Timothy Robert Nurkiewicz

West Virginia University School of Medicine Health Sciences Center Department of Physiology Morgantown, WV 26506-9229	Office: (304) 293-7328 Lab: (304) 293-1520 FAX: (304) 293-3850 Email: tnurkiewicz@hsc.wvu.edu	Born: 24 March 1968 Youngstown, Ohio

Education

Pennsylvania State University (1990)
College: Health and Human Development
Department: *Exercise and Sport Science*
Degree Conferred: Bachelor of Science

West Virginia University (1992-1995)
School: Physical Education
Department: *Exercise Physiology*
Degree Pursued: Doctor of Education

West Virginia University (1992)
School: Physical Education
Department: *Exercise Physiology*
Degree Conferred: Master of Science

West Virginia University (1995 to 1999)
School: Medicine
Department: *Physiology*
Degree Conferred: Doctor of Philosophy

History

1992	**Allegheny General Hospital**	*Cardio-pulmonary Rehabilitation Exercise Specialist*
1992-1995	**West Virginia University**	WVU Human Performance Laboratory & Department of Exercise Physiology *Graduate Research Assistant, Doctoral Candidate*
1995-1999	**West Virginia University**	Department of Physiology *Graduate Research Assistant, Doctoral Candidate* Advisor: Matthew A. Boegehold, Ph.D.
1999-2001	**Texas A&M University**	Department of Medical Physiology *Post Doctoral Research Associate* Sponsor: Michael J. Davis, Ph.D.
2001-2002	**West Virginia University**	Department of Physiology & Pharmacology *Post Doctoral Fellow* Sponsor: Matthew A. Boegehold, Ph.D.
2002-Present	**West Virginia University**	Department of Physiology & Pharmacology *Research Assistant Professor*

Research Support

National Research Service Award (2001-2004)
Endothelial Transduction of Shear Stress
#1F32-HL67562-01, National Institutes of Health

Research Interests

- Local control of microvascular blood flow.
- Structural and functional microvascular changes associated with hypertension and dietary salt.
- Endothelial and myogenic transduction pathways.
- Exercise dependent changes in hypertension induced microvascular damage.
- Impact of environmental air pollution on systemic microvascular structure and function.

Teaching Activities

Year	*Course Title*	Role	Class Profile	Lecture Hours
1992	*Pre- and Post-Operative Cardio-Pulmonary Rehabilitation Instruction*	Team Instructor	Variable (patient & family)	~90
1992 | 1995	*Phase III (outpatient) Cardiac Rehabilitation Instruction*	Team Instructor	individual patient	~2 /patient
1992	*Physiology of Motor Activities*	Primary Instructor	27 undergraduate students	30
1992	*Exercise Physiology-Laboratory Techniques*	Primary Instructor	15 graduate students	30
1993	*Kinesiology*	Secondary Instructor	160 undergraduate students	15
1993	*Exercise Physiology-Laboratory Techniques*	Primary Instructor	15 graduate students	30
1994	*Kinesiology*	Primary Instructor	19 undergraduate students	30
1994	*Kinesiology*	Primary Instructor	27 undergraduate students	30
1995	*Kinesiology*	Primary Instructor	29 undergraduate students	30
1995	*Exercise Physiology-Laboratory Techniques*	Primary Instructor	11 graduate students	30
1995	*Physiology of Motor Activities*	Primary Instructor	16 undergraduate students	30
1997	*Human Physiology*	Team Instructor	200 professional and graduate students	8
1998	*Fundamentals of Physiology*	Team Instructor	200 undergraduate students	10
1999	*Human Function*	Small Group Facilitator	12 medical students	15
2001	*Medical Neuroscience*	Computer Lab & Team Instructor	100 medical students 4 graduate students	6
2001	*Human Function*	Small Group Facilitator	12 medical students	15
2002	*Mechanisms of Body Function*	Team Instructor	300 professional and graduate students	5
2002	*Human Function*	Small Group Facilitator	12 medical students	15

Research Seminars/Presentations

- WVU School of Medicine, Department of Physiology (1996): "Endothelial modulation of the myogenic response in the rat microcirculation."
- WVU School of Medicine, Department of Physiology (1997): "The effects of hypertension, salt and nitric oxide on microvascular myogenic sensitivity."
- University of Louisville School of Medicine, Department of Physiology and Biophysics (1998): "Arteriolar myogenic responsiveness in normal, salt-loaded and hypertensive rats."
- Texas A&M University, Department of Medical Physiology (1999): "Microvascular myogenic control in normotensive and hypertensive rats: effect of dietary salt."
- University of Rochester, Department of Anesthesiology (1999): "Arteriolar myogenic responsiveness in normotensive and hypertensive rats: effect of dietary salt."
- San Diego, FASEB, Special Topics Symposium (2000): "Reduced angiotensin II activity may contribute to attenuated myogenic behavior in rats fed high salt."

