culture, and rapid EIA for the detection of respiratory viruses in children. (2nd International Symposium for Influenza and Other Respiratory Viruses, December 10, 1999).
17. HENRICKSON KJ, Fan J, Halsey J, Fratazzi C, Oconnell J, Hoffman RG. Comparison of RealTime RT-PCR, multiplex RT-PCR (Hexaplex7) and plaque assay for the quantitation of respiratory syncytial virus (RSV) (Third International Symposium for Influenza and Other Respiratory Viruses, December 1, 2000).
18. HENRICKSON KJ, Werchen H, Rohwedder A. Comparison of Hexaplex7 (multiplex RT-PCR) and tissue culture (TC) to detect common respiratory viruses in children in Germany during 1999-2000 (PRI.DE). (Third International Symposium for Influenza and Other Respiratory Viruses, December 1, 2000, St. Lucia, Virgin Islands).
19. Kehl S, HENRICKSON KJ. Comparison of three diagnostic methods; Hexaplex, tissue culture, and rapid EIA for the detection of respiratory viruses in children (Diagnostic Approaches for Infectious Diseases, IDSA, FDA, CDC, April 29 - May 1, 2001, Orlando, Florida).
20. HENRICKSON KJ, Fan J, Halsey J, Fratazzi C, Oconnell J, Hoffman RG. Comparison of RealTime RT-PCR, multiplex RT-PCR (Hexaplex7) and plaque assay for the quantitation of respiratory syncytial virus (RSV) (Diagnostic Approaches for Infectious Diseases, IDSA, FDA, CDC, April 29 - May 1, 2001, Orlando, Florida).
21. HENRICKSON KJ, Werchen H, Rohwedder A. Comparison of Hexaplex7 (multiplex RT-PCR) and tissue culture (TC) to detect common respiratory viruses in children in Germany during 1999-2000 (PRI.DE). (Diagnostic Approaches for Infectious Diseases, IDSA, FDA, CDC, April 29 - May 1, 2001, Orlando, Florida).

22. Kehl S, HENRICKSON KJ. Cost effective utilization of a Multiplex RT-PCR assay (Hexaplex-R) for respiratory virus detection at a Children's Hospital. (Diagnostic Approaches for Infectious Diseases, IDSA, FDA, CDC, April 29 - May 1, 2001, Orlando, Florida).
23. Garland J, Alex C, HENRICKSON KJ, Maki D. A randomized trial of a vancomycin-heparin lock solution (VHLS) for prevention of catheter-related bloodstream infection (CRBSI) in neonates. Society for Pediatric Research, May, 2002, Baltimore, Maryland.
24. Maki DG, Garland J, Alex C, HENRICKSON KJ. A randomized trial of a vancomycin-heparin lock solution (VHLS) for prevention of PICC-related blood stream infections in a NICU. ICAAC, September 28, 2002, San Diego, California.
25. Harrington K, HENRICKSON KJ, Waters CR, Khanna M. The Adenoplex™: A multiplex PCR-EHA based assay for the detection and identification of adenovirus species A-F in a single test. Nineteenth Annual Clinical Virology Symposium, April 28, 2003, Clearwater Beach, Florida.
26. Khanna M, HENRICKSON KJ, Fan J, Harrington K, Waters C, Kehl S. The Pneumo-plex™: A multiplex PCR-EHA based assay simultaneously detects *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, *Legionella pneumophila*, and *Micdadei*, and *Bordetella pertussis* infections in a single test. American Society for Microbiology 103rd General Meeting, May 18-22, 2003, Washington, D.C.
27. Khanna M, HENRICKSON KJ, Harrington K, Waters CR, Me Reed J, Shukla S. Multiplex PCR-EHA compared to AReal Time@ Taqman for the diagnosis of West Nile Virus. International Society for Infectious Diseases, Cancun, Mexico, March, 2004.
28. Harrington KP, HENRICKSON KJ, Khanna M, Yashina T. The SARS/Coronaplex Assay: Detection and identification of human coronaviruses including SARS by multiplex RT-PCR. Seventh International Symposium on Respiratory Viral Infections, March 18-21, 2004.
29. Canter D, Haigis R, Patterson T, Huang W, Waters, C, Khanna M, HENRICKSON KJ, Shaw J. Detection of seven common respiratory viruses on electronic microarrays, Association of Molecular Pathologists, December, 2004.
30. Khanna M, Harrington KP, Gajewski A, Majewski W, Bahling S, HENRICKSON KJ. Simultaneous detection of CDC category "A" DNA bioterrorism agents and varicella in a single multiplex PCR-EHA assay, ASM Biodefense Meeting, Baltimore, Maryland, March, 2005.
31. HENRICKSON KJ, Kraft AJ, Canter D, Shaw J. Comparison of electronic microarray to enzyme hybridization assay for multiplex RT-PCR detection of common respiratory viruses in children, Twenty-second annual Clinical Virology Symposium, Clearwater, Florida, April 29-May 2, 2006.
32. Bose ME, Fan J, Patzer A, Littrell J, Kraft AJ, HENRICKSON KJ. Website development for the advancement of influenza primer and probe design. Seasonal and Pandemic Influenza 2007, Arlington, VA, January 31-February 2, 2007.
33. Bose ME, Fan J, Patzer A, Littrell J, Kraft AJ, HENRICKSON KJ. Website development for the advancement of influenza primer and probe design. IX International Symposium on Respiratory Viral Infections, Hong Kong, March 3-6, 2007.
34. Chonmaitree T, Revai K, Nair S, Patel J, HENRICKSON KJ. Role of acute otitis media (AOM) following upper respiratory tract infection (URI) by type of associated virus. IX International Symposium on Recent Advances in OM, Pittsburgh, PA, June 3-7, 2007.
35. Huang Y, Tang H, Duffy SF, Ghosh M, Norman S, HENRICKSON KJ, Kraft AJ, Weisburg W, Mather EL. A multiplex assay for simultaneously typing and subtyping influenza viruses using the electronic microarray. 23rd Annual Clinical Virology Symposium, Clearwater, Florida, April 29-May 2, 2007.
36. Mandyam A, Duffy S, Zuxu Y, Smolko D, Swanson P, HENRICKSON KJ, Weisburg W, Hodko D. A new low cost electronic microarray detection of DNA using carbon based arrays, 11th International Conference, Detection Technologies 2007, New Developments in Identification of Microorganisms and Chemicals, San Diego, November 2007.
37. Kumar S, Wang L, Fan J, Kraft A, Bose M, Tiwari S, Van Dyke M, Nanogen Team, HENRICKSON KJ. Development of a sensitive and specific multiplex RT-PCR assay and carriage of viral and bacterial pathogens causing community acquired pneumonia or sepsis using two detection strategies: enzyme hybridization and microarray. X International Symposium on Respiratory Viral Infections, Singapore, February 28 - March 2, 2008.
38. He J, Kumar S, Huang Y, Fan J, Bose M, Kraft AJ, Weisburg WG, Mather EL, HENRICKSON KJ. Rapid multiplex PCR assay for simultaneously typing and subtyping influenza viruses using electronic microarray and EHA. X International Symposium on Respiratory Viral Infections, Singapore, February 28 - March 2, 2008.
39. Kalu S, Revai K, Patel J, Fan J, HENRICKSON KJ, Chonmaitree T. Repeated presence of viral nucleic acids

