

CURRICULUM VITAE

Dexter F. Speck

DATE OF BIRTH - June 4, 1955

PLACE OF BIRTH - Altoona, Pennsylvania

Marital Status - Married, 3 children

ADDRESS

Professional:

Department of Physiology
University of Kentucky Medical Center
Lexington, KY 40536-0298
Phone: (859) 323-5383 FAX: (859) 323-1070
email: dfspeck@uky.edu

Home:

426 Pyke Road
Lexington, KY 40504

EDUCATION

1973 - 1976 BS in Biology, Wheaton College, Wheaton, IL
1976 - 1980 PhD in Physiology, Loyola University of Chicago, Maywood, IL
1980 - 1983 Postdoctoral Fellow with Jack L. Feldman, Northwestern University

PROFESSIONAL EXPERIENCE

1977 - 1980 Research Assistant and Lab Instructor, Loyola University of Chicago
1980 - 1984 Postdoctoral fellow and Research Associate, Dept. of Physiology,
Northwestern University School of Medicine
1981 - 1982 Course Instructor in Anatomy and Physiology, North Park College
1984 - 1990 Research Assistant Professor, Dept. of Physiology, University of
Kentucky
1985, 1987 Visiting Professor (Sensory Physiology), University of Nevada, Reno
1989 Visiting Professor (GI Physiology), Oral Roberts Univ. Med. Center
1990 - Associate Professor, Dept. of Physiology, University of Kentucky
2002 - 2003 Visiting Professor, University of Ghana Medical School, Korle Bu, Ghana
2003 - Visiting Professor – University of Arizona Health Sciences Dental School

NIH reviewer

Ad hoc reviewer for RAP study section

reviewer for special study section for ECS (3/89, 11/89)

Member, special review committee; Animal models of SIDS, NICHD 8/91

NSF reviewer 11/00

Referee for:

American Journal of Physiology

Annals of Biomedical Engineering

European Respiratory Journal

Journal of Applied Physiology

Journal of Physiology (London)

Respiration Physiology

American Review of Respiratory Disease

Brain Research and Brain Research Bulletin

Experimental Neurology

Journal of Neurophysiology

Pharmacology, Biochemistry and Behavior

Assessor for NH-MRC of Australia

Reviewer for The Wellcome Trust, Jewish Hospital Foundation (6/96), THRI (4/99-6/01)
Faculty Member - The National Faculty, Academy for PA Teachers, summer 1993

AWARDS

1976 - 1980 Basic Science Research Fellowship, Loyola University of Chicago
1980 - 1981 Postdoctoral Fellowship through NIMH Training Grant
1981 - 1983 Individual NIH National Research Service Award
1984,1985,1987 UK Medical Center Major Equipment Grant
1985 PSP Research Grant
1986 Small Research Grant
1987 Bond Equipment Grant
1985 - 1988 NIH R23 HL-34568, Role of medulla in pattern genesis, 50% effort
1987 - 1990 NIH R01 HL39146, CNS Serotonergic neurons and breathing, JR Holtman (PI), 5% effort
1988 - 1991 University of Kentucky President's Faculty Merit Award
1988 - 1992 NIH R01 HL39410 - Role of brainstem nuclei in inspiratory inhibition, 60% effort, \$297,115
1989 - 1994 NIH rolled R01 HL39410 into Project 4 of P01 40369, 60% effort
1990 NIH Conference Grant - R13 HL45999, 5% effort
1991 - 1992 University of Kentucky Major Equipment Award
1995 American Lung Association of Kentucky
1995 University of Kentucky Small Research Grant
1996 American Lung Association of Kentucky
2000 University of Kentucky Pilot Project Award
2001 Children's Miracle Network, AA Hutchison (PI)

PROFESSIONAL SOCIETIES

American Physiological Society
Society for Neuroscience

RESEARCH INTERESTS

Diving reflex; control of respiration; intercostal and phrenic afferents; genesis of respiratory rhythm and pattern; inhibitory respiratory reflexes

INVITED PRESENTATIONS

March, 1982 Department of Physiology, Loyola University
April, 1982 International Symposium, Lake Bluff, IL
January, 1984 Department of Physiology, University of Wisconsin
September, 1984 International Symposium, Bandol, France
November, 1985 Department of Physiology, University of Nevada, Reno
July, 1986 International Symposium, Los Angeles, CA
October, 1986 Department of Physiology, Northwestern University
January, 1987 Department of Physiology, Ohio State University
October, 1988 Department of Biology, Wheaton College
March, 1989 Department of Physiology, ORU Medical Center
October, 1990 International Respiratory Conference, Lexington, KY

