BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format on preceding page for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE
John Henry Schild	Associate Professor, Biomedical Engineering

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Case Western Reserve University, Cleveland, OH	BS	12/1983	Biomedical Eng.
Case Western Reserve University, Cleveland, OH	MS	05/1988	Biomedical Eng.
Rice University, Houston TX	Ph.D.	05/1994	Bioengineering

A. Positions and Honors

Professional Experience

1983 – 1986 Project Engineer, Rehabilitation Engineering Center, CWRU, Cleveland OH
1986 – 1988 Project Engineer, Veterans Administration Hospital & CWRU, Cleveland OH
1988 – 1991 Sr. Biomedical Engineer, Div. Restorative Neurology, Baylor College of Medicine, Houston TX
1992 – 1994 Teaching Assistant, Dept. Electrical and Computer Engineering, Rice University, Houston TX
1994 – 1995 NIH Fellow, Dept. Physiology and Biophysics, Baylor College of Medicine, Houston TX
1995 – 1996 NIH Fellow, Dept. Physiology and Pharm., Oregon Health Sciences University, Portland OR
1997 Research Asst. Prof., Dept. Physiology and Pharm., Oregon Health Sciences Univ. Portland OR
1998 – 2004 Assistant Professor (tenure track), Biomedical Engineering, IUPUI IN
1998 – present Adjunct Assistant Professor, Dept. of Biology, IUPUI IN
2003 – present Assistant Professor, Stark Neuroscience Research Institute, IU School of Medicine, IN
2004 – present Associate Professor (w/tenure), Biomedical Engineering, IUPUI IN

Fellowships

Shell Foundation Predoctoral Fellow, Rice University, 1992-1994
NIH Fellow, Institutional Training Grant HL07676, Baylor College of Medicine, 1994-1995
NIH Fellow, Individual NRSA Award HL09242, Oregon Health Sciences University, 1995 thru1996

Professional Activities

Reviewer (ad hoc): American J. of Physiology, Annals of Biomedical Engineering, Brain Research, IEEE Trans. Education, IEEE Trans. Biomedical Engineering, J. Applied Physiology, J. Neurophysiology, J. Neuroscience Methods, Neuropharmacology, Neuroscience

Member: American Physiological Society, Society for Neuroscience, Institute of Electrical & Electronics Engineers, Sigma Xi

Graduate Courses: Experimental Methods for Biomedical Engineers, Bioelectric Phenomena, Methods in Computational Neuroscience, Biosensors and Implantable Devices, Principles of Biomedical Engineering , Probabilistic Methods and Random Processes

School Committees: Graduate Engineering Education (F'01-F'02),
Institutional Animal Care and Use Committee (F'01-F'03)

Session Chair: Mathematical Modeling in the Study of Neural Circulatory Control,
FASEB Summer Symposium, July 1996

Founding President: International Society for Hybrid Microelectronics, CWRU graduate student chapter