- in nasopharyngeal secretions after upper respiratory tract infection. Presented at the Annual Pediatric Academic Societies Meeting, Hawaii, PAS 2008; 4460.1.
40. Bonner A, Mallory M, Abujamra L, HENRICKSON KJ, Staat MA, Jafri H, Rossi C, Makari D, Groothuis J. Two year prospective surveillance of respiratory syncytial virus-associated lower respiratory tract infection (RSV LRI)/apnea in infants presenting to the emergency department (ED). Presented at the American Academy of Pediatrics 2008 National Conference and Exhibition, Boston, MA, October 10, 2008.
 41. Alymova I, Mishin V, Watanabe M, Freiden P, Taylor G, HENRICKSON KJ, DeVincenzo J, Portner A. Biological significance of a second receptor-binding site covered by an N-linked glycan on human parainfluenza virus. Presented at the 28th American Society of Virology Annual Meeting, Vancouver, British Columbia, July 11-15, 2009.
 42. Kumar S, Jurgens L, Bose M, Beck E, HENRICKSON KJ, Witt L, Patitucci T, Darga P, Kehl S, Fan J. Rapid automated detection of parainfluenza virus types 1, 3 and human metapneumovirus (hMPV) by multiplex real time RT-PCR using two new methods and novel primer/probe chemistry. Presented at the XI International Symposium on Respiratory Viral Infections, Bangkok, Thailand, February 19-22, 2009.
 43. HENRICKSON KJ, Jurgens L, Bose M, Beck E, Witt L, Patitucci T, Darga P, Kumar S, Kehl S, Fan J. Rapid automated detection of influenza A, influenza B and RSV A/B by multiplex real time RT-PCR using two new methods and novel primer/probe chemistry. Presented at the XI International Symposium on Respiratory Viral Infections, Bangkok, Thailand, February 19-22, 2009.
 44. Bonner A, Mallory M, Abujamra L, HENRICKSON KJ, Staat M, Jafri H, Rossi C, Makari D, Groothuis J. Two year prospective surveillance of respiratory virus-associated lower respiratory tract infection (RSV LRI)/apnea in infants presenting to the emergency department (ED). Presented at the 2009 Pediatric Academic Societies' Annual Meeting, Baltimore, Maryland, May 2-5, 2009.
 45. Kehl SC, Jurgens L, Bose M, Beck E, Fan J, Kumar S, Witt L, Patitucci T, LaGue E, Wilkinson K, HENRICKSON KJ. Comparison of a novel multiplex automated laboratory-developed RT-PCR Assay for RSV and influenza A/B with the Proflu+® assay. Presented at the 25th Annual Clinical Virology Symposium, Daytona, Florida, April 20, 2009.
 46. Beck ET, Jurgens L, Bose M, Kehl S, Fan J, Kumar S, Witt L, Patitucci T, Darga P, LaGue L, HENRICKSON KJ. Rapid automated detection of influenza A, influenza B, and RSV A/B by multiplex real time RT-PCR using two new methods and novel primer/probe chemistry. Presented at the 25th Annual Clinical Virology Symposium, Daytona, Florida, April 20, 2009.
 47. Bose ME, He J, Huang Y, Fan J, Kraft AJ, Weisburg WG, Mather EL, Beck ET, Kumar S, HENRICKSON KJ. Development of semi- and fully-automated rapid multiplex RT-PCR assays for detecting and subtyping influenza A and B. Presented at the 25th Annual Clinical Virology Symposium, Daytona, Florida, April 20, 2009.
 48. HENRICKSON KJ, Jurgens L, Bose M, Beck ET, Kehl S, Fan J, Kumar S, Witt L, Patitucci T, Darga P, LaGue E. Rapid automated detection of parainfluenza virus types 1, 3, and human metapneumovirus (HMPV) by multiplex real time RT-PCR using two new methods and novel primer/probe chemistry. Presented at the 25th Annual Clinical Virology Symposium, Daytona, Florida, April 20, 2009.
 49. Kehl SC, Goodacre S, Vaughn K, Ledebore N, and HENRICKSON KJ. Comparison of the Jaguar System, the Quiagen Biorobot EZ1 and the Nuclisens easyMAG for extraction of enterovirus, RSV, and Influenza A. Presented at the 25th Annual Clinical Virology Symposium, Daytona, Florida, April 20, 2009.
 50. Patitucci TN, Beck ET, Bose ME, Witt L, Fan J, Kumar S, and HENRICKSON KJ. Fully automated multiplex real-time RT-PCR for identification of influenza A, influenza B, RSV, influenza A-H3, influenza A-H1 (novel), and semi automated reflex assay for influenza A-H1 (seasonal) and influenza A-H1 (Novel). Presented at the 26th Annual Clinical Virology Symposium, Daytona, Florida, April 2010.
 51. Beck ET, Bose ME, Patitucci T, Witt L, Siwari S, Majeski T, Fan J, Kumar S, HENRICKSON KJ. Comparison of four multiplex RT-PCR assays to focus diagnostics EUA real-time RT-PCR assay for influenza A H1N1 (2009). Presented at the 26th Annual Clinical Virology Symposium, Daytona, Florida, April 2010.
 52. Trost J, Beck ET, Bose ME, Fan J, Patitucci TN, Kumar S, and HENRICKSON KJ. H1N1 S-OIV detection via quickvue influenza A+B rapid flutest. Presented at the 26th Annual Clinical Virology Symposium, Daytona, Florida, April 2010.
 53. Van Dyke ML, Davis E, Gaffney K, Czarnecki M, Simonaire J, Patitucci TN, Jurgens LA, Beck ET, Fan J,

