

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.
Photocopy this page or follow this format for each person.

NAME John C. Burnett, Jr., M.D.		POSITION TITLE Professor of Medicine and Physiology	
eRA COMMONS USER NAME BURNETT1			
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
Washington University, St. Louis, MO University of Illinois, Urbana, IL Loyola University School of Medicine; Chicago IL	B.S. M.D.	1971 1974	Physiology (Distinction) Medicine

A. Positions and Honors**Professional Experience**

7/73-9/73 Mayo Graduate School of Medicine, Rochester, MN: Intern, Internal Medicine
1/75-3/78 Resident, Internal Medicine, Mayo Clinic, Rochester, MN
3/78-12/80 NIH Research Fellow, Nephrology Research Laboratory, Mayo Clinic, Rochester, MN
1/81-12/81 Clinical Cardiology Fellow, Mayo Clinic, Rochester, MN
1/82-Present Consultant, Division of Cardiovascular Diseases and Internal Medicine, Mayo Clinic, Rochester, MN
1/82-6/88 Assistant Professor, Medicine and Physiology, Mayo Medical School, Rochester, MN
7/88-6/93 Associate Professor, Medicine and Physiology, Mayo Medical School, Rochester, MN
7/93-Present Professor of Medicine and Physiology, Mayo Medical School, Rochester, MN
1988-Present Head, Cardiorenal Research Laboratory
1988-2002 Director, NIH Cardiovascular Research Training Program
Director for Research, Mayo Clinic and Foundation
2005-Present Director, Mayo Center for Cardiovascular Research

Honors and Awards

1981 Mayo Alumni Association Balfour Award for Meritorious Research as a Resident
1983-1986 Mayo Rappaport Scholar, Mayo Clinic
1989 Young Scholars Award, American Society of Hypertension
1991 American Society of Clinical Investigation
1987-1992 Established Investigator, American Heart Association
1992-1994 Chair, American Heart Association Council for the Kidney in Cardiovascular Disease
1995 Mayo Outstanding Investigator Award
1995 Association of American Physicians
1998 Bronte Stewart Lectureship – University of Glasgow
2001 Mayo Research Career Achievement Award
2001 Jay Michael Sullivan Lectureship, University of Tennessee School of Medicine
2001 William L. Winters, Jr. Lectureship, Baylor College of Medicine and University of Texas
2004 Ira and Jean Belfer Lectureship, Johns Hopkins University School of Medicine
2006 Irwin R. Callen MD Memorial Lectureship, Miami Heart Research Institute
2006 Mayo Distinguished Investigator Award

B. Selected Peer-Reviewed Publications: (Selected from 361)

- Burnett JC, Jr**, Granger JP, Opgenorth TF: Effects of synthetic atrial natriuretic factor on renal function and renin release. *Am J Physiol* 247:F863-F866, 1984.
- Burnett JC, Jr**, Kao PC, Hu DC, Hesser DW, Heublein D, Granger JP, Opgenorth TJ, Reeder GS: Atrial natriuretic peptide elevation in congestive heart failure in the human. *Science* 231:1145-1147, 1986.
- Lisy O, Lainchbury JG, Leskinen H, **Burnett JC, Jr**. Therapeutic actions of a new synthetic vasoactive and natriuretic peptide, DNP, in experimental congestive heart failure. *Hypertension* 37:1089-1094, 2001.