January, 1992	Department of Physiology, Ohio State University
December, 1992	Robert Wood Johnson School of Medicine, NJ
March, 1993	Department of Pharmacology, Georgetown University
June, 1993	Kemp Station, University of Wisconsin
October, 1994	Department of Biology, Wheaton College, Wheaton, IL
April, 1995	Symposium Speaker, Experimental Biology '95 Meeting
May, 1995	Department of Anatomy, St. Louis University, MO
April, 1997	KY Lung Association Meeting, Louisville, KY
March, 2002	Department of Biology, Centre College, Danville, KY
March, 2003	Department of Physiology, University of Ghana Medical School

TEACHING

PGY 818 (Medical Physiology)	GI block 10-24 hours Respiratory Control block Course Director	1985- present 1998 - present 2000 - 2002
PGY 502 - Graduate Physiology	GI block (9 hours)	1991 - present
PGY 602 – Readings in Physiology	GI (3 hours)	2003
PGY 609 - Advanced Respiration		F '92, S'96
PGY 560 - Pathophysiology Case presenter and course coordinator		1991 - present
PGY 605 - Contemporary Neuroscience (12 contact hours)		1991, 1992, 1996
PGY 412G - GI Physiology Block (compressed video segment to Hazard) Respiration block		Spring 1992, 2002 Fall 2003 - present
PGY 636 - Systems Neuroscience (3 hrs)		1994
IBS 606 - GI lectures (2 hrs)		2001 - 2003
PGY 206 - 4 lectures Course Director		2002 2003 - present
PGY 207 – Case studies in physiology		2003 - present
PGY 616 – Practicum in Teaching of Physiology		2004 - present

DISSERTATION COMMITTEES

<u>Student</u>	<u>Department</u>	<u>Graduated:</u>	
Kathy King	Pharmacology	7/90	
Liming Ling	Physiology	7/92	Director
David Kidwell	Physiology	12/92	
Nancy Logan	Physiology (MS)	9/92	
Mallur N. Satyanarayan	Physiology (MS)	1/93	
Sundaresh Ganesan	Biomedical Eng.	5/93	Outside Examiner
Stephanie Riley	Physiology (MS)	6/93	
Susan Reynolds	Physiology	10/94	
Kevin Krause	Physiology	11/94	
Trent Rogers	Pharmacology	6/95	Outside Examiner
Denis Yalkut	Physiology (MS)	8/95	
Sun Ye-Ming	Biology	9/95	
Chantal Prewitt	Anatomy	2/96	Outside Examiner
Gretchen Wetzel	Physiology (MS)	3/96	
Jay Tuttle	Physiology (MS)	4/96	
Ju Lun Hong	Physiology	8/96	
Jay Grider	Physiology	9/96	
Barbara Loeffler	Physiology (MS)	11/96	
Tanya Reed	Physiology (MS)	1/97	
Margery Anderson	Physiology	4/98	Director
Fuqiang Xu	Physiology	6/98	
Michael Byers	Physiology (MS)	9/98	
Will Miller	Physiology (MS)	5/99	
Mark Parshall	Nursing	11/99	Outside Examiner
Josh Dziba	Physiology (MS)	2/00	
Joe Ng	Physiology (MS)	7/00	
Mark Donatelli	Physiology (MS)	7/00	
Ryan Doonan	Physiology (MS)	9/00	
Mitch McConnell	Physiology (MS)	11/00	
Ulla Minkkinen Crouse	Physiology	5/01	Director
Brian Delisle	Physiology	6/01	
Eric Kilpatrick	Physiology	11/01	Co-Chair
Thomas Stoss	Physiology		
Kevin Kwong	Physiology	5/03	
Hope Koehler	Music	12/03	Outside Examiner

POSTDOCTORAL STUDENTS

Eric Beck, MD	Summer Fellow	June - August, 1987
Diane Karius		1989-1994
Thomas McLarney, MD	Summer workstudy	June - August, 1991

DEPARTMENTAL COMMITTEES

Graduate Affairs Committee	1986 - present
----------------------------	----------------

Director of Graduate Studies	1/93 - 6/99
Computer Selection Committee	1986
Laboratory Course Committee	1/91 - 5/94
Summer Workshop for High School Teachers	2/91 - 6/93, 1997
Search Committee	11/95 - 3/96