- Kumar S and HENRICKSON KJ. Evaluation of the Quidel Quickvue pediatric test for detecting influenza A/B and respiratory syncytial virus in the emergency medicine setting. Presented at the 26th Annual Clinical Virology Symposium, Daytona, Florida, April 2010.
54. Fan J, Trost J, Chen R, Mei H, Bose M, Jurgens LA, Kumar S, Kehl S, Ledebor N, Henrickson KJ. The phenotypic profile of pandemic H1N1 influenza A virus from Milwaukee during the first wave of SOIV pandemic. Presented at the 29th American Society for Virology meeting, Bozeman, Montana, July 2010.
55. Nelson MI, Tan Y, Sprio DJ, Viboud C, Simonsen L, St. George K, Holmes EC, HENRICKSON KJ, Musser JM. Geographical variations in the evolutionary dynamics of the pandemic H1N1/09 influenza virus in the United States.

Database, Video, or Other Research/Clinical Contributions

1. Influenza: New Horizons in Prevention, Diagnosis, and Treatment. Audiocassette. Projects in Knowledge, 1998.
2. Influenza: Syllabus. Medical World Conferences, December, 1999.
3. Influenza Prevention and Treatment: A health imperative. Syllabus. American Academy of Physician Assistants, 1999 Annual Conference.
4. Laboratory Diagnosis of Influenza. Internet Video Lecture. Projects in Knowledge, 2000.