4. Tsuruda T, Jougasaki M, Boerrigter G, Huntley B, Chen HH, Lee SC, Larsen A, Cataliotti A, **Burnett JC, Jr.** Cardiotrophin-1 stimulation of cardiac fibroblast growth: roles for glycoprotein 130/ Leukemia inhibitory factor receptor and the endothelin type A receptor. *Circulation Res* 90:128-134, 2002.
5. Redfield MM, Rodeheffer RJ, Jacobsen, SJ, Mahoney DW, Bailey KR, **Burnett JC, Jr.** Plasma brain natriuretic peptide concentration: impact of age and sex. *J Am Coll Cardiol* 40:976-982, 2002.
6. Tsuruda T, Boerrigter G, Huntley B, Cataliotti A, Costello-Boerrigter L, Chen H, **Burnett JC, Jr.** BNP is produced in cardiac fibroblasts and induces matrix metalloproteinases. *Circ Res* 91:1127-1134, 2002.
7. Boerrigter G, Costello-Boerrigter LC, Cataliotti A, Tsuruda T, Harty G, Stasch JP, **Burnett JC, Jr.** Cardiorenal and humoral properties of a novel direct soluble guanylate cyclase stimulator BAY 41-2272 in experimental congestive heart failure. *Circulation* 107:686-689, 2003.
8. Chen HH, Redfield MM, Nordstrom LJ, Cataliotti A, **Burnett JC, Jr.** Angiotensin II AT1 receptor antagonism prevents detrimental renal actions of acute diuretic therapy in human heart failure. *Am J Physiol* 284:F115-F119, 2003.
9. Cataliotti A, Boerrigter G, Costello-Boerrigter LC, Tsuruda T, Schirger JA, Heublein DM, Chen HH, Malatino LS, **Burnett JC, Jr.** BNP enhances renal actions of furosemide and suppresses furosemide-induced aldosterone activation in experimental heart failure. *Circulation* 109:1680-1685, 2004.
10. Lisy O, Redfield MM, Schirger JA, **Burnett JC, Jr.** Atrial BNP endocrine function during chronic unloading of the normal canine heart. *Am J Physiol* 288:R158-R162, 2005.
11. Chen H, Cataliotti A, Schirger J, Martin F, **Burnett JC, Jr.** Equimolar doses of ANP, BNP and urodilatin have differential renal actions in overt experimental heart failure. *Am J Physiol* 288:R1093-R1097, 2005.
12. Martin F, Stevens T, Cataliotti A, Schirger J, Borgeson D, Redfield M, Luchner A, **Burnett JC, Jr.** Natriuretic and anti-aldosterone actions of chronic oral NEP inhibition during progressive congestive heart failure. *Kidney Int* 67:1723-1730, 2005.
13. Cataliotti A, Schirger JA, Martin FL, Chen HH, McKie PM, Boerrigter G, Costello-Boerrigter LC, Harty G, Heublein DM, Sandberg SM, James KD, Miller MA, Malkar NB, Polowy K, **Burnett JC, Jr.** Oral human BNP activates cGMP and decreases mean arterial pressure. *Circulation* 112:836-840; 2005.
14. Hawkrigde AM, Heublein D, Bergen HR, Cataliotti A, **Burnett JC Jr.**, Muddimun DC. Quantitative mass spectral evidence for the absence of circulating brain natriuretic peptide (BNP-32) in severe human heart failure. *Proc Natl Acad Sci U S A.* 2005;102(48):17442-7.
15. Lisy O, **Burnett JC, Jr.** New cardioprotective agent K201 is natriuretic and glomerular filtration rate enhancing. *Circulation.* 2006;113(2):246-51.
16. Costello-Boerrigter L, Smith W, Boerrigter G, Ouyang J, Zimmer C, Orlandi C, **Burnett JC Jr.** Vasopressin-2-receptor antagonism augments water excretion without changes in renal hemodynamics or sodium and potassium excretion in human heart failure. *Am J Physiol*, 2006; 290: F273 - F278.
17. Costello-Boerrigter L, Boerrigter G, Redfield M, Rodeheffer R, Urban L, Mahoney, Jacobsen S, Heublein D, **Burnett JC Jr.** Amino-terminal pro-BNP and BNP in the general community: determinants and detection of left ventricular dysfunction. *J Am Coll Cardiol.* 2006 17;47(2):345-53.
18. McKie P, Rodeheffer RJ, Cataliotti A, Martin FL, Urban LH, Mahoney DW, Jacobsen SJ, Redfield MM, **Burnett JC Jr.** Amino-terminal Pro-B-Type natriuretic peptide and BNP. Biomarker for mortality in a large community-based cohort free of heart failure. *Hypertension.* 2006
19. Chen HH, Huntley B, Schirger J, Cataliotti A, **Burnett JC Jr.** Maximizing the renal cyclic 3'-5'-guanosine monophosphate system with type v phosphodiesterase inhibition and exogenous natriuretic peptide: a novel strategy to improve renal function in experimental overt heart failure. *Journal American Society of Nephrology.* 2006;17:2742-2747.
20. Huntley B, Sandberg S, Noser J, Cataliotti A, Redfield M, Matsuda Y, **Burnett JC Jr.** BNP-induced activation of cGMP in human cardiac fibroblasts: interactions with fibronectin and natriuretic peptide receptors. *J Cell Physiol.* 2006;209(3):943-9.
21. Boerrigter G, Costello-Boerrigter LC, Cataliotti A, Lapp H, Stasch JP, **Burnett JC Jr.** Targeting heme-oxidized soluble guanylate cyclase in experimental heart failure. *Hypertension* in press.
22. Boerrigter G and **Burnett JC Jr.** Nitric oxide-independent stimulation of soluble guanylate cyclase with BAY 41-2272 in cardiovascular disease. *Cardiovascular Drug Reviews* in press.
23. Boerrigter G, Costello-Boerrigter LC, Harty GJ, Lapp H, **Burnett JC Jr.** Des-Serine-Proline BNP 3-32 in cardiorenal regulation. *Am J Physiol* in press.