UNIVERSITY COMMITTEES

RWJ - Neuroscience Committee Task Force Member	5/91 - 95
Human Function Task Force Member	5/91 - 95
Departmental representative for COM endowment fund	5/91
Faculty representative on COM Honor Council	1992 - 1997
Graduate Studies Committee	1994 - 1999
Medical Admissions Committee Member	1996 - 2005
Task Force for Medical Students Honor Code	12/96 - 6/97
Co-Director of Preparing Future Faculty Practicum	10/97 - 8/99
Kirwan Award Selection Committee	4/98
Technical Advisory Committee for THRI	9/98 - 8/00
Chair of Anatomy Review Committee	10/98 - 7/99
Elected Member of Graduate Council	9/99 - 5/02
Committee for Excellence in Medical Education member	6/02 -
Member of Advisory Board for	
Multicultural and Academic Affairs	8/03 -

SERVICE

Elementary and Junior High Science Teachers In-Service	9/30/91
Science Outreach Speaker for K - 12	1990 - present
8-12 school visits or in-house demonstrations per year	
Fayette County Science Fair Judge	1993 - present
Student/Teacher tours for APS - Experimental Biology Mtg.	1993, 1995
Visiting Professor - National Faculty workshop for science teachers	1994
Videotaped segment for syndicated <i>Scott's Place</i>	3/94
Consultant/Instructor - Kenton County Teacher's Workshop	6/95
Visiting Professor - Marshal Medical Review for Boards	5/97
Instructor for review for incoming dental students	2002 - 2003
Board review for Dental students	2001 - present

OTHER ACTIVITIES

Instructor in summer physiology workshop for college/ high school science teachers 1989 - 1992

Co-Organizer of International Respiratory Symposium (Modulation of Respiratory Pattern: Central and Peripheral Mechanisms) held October 25-27, 1990 in Lexington, Kentucky.

Co-Editor of book stemming from meeting, Respiratory Control: Central and Peripheral Mechanisms, edited by Speck, DF, MS Dekin, WR Revelette and DT Frazier, 1992.

Elected secretary of the Physiology section of KY Academy of Science 11/91 - 10/92

Chairman of the Physiology section of KY Academy of Science	11/92 - 10/92
Chairman of the Physiology section of KY Academy of Science	11/95 - 10/96
Elected Activities Coordinator of local Neuroscience Chapter	6/92 - 6/93
President of local Neuroscience Chapter	6/93 - 6/95
Elected Secretary of Sigma Xi, UK Chapter	7/97 - 7/00
Co-Chair of Medical Science Category for Int. Science fair in Louisville	5/97
Textbook chapter review for Little, Brown and Co.	1/93
Neuroscience Outline Review for Mosby	7/93
Textbook Preview for Lippincott, Williams and Wilkins	8/99
Textbook Preview for Lippincott, Williams and Wilkins	8/00
Telephone Interview for Atlantic Monthly, Fort Lauderdale News, USA Today	6/00
Host for APS Visiting Professor, Sven Kurbel from Croatia	5/01

PUBLICATIONS

REFEREED PAPERS

1. Bruce, D. S., D. F. SPECK, T.A. Magary, and J.S. Westerhoven. A comparative study of diving physiology. The Physiology Teacher 4(4): 8-10, 1975.
2. SPECK, D.F. and D.S. Bruce. Effects of varying thermal and apneic conditions on the human diving reflex. Undersea Biomedical Journal 5(1): 9-14, 1978.
3. Bruce, D. S. and D. F. SPECK. Human simulated diving experiments. Physiologist 22(5): 39-40, 1979.
4. SPECK, D. F. and C. L. Webber, Jr. Thoracic dorsal rhizotomy in the anesthetized cat: maintenance of eupnic breathing. Respir. Physiol. 38(3): 347-57, 1979.
5. SPECK, D. F. and C. L. Webber, Jr. Time course of intercostal afferent termination of the inspiratory process. Respir. Physiol. 43(2): 133-45, 1981.
6. Webber, C. L., Jr. and D. F. SPECK. Experimental Biot periodic breathing in cats: effects of changes in PiO₂ and PiCO₂. Respir. Physiol. 46(3): 327-44, 1981.
7. SPECK, D. F. and J. L. Feldman. The effects of microstimulation and microlesions in the ventral and dorsal respiratory groups in medulla of cat. J. Neurosci. 2(6): 744-57, 1982.
8. SPECK, D. F. and C. L. Webber, Jr. Cerebellar influence on the termination of inspiration by intercostal nerve stimulation. Respir. Physiol. 47(2): 231-8, 1982.
9. Feldman, J. L. and D. F. SPECK. Interactions among inspiratory neurons in dorsal and ventral respiratory groups in cat medulla. J. Neurophysiology 49(2): 472-90, 1983.
10. SPECK, D. F. and C. L. Webber, Jr. Baroreceptor modulation of inspiratory termination by intercostal nerve stimulation. Respir. Physiol. 52(3): 387-95, 1983.
11. Feldman, J. L., D. R. McCrimmon, and D.F. SPECK. Effect of synchronous activation of medullary inspiratory bulbospinal neurones on phrenic nerve discharge in cat. J. Physiol. (London) 347: 241-54, 1984.
12. Feldman, J. L., A. D. Loewy, and D.F. SPECK. Projections from the ventral respiratory group to phrenic and intercostal motoneurons in cat: an autoradiographic study. J. Neurosci. 5(8): 1993-2000, 1985.
13. SPECK, D. F. and C. L. Webber, Jr. Effect of hypoxic, hyperoxic or hypercapnic ventilation on inspiratory termination in the cat. Respir. Physiol. 60(2): 205-15, 1985.
14. McCrimmon, D. R., J. L. Feldman, and D. F. SPECK. Respiratory motoneuronal activity is