Manuscript Reviews for Professional Journals

- *American Journal of Physiology: Heart and Circulatory Physiology*
- *Hypertension*
- *Journal of Vascular Research*
- *Microcirculation*

Publications

<u>*Manuscripts*</u>

1. **Nurkiewicz, T.R.** and M.A. Boegehold. High dietary salt attenuates arteriolar myogenic responsiveness in normotensive but not hypertensive rats. *Am. J. Physiol. Heart Circ. Physiol.* 275: H2095-H2104, 1998.
2. **Nurkiewicz, T.R.** and M.A. Boegehold. Limitation of arteriolar myogenic activity by local nitric oxide: segment-specific effect of dietary salt. *Am. J. Physiol. Heart Circ. Physiol.* 277: H1946-H1955, 1999
3. **Nurkiewicz, T.R.** and M.A. Boegehold. Reinforcement of arteriolar myogenic activity by endogenous angiotensin II: susceptibility to dietary salt. *Am. J. Physiol. Heart Circ. Physiol.* 279: H269-H278, 2000.
4. Davis, M.J., Wu, X., **Nurkiewicz, T.R.**, Kawasaki, J., Davis, G.E., Hill, M.A., and Meininger, G.A. Integrins and mechanotransduction of the vascular myogenic response. *Am. J. Physiol. Heart Circ. Physiol.* 280: H1427-H1433, 2001.
5. Davis M.J., Wu X., **Nurkiewicz T.R.**, Kawasaki J., Gui P., Hill M.A., and Wilson E. Regulation of ion channels by protein tyrosine phosphorylation. *Am. J. Physiol. Heart Circ Physiol*. 281(5):H1835-H1862, 2001.
6. Davis M.J., Wu X., **Nurkiewicz T.R.**, Kawasaki J., Gui P., Hill M.A., and Wilson E. Regulation of ion channels by integrins. *Cell Biochemistry and Biophysics*. 36(1):41-66, 2002.

<u>*Abstracts*</u>

1. **Nurkiewicz, T.R.** and M.A. Boegehold. Nitric oxide dependent attenuation of the arteriolar myogenic response: resistance to hypertension and high salt intake. *Microcirculation,* 4 (1): 1997.
2. **Nurkiewicz, T.R.** and M.A. Boegehold. Arteriolar myogenic constriction is not modulated by shear or flow in normotensive or hypertensive rats. *FASEB J.,* 12 (4): 1998.
3. Boegehold, M.A. and **T.R. Nurkiewicz**. Arteriolar myogenic activity in hypertensive and salt-fed rats: modulation by nitric oxide. *J. Vasc. Res.,* 35 (S1): 1998.

4. **Nurkiewicz, T.R.** and M.A. Boegehold. Effect of dietary salt on myogenic responsiveness of proximal arterioles and local nitric oxide in normotensive and hypertensive rats. *J. Vasc. Res.*, 35 (S2): 1998.
5. **Nurkiewicz, T.R.** and M.A. Boegehold. *5th Internet World Congress on Biomedical Sciences. J. Vasc. Res.*, 35 (S3): 1998. [www.mcmaster.ca/inabis98/boegehold/nurkiewicz0617]
6. **Nurkiewicz, T.R.** and M.A. Boegehold. Reduced angiotensin II activity may contribute to attenuated myogenic behavior in rats fed high salt. *FASEB J.*, 13 (4): 1999.
7. **Nurkiewicz, T.R.**, J. Kawasaki and M.J. Davis. Current activation and hyperpolarization in endothelial cells responding to quantified changes in shear stress. *FASEB J.* 15 (4): 2001.
8. Kawasaki, J., **Nurkiewicz, T.R.** and M.J. Davis. Regulation of endothelial cell calcium current by $\alpha_V\beta_3$ integrin. *FASEB J.*, 15 (4): 2001.
9. **Nurkiewicz, T.R.** and M.A. Boegehold. Absence of calcium-independent release of endothelial nitric oxide in young rats. *J. Vasc. Res.*, 39 (S1): 2002.

Book Chapters

1. **Nurkiewicz, T.R.** and M.A. Boegehold. Effect of dietary salt on myogenic responsiveness of proximal arterioles and local nitric oxide in normotensive and hypertensive rats. *Proceedings of the 20th European Conference on Microcirculation*, 471-474, 1998.

Memberships

- American Physiological Society
- Microcirculatory Society
- European Society for Microcirculation

Awards

- 1998 E.J. Van Liere Graduate Student Symposium: 2nd place. This is a student competition in the Health Science Center, School of Medicine and is based upon oral research presentations.
- 1999 E.J. Van Liere Graduate Student Symposium: 3rd place.

Positions

- 1999 Graduate student representative for the Graduate Studies Committee, WVU Department of Physiology

Participation in Scientific Meetings

- FASEB: Experimental Biology Annual Meeting (1997-2002)
- Microcirculatory Society: Annual Meeting
  - New Orleans, LA - 1997
  - San Francisco, CA – 1998
  - Washington, DC – 1999
  - San Diego, CA - 2000
  - Orlando, FL – 2001
  - New Orleans, LA - 2002
- American Physiological Society
  - Conference on Endothelial Regulation of Vascular Tone: Augusta, GA 1998
- Twentieth European Conference on Microcirculation: Paris, France 1998
- Twenty-Second European Conference on Microcirculation: Exeter, England, 2002