C. Research Support**Ongoing Research Support**

PO1 HL76611-2 (Burnett) 09/01/05- 08/31/10
NIH/NHLBI

“Biology & Therapeutics of Cardiovascular Peptides in Disease”

Project 1 (Redfield) Natriuretic Peptide System and Cardiomyocyte Biology

Project 2 (Burnett) Natriuretic Peptide System and Cardiac Fibrosis

Project 3: (Simari) Natriuretic Peptides and Cell-Based Therapy for Heart Failure

Core A (Burnett) Administrative Core

Core C (Burnett) Neurohumoral Core

The integrating central theme of this program of research is to advance our understanding of the biology of the natriuretic peptide system, leading to innovative therapeutic strategies for cardiovascular disease. The broad objective of Project 2 is to establish cGMP-activating factors as novel and effective chronic therapeutic strategies to attenuate the development of cardiac fibrosis.

Role: Program PI, Project Leader for Project 2, Core Director for Cores A and C; CI on Projects 1 and 3

R01 HL 36634-19 (Burnett) 04/01/06-4/30/11
NIH/NHLBI

"Intrarenal Regulation of Sodium Excretion"

The broad objective is to elucidate humoral mechanisms which link the heart and kidney in the control of sodium homeostasis in congestive heart failure (CHF) with a focus upon the physiology and pathophysiology of the natriuretic peptide system (NPS) in congestive heart failure (CHF).

Role: PI

R01 HL55502-06 (Rodeheffer) 05/01/97-03/31/07
NIH/NHLBI

“Prevalence of Asymptomatic Left Ventricular Dysfunction”

The broad objective is to objectively measure cardiac function in a community cohort, to define and characterize the natural history of left ventricular dysfunction (LVD), and to develop means for early detection of LVD.

Role: CI

R01 HL83231-1 (Burnett) 05/01/06-04/30/2010
NIH/NHLBI

“Cardiovascular Peptides and Myocardial Infarction”

The broad objective of this grant is to understand mechanisms of cardiorenal remodeling in AMI and advanced novel therapies for prevention.

Role: PI

RFA HL05-003 (PI: Redfield) 9/1/2006 - 8/31/2011
NIH/NHLBI

Heart Failure Clinical Research Network

This proposal represents the Mayo Heart Failure Program’s application to participate in the Heart Failure Clinical Research Network whose goal is to accelerate research in the diagnosis and management of HF in order to improve outcomes through evaluation of novel therapeutic strategies.

Role: CI