altered by injections of picomoles of glutamate into cat brain stem. J. Neurosci. 6(8): 2384-92, 1986.

15. McCrimmon, D. R., J. L. Feldman, and D. F. SPECK. Role of the ventrolateral region of the nucleus of the tractus solitarius in processing respiratory afferent input from vagus and superior laryngeal nerves. Exp. Brain Research 67(3): 449-59, 1987.

16. SPECK, D. F. Supraspinal involvement in the phrenic-to-phrenic inhibitory reflex. Brain Research 414(1): 169-72, 1987.

17. SPECK, D. F. and W. R. Revelette. Excitation of dorsal and ventral respiratory group neurons by phrenic nerve afferents. J. Applied Physiology 62(3): 946-51, 1987.

18. SPECK, D. F. and W. R. Revelette. Attenuation of phrenic motor discharge by phrenic nerve afferents. J. Applied Physiology 62(3): 941-5, 1987.

19. SPECK, D. F. Respiratory resetting induced by spinal cord stimulation in the cat. J. Applied Physiology 65(4): 1572-8, 1988.

20. SPECK, D. F. Botzinger complex region role in phrenic-to-phrenic inhibitory reflex of cat. J. Applied Physiology 67(4): 1364-70, 1989.

21. SPECK, D. F. and E. R. Beck. Respiratory rhythmicity after extensive lesions of the dorsal and ventral respiratory groups in the decerebrate cat. Brain Research 482(2): 387-92, 1989.

22. Holtman, J. R., Jr., L. J. Marion, and D. F. SPECK. Origin of serotonin-containing projections to the ventral respiratory group in the rat. Neuroscience 37(2): 541-52, 1990.

23. Randall, D. C., J. Engelberg, B.A. Jackson, K.A. Ogilvy, W.R. Revelette, D.F. SPECK, M.W. Vernon, and D. T. Frazier. Experience with a physiology workshop for high school and college teachers. Am. J. Physiol. 258 (Adv. In Physiol. Ed. 3): S11-5, 1990.

24. Karius, D. R., L. M. Ling, and D.F. SPECK. Blockade of N-methyl-D-aspartate receptors has no effect on certain inspiratory reflexes. Am. J. Physiol. 261: L443-8, 1991.

25. Karius, D. R., L. M. Ling, and D.F. SPECK. Lesions of the rostral dorsolateral pons have no effect on afferent-evoked inhibition of inspiration. Brain Research 559(1): 22-8, 1991.

26. Karius, D. R., L. Ling, and D.F. SPECK. Effects of intravenous bicuculline and strychnine on inspiratory inhibitory responses in the cat. Brain Research 579(2): 270-8, 1992.

27. Ling, L., D. R. Karius, and D.F. SPECK. Endogenous nitric oxide required for an integrative respiratory function in the cat brain. J. Neurophysiology 68(5): 1910-2, 1992.

28. Karius, D. R., L. Ling, and D.F. SPECK. Excitatory amino acid neurotransmission in superior laryngeal nerve- evoked inspiratory termination. J. Applied Physiology 74(4): 1840-7,

1993.

29. Ling, L., D. R. Karius, and D.F. SPECK. Pontine-evoked inspiratory inhibitions after antagonism of NMDA, GABA_A, or glycine receptor. J. Applied Physiology 74(3): 1265-73, 1993.

30. Holtman, J. R., Jr. and D. F. SPECK. Substance P immunoreactive projections to the ventral respiratory group in the rat. Peptides 15(5): 803-8, 1994.

31. Karius, D. R., L. Ling, and D.F. SPECK. Nucleus tractus solitarius and excitatory amino acids in afferent-evoked inspiratory termination. J. Applied Physiology 76(3): 1293-301, 1994.