B. Selected peer-reviewed publications

1. Y.H. Jin, T.W. Bailey, B.Y. Li, **J.H. Schild**, M.C. Andresen. P2X and VR1 receptor activation releases glutamate from separate cranial afferent terminals in nucleus tractus solitarius. J. Neuroscience Vol. 24(20), 4709-17, 2004.
2. Y.H. Jin, T.W. Bailey, M.W. Doyle, B.Y. Li, S.K. Chang, **J.H. Schild**, D. Mendelowitz, and M.C. Andresen. Ketamine differentially blocks sensory afferent synaptic transmission in medial nucleus tractus solitarius (mNTS). Anesthesiology. Vol. 98(1), 121-32, 2003.
3. B.Y. Li and **J.H. Schild**. Patch clamp electrophysiology in the nodose ganglia of the adult rat. Journal of Neuroscience Methods, Vol. 115(2), 157-67, 2002.
4. B.Y. Li and **J.H. Schild**. Comparisons of somatic action potentials from dispersed and intact rat nodose sensory ganglia using patch clamp technique. Acta Pharmacol Sin Vol. 23(6), 481-9, 2002.
5. P.A. Glazebrook, A.N. Ramirez, **J.H. Schild**, C.C. Shieh, T. Doan, B.A. Wible, D.L. Kunze. Potassium channels Kv1.1, Kv1.2 and Kv1.6 influence excitability of rat visceral sensory neurons. Journal of Physiology, Vol. 541, 467-82, 2002.
6. Z. Ben-Miled, D.R. Reitman, R.C. Chin and **J.H. Schild**. Synthesis of Ionic Currents Using Reconfigurable Hardware. International Journal of Computers and Their Applications, Vol. 7(3), September 2000.
7. W. Fan, **J.H. Schild** and M.C. Andresen. Graded and dynamic reflex summation of myelinated and unmyelinated rat aortic baroreceptors. American Journal of Physiology, 277:R748-R756, 1999
8. **J.H. Schild** and D.L. Kunze. An experimental and modeling study of Na+ current heterogeneity in rat nodose neurons and its impact on neuronal discharge. Journal of Neurophysiology, 78:3198-3209, 1997.
9. **J.H. Schild**, J.W. Clark, C.C. Canavier, D.L. Kunze and M.C. Andresen. Afferent synaptic drive of rat medial nucleus tractus solitarius neurons: Dynamic simulation of graded vesicular mobilization, release and non-NMDA receptor kinetics. Journal of Neurophysiology, 74(4):1529-1547, 1995.
10. Z. Tang, B. Smith, **J.H. Schild** and P.H. Peckham. Data transmission from an implantable biotelemeter by load-shift keying using a circuit configuration modulator. IEEE Trans. on Biomedical Engineering, 42(5):1995.
11. A.L. Leis, G.J. Grubweiser, **J.H. Schild**, M.S. West and D.S. Stokic. Control of Ia afferent input to triceps surae (soleus) locomotor nucleus precedes agonist muscle activation during gait. Journal of Electromyography and Kinesiology, 5(2): 95-100, 1995.
12. **J.H. Schild**, J.W. Clark, H. Hay, D. Mendelowitz, M.C. Andresen and D.L. Kunze. A- and C-type rat nodose sensory neurons: Model interpretations of dynamic discharge characteristics. Journal of Neurophysiology, 72: 338-2358, 1994.
13. A.L. Leis, **J.H. Schild** and D.S. Stokic. Modulation of the tibialis anterior and triceps surae (soleus) H-reflexes during gait. Muscle and Nerve, 17(1): 1994
14. **J.H. Schild**, S. Khushalani, J.W. Clark, D.L. Kunze, M.C. Andresen and M. Yang. An ionic current model for neurons in the rat medial nucleus tractus solitarius receiving sensory afferent input. Journal of Physiology, 469:341–363, 1993
15. V.L. Delitis, **J.H. Schild**, A. Beric and M.R. Dimitrijevic. Facilitation of motor evoked potentials by somatosensory afferent stimulation. Journal of EEG and Clinical Neurophysiology, 85:302-310, 1992

Extramural Research Support

1. **Neurobiology of baroreceptor perikarya and afferentation**
Principle Investigator: John H. Schild, PhD
Agency: The National Institutes of Health, R01 HL072012. Period: 07/03 thru 06/08
Summary: Characterization of voltage- and ligand-gated ion channel properties underlying the differential discharge characteristics of identified aortic baroreceptor neurons in adult rat. A unique aspect of this in vitro study is the use of an intact never-ganglion preparation which makes possible the functional classification of the afferent fiber type associated with the neuron under patch clamp study.

2. **System for Real-Time Functional Assessment of Ion Channel Dynamics**
Principle Investigator: John H. Schild, PhD
Agency: The Whitaker Foundation, Biomedical Engineering Research Award, Period: 01/00 thru 12/03
Summary: A career development award from The Whitaker Foundation with a programmatic goal of integrating the PI's biomedical engineering and life science skill sets. The overarching goal of the research project is to develop a hybrid computational platform capable of using high order mathematical models of ion channel

function as real-time investigative tools in cellular electrophysiology.

3. **Neurophysiology of Identified Cardiac Sympathetic Afferent Neurons in the Rat**
Principle Investigator: John H. Schild, PhD
Agency: American Heart Association, Scientist Development Grant (9630277N), Period: 01/97 thru 12/00
Summary: A career development award from The AHA. The overarching goal of the research project was to characterized the electrophysiological properties of fluorescently identified cardiac afferent neurons in the rat. Neurons were enzymatically dispersed from dorsal root and nodose ganglia and studied using the patch clamp technique. Slices of ganglia were prepared for patch clamp study, which enabled identification of fiber type through conduction velocity measurements.