32. Ling, L., D. R. Karius, and D.F. SPECK. Role of N-methyl-D-aspartate receptors in the pontine pneumotaxic mechanism in the cat. J. Applied Physiology 76(3): 1138-43, 1994.

33. Karius, D. R. and D. F. SPECK. Short-latency excitation of phrenic motor output mediated by non-NMDA receptors. Brain Research 682(1-2): 235-8, 1995.

34. Elam, C.L., M.M. Burke, J.S. Wiggs, and D.F. SPECK. The medical school admission interview: perspectives on preparation. NACADA Journal 18(2): 28-32, 1998.

35. Anderson, M. K. and D. F. SPECK. Evidence for medullary projections of the intercostal nerve-elicited inspiratory termination. Brain Research 831(1-2): 306-10, 1999.

36. Anderson, M. K. and D. F. SPECK. Differential effects of excitatory amino acid receptor antagonism in the ventral respiratory group. Brain Research 829(1-2): 69-76, 1999.

37. Elam, C., T. Stratton, J. Wiggs, D. SPECK, S. Sayeed, N. Goodman. Gauging interest in community service: a retrospective review of admission files. Academic Medicine 77(10): S23-S25, 2002.

38. Karius, D.R., M.K. Anderson, and D. F. SPECK. Separate neural pathways mediate inspiratory termination and transient inhibitions. In revision.

39. Hutchison, A.A. and D.F.SPECK. Laryngeal and diaphragmatic muscle activities after central nervous system lesions in cats. Acta Ped. 92(11):1297-307, 2003.

40. Richardson, D. and D.F. SPECK. Addressing students' misconceptions or renal clearance. Advances in Physiology Education, accepted 7/6/04.

OTHER PUBLICATIONS

1. SPECK, D.F. Effects of chemoreceptor and baroreceptor inputs on the termination of inspiration. Loyola University of Chicago, Maywood, IL, Ph.D. Dissertation, 1981.
2. SPECK, D.F. and J.L. Feldman. The search for the site of respiratory rhythmogenesis. Proc. of Int. Symp.: Central Neural Production of Periodic Respiratory Movements. Pp. 67-71, 1982.
3. Feldman, J.L., D.R. McCrimmon and D.F. SPECK. Role of the dorsal and ventral respiratory groups: generation of spatiotemporal patterns of motoneuronal activity. Neurogenesis of Central Respiratory Rhythm pp. 121-125, eds. A.L. Bianchi and M. Denavit-Saubie, MTP Press, Hingham, MA, 1985.
4. SPECK, D.F., J.L. Feldman, and D.R. McCrimmon. Role of the dorsal and ventral respiratory groups: generation of respiratory rhythm. Neurogenesis of Central Respiratory Rhythm pp. 126-130, eds. A.L. Bianchi and M. Denavit-Saubie, MTP Press, Hingham, MA, 1985.
5. McCrimmon, D.R., Feldman, J.L. and D.F. SPECK. Role of the dorsal and ventral respiratory groups: processing of vagal and superior laryngeal nerve afferent input. Neurogenesis of Central Respiratory Rhythm pp. 254-258, eds. A.L. Bianchi and M. Denavit-Saubie, MTP Press, Hingham, MA, 1985.
6. Feldman, J.L., D.R. McCrimmon, J.C. Smith, H.H. Ellenberger and D.F. SPECK. Generation of respiratory pattern. In: Neural Control of Rhythmic Movements in Vertebrates, pp. 73-100, ed by. A.H. Cohen, S. Rossignol and S. Grillner, John Wiley and Sons, New York, NY, 1988.
7. Feldman, J.L., D.R. McCrimmon, J.C. Smith, H.H. Ellenberger and D.F. SPECK. Respiratory pattern generation in mammals. In: Neurobiology of the Control of Breathing, pp. 157-164, eds. C. von Euler and H. Langercrantz, Raven Press, New York, NY, 1987.
8. McCrimmon, D.R., J.L. Feldman, D.F. SPECK, H.H. Ellenberger and J.C. Smith. Functional heterogeneity of DRG, VRG and PRG revealed by micropharmacological techniques. In: Neurobiology of the Control of Breathing, pp. 201- 208, eds. C. von Euler and H. Langercrantz, Raven Press, New York, NY, 1987.
9. SPECK, D.F. and W.R. Revelette. Role of myelinated afferents from the intercostal muscles and diaphragm. Respiratory Muscles and their Neuromotor Control. pp. 195-204, eds. G.C. Sieck, S.C. Gandevia, and W.E. Cameron, Alan R. Liss, New york, NY, 1987.
10. SPECK, D.F., D.R. Karius and L. Ling. Respiratory afferents and the inhibition of inspiration. In: Respiratory Control: Central and Peripheral Mechanisms, ed. by Speck, DF, MS Dekin, WR Revelette and DT Frazier, University Press of Kentucky, Lexington, KY, 1992.
11. SPECK, D.F., MS Dekin, WR Revelette and DT Frazier, eds. Respiratory Control: Central and Peripheral Mechanisms, University Press of Kentucky, Lexington, KY, 1992.
12. Jammes, Y. and D. F. SPECK. Respiratory control by diaphragmatic and respiratory muscle afferents. In: Regulation of Breathing. 2nd edition, pp. 543-582, ed. J. Dempsey and A.I. Pack,

Marcel Dekker, New York, NY, 1994.

13. Richardson, D.R., D.C. Randall and D. F. SPECK. Cardiopulmonary System. Integrated Medical Sciences Series, Fence Creek Publishing Co., Madison, CT, 1998.

14. Richardson, D.R., D.C. Randall and D. F. SPECK. Cardiopulmonary System: Quick Look Medicine Series. Fence Creek Publishing Co., Madison, CT, 1999.

ABSTRACTS

1. SPECK, D. F. and C. L. Webber, Jr. Effect of thoracic dorsal rhizotomy on respiratory parameters in quiet breathing. Fed. Proc. 37: 368, 1978.

2. SPECK, D. F. and C. L. Webber, Jr. Time-course of inspiratory off-switch activation by intercostal afferents. Fed. Proc. 38: 1229, 1979.

3. SPECK, D. F. and C. L. Webber, Jr. Effects of cerebellectomy and CO₂ on the intercostal nerve activation of the inspiratory off-switch. The Physiologist 22(4): 118, 1979.

4. Webber, C. L., Jr. and D. F. SPECK. An experimental model of Biot periodic breathing in the cat. The Physiologist 22(4): 130, 1979.

5. Webber, C. L., Jr. and D. F. SPECK. Control of expiratory timing in Biot periodic breathing cats. Fed. Proc. 39: 952, 1980.

6. SPECK, D. F. and C. L. Webber, Jr. Effects of oxygen on the intercostal nerve activation of inspiratory termination. Clinical Res. 28(4): 803A, 1980.

7. SPECK, D. F. and J. L. Feldman. Phrenic and recurrent laryngeal nerve responses to microstimulation and microlesion in the region of nucleus retroambigualis. Fed. Proc. 40: 429, 1981.

8. Feldman, J. L. and D. F. SPECK. Short time-scale correlated activity among medullary inspiratory (I) neurons. Fed. Proc. 40:429, 1981.

9. Feldman, J. L. and D. F. SPECK. Interactions among medullary inspiratory neurons. Soc. Neurosci. Abs. 7: 941, 1981.

10. SPECK, D. F. and J. L. Feldman. Responses of phrenic and recurrent laryngeal nerves to microstimulation and multiple microlesion in VRG. Soc. Neurosci. Abs. 7: 941, 1981.

11. McCrimmon, D. R., J. L. Feldman, and D. F. SPECK. Effect of antidromic activation of bulbospinal respiratory neurons on phrenic neural discharge. Soc. Neurosci. Abs. 8: 725, 1982.

12. SPECK, D. F., D.R. McCrimmon and J. L. Feldman. Respiratory rhythm is not generated

- by medullary inspiratory premotor neurons in the cat. The Physiologist 26:A40, 1983.
13. Feldman, J. L. and D. F. SPECK. Efferent connections of the ventral respiratory group in the medulla of cats: and autoradiographic study. Soc. Neurosci. Abs. 9: 362, 1983.
 14. McCrimmon, D. R., D. F. SPECK and J. L. Feldman. Projections of medullary inspiratory neurons to phrenic and intercostal motor nerves assessed by cross-correlation analysis. Soc. Neurosci. Abs. 9: 362, 1983.
 15. SPECK, D. F., D.R. McCrimmon and J. L. Feldman. Effect of synchronous activation of medullary inspiratory premotor neurons on phrenic nerve discharge in the cat. Soc. Neurosci. Abs. 9: 361, 1983.
 16. SPECK, D. F., D.R. McCrimmon and J. L. Feldman. Effect of dorsal respiratory group (DRG) lesions on the processing of vagal input in the cat. The Physiologist 27: 218, 1984.
 17. McCrimmon, D.R., D. F. SPECK and J.L. Feldman. Role of dorsal respiratory group (DRG) in processing vagal and superior laryngeal nerve input in cat. Soc. Neurosci. Abs. 10: 707, 1984.
 18. SPECK, D.F., W.R. Revelette and D.T. Frazier. Medullary projections of phrenic nerve afferents. Fed. Proc. 44: 1586, 1985.
 19. McCrimmon, D. R., J. L. Feldman, and D. F. SPECK. Respiratory motor discharge altered by picomole glutamate injection into the ventral respiratory group (VRG) of cat. Fed. Proc. 44: 428, 1985.
 20. SPECK, D.F. and W.R. Revelette. Phrenic nerve afferent projections to the dorsal respiratory group. The Physiologist 28: 308, 1985.
 21. Feldman, J.L., D.R. McCrimmon, D.F. SPECK, J.C. Smith and H.H. Ellenberger. Generation of respiratory pattern in mammals. Proc. of Int. Symp.: Neurobiology of the Control of Breathing, Stockholm, 1985.
 22. McCrimmon, D.R., J.L. Feldman, D.F. SPECK, H.H. Ellenberger, J.C. Smith and D. Weese-Meyer. Micropharmacological techniques indicate functional heterogeneity of dorsal, ventral and pontine respiratory groups. Proc. of Int. Symp.: Neurobiology of the Control of Breathing, Stockholm, 1985.
 23. SPECK, D.F. and W.R. Revelette. Phrenic nerve stimulation transiently decreases phrenic motor discharge. Fed. Proc. 45: 520, 1986.
 24. SPECK, D.F. and W.R. Revelette. Responses of medullary neurons and phrenic motor discharge to phrenic nerve stimulation. Proc. of Int. Symp: Respiratory Muscles and their Neuromotor Control. Los Angeles, 1986.
 25. SPECK, D.F., W.R. Revelette and D.T. Frazier. Short latency effects of diaphragmatic afferents on medullary neurons and phrenic motor discharge. Soc. Neurosci. Abs. 12: 885, 1986.

26. Holtman, J.R., Jr., W.R. Revelette and D.F. SPECK. Organization of the sensory innervation of crural and costal regions of the cat diaphragm. Soc. Neurosci. Abs. 12: 885, 1986.
27. SPECK, D. F. Respiratory resetting is not induced by activation of inspiratory bulbospinal neurons. Fed. Proc. 46: 1420, 1987.
28. SPECK, D. F. Involvement of supraspinal regions in the phrenic-to-phrenic inhibitory reflex. Soc. Neurosci. Abs. 13: 827, 1987.
29. SPECK, D. F. and E.R. Beck. Maintenance of respiratory rhythmicity after extensive bilateral lesions of the dorsal and ventral respiratory groups in the decerebrate cat. FASEB J. 2(4): A509, 1988.
30. SPECK, D. F. Attenuation of inspiratory inhibitory reflexes by small injections of procaine within the brainstem of cats. FASEB J. 3(3): A404, 1989.
31. Holtman, J.R., Jr., L.J. Marion and D.F. SPECK. Identification of serotonin-containing projections to the ventral respiratory group. FASEB J. 3(3): A1160, 1989.
32. SPECK, D. F., D. Karius and L. Ling. Effects of intravenous bicuculline and strychnine on transient inhibitory responses in the cat. Soc. Neurosci. Abs. 15: 100, 1989.
33. Holtman, J.R., Jr., D.F. SPECK and L.J. Marion. Identification of substance P-containing projections to the VRG in the rat. Soc. Neurosci. Abs. 15: 562, 1989.
34. Karius, D. R., L. Ling, and D.F. SPECK. Pontine respiratory group is not required for selected inspiratory inhibitory reflexes. FASEB J. 4: A407, 1990.
35. Karius, D. R., L. Ling, and D.F. SPECK. Influence of NMDA blockade on inspiratory reflexes. The Physiologist 33: A-50, 1990.
36. SPECK, D.F., D.R. Karius and L. Ling. Respiratory afferents and the inhibition of inspiration. Proc. of Int. Conference on Modulation of Respiratory Control: Central and Peripheral Mechanisms, page 25, Lexington, KY, 1990.
37. Karius, D.R., L. Ling and D.F. SPECK. Effect of blockade of the NMDA receptor associated channel on inspiratory reflexes. Proc. of Int. Conference on Modulation of Respiratory Control: Central and Peripheral Mechanisms, page 81, Lexington, KY, 1990.
38. Ling, L., D. R. Karius, and D.F. SPECK. Effect of N-methyl-D-aspartate blockade on inspiratory inhibitory reflexes elicited by pontine stimulation. FASEB J. 5: A666, 1991.
39. Karius, D.R., L. Ling and D.F. SPECK. Termination of inspiration by superior laryngeal nerve stimulation is interrupted by non-NMDA receptor antagonists. Int. Meeting on Neural Nets and Rhythms, September 1991, Aracon, France.
40. Ling, L., D. R. Karius, and D.F. SPECK. Effect of GABA_A or glycine receptor blockade on

inspiratory inhibitory reflexes elicited by pontine stimulation. Trans. Kentucky Academy of Sciences 53: 88, 1992.

41. Ling, L., D. R. Karius, and D.F. SPECK. Role of NMDA receptors in the pontine pneumotaxic mechanism in the cat. FASEB J. 6: A1825, 1992.
42. Karius, D.R., L. Ling and D.F. SPECK. Inspiratory termination elicited by superior laryngeal nerve requires non-NMDA neurotransmission. FASEB J. 6: A1825, 1992.
43. Karius, D.R., L. Ling and D.F. SPECK. Non-NMDA neurotransmission in the medial nucleus tractus solitarius (mNTS) is not involved in all afferent-evoked inspiratory termination reflexes. Soc. Neurosci. Abs. 18:489, 1992.
44. Ling, L., D. R. Karius, and D.F. SPECK. Nitric oxide involved in the pontine respiratory function of cats. Soc. Neurosci. Abs. 18:489, 1992.
45. D. R. Karius, and D.F. SPECK. NMDA receptors are involved in the inspiratory termination elicited by vagal stimulation in cats. FASEB J. 7: A399, 1993.
46. SPECK, D.F. and D.R. Karius. Superior laryngeal nerve afferent inputs to dorsal respiratory group neurons involve non-NMDA receptors. Soc. Neurosci. Abs. 19:1192, 1993.
47. Anderson, M.K., D. R. Karius, and D.F. SPECK. Differential effects of NMDA antagonism in the dorsal and ventral respiratory group. Soc. Neurosci. Abs. 20: 545, 1994.
48. D. R. Karius, M.K. Anderson, and D.F. SPECK. Superior laryngeal nerve-elicited transient inhibition requires the rostral ventral respiratory group. Soc. Neurosci. Abs. 20: 303, 1994.
49. Anderson, M.K. and D.F. SPECK. Differential effects of excitatory amino acid receptors in the ventral respiratory group. FASEB J. 10: A643, 1996.
50. Zhang, Z., F. Xu, C. Lu, D.F. SPECK, D.T. Frazier. C-fos-identified activation of cerebellar neurons during hypercapnia in rat. Soc. Neurosci. Abs. 23: 435, 1997.
51. Jorgensen, M., P. Wagner, S. Phipps, D. SPECK, J. Pauly and B. Jackson. Nicotinic receptor distribution in the porcine adrenal medulla. Soc. Neurosci. Abs. 24: 334, 1998.
52. Hutchison, A.A. and D.F. SPECK. Respiratory muscle activities and timing with central nervous system lesions in the cat. J. Invest. Med. 47: 144A, 1999.
53. Hutchison, A.A. and D.F. SPECK. Respiratory muscle activities during loading with central nervous system lesions in the adult cat. Amer. J. Resp. Crit. Care Med. 159: A784, 1999.
54. SPECK, D.F. and A.A. Hutchison. Influence of supramedullary structures on responses to positive end-expiratory pressures. FASEB J. 13:A1015, 1999.

55. Hutchison, A.A., G. Srinivasan, and D.F. SPECK. Intra-breath blood pressure with loads and pneumothorax in decerebrate cats. Amer. J. Resp. Crit. Care Med. 161: A861, 2000.
56. Quintero, J.E., S.J. Kuhlman, D.F. SPECK and D.G. McMahon. Monitoring mouse period1-driven green fluorescent protein gene expression in slices and in individual cells from the biological clock. Soc. Neurosci. Abs. 2 , 2000.
57. Hutchison, A.A. and D.F. SPECK. What is the minimal brainstem input for eupnea in the cat? J. Investigative Medicine 49: 581, 2001.
58. Hutchison, A.A. and D.F. SPECK. Patterns of laryngeal and diaphragmatic activities with brainstem lesions in the cat. Pediatric Research 49(4): 2170, 2001.
59. Srinivasan, G., A.A. Hutchison, and D.F. SPECK. Intra-breath blood pressure in cats: effects of loads, expiratory pressures and pneumothorax. Pediatric Research 49(4): 1569, 2001.
60. Gibson, T., F. Xu, L. Ponomareva, D.F. SPECK and D.T. Frazier. Hypercapnia elevates immunoreactivity of green fluorescence protein in the medulla of the transgenic mouse. Soc. for Neurosci. Abs. 2001.
61. Hutchison, A.A. and D.F. Speck. With hyperventilation, rhythmic posterior cricoarytenoid activity occurs without diaphragmatic activity. ATS abstracts, May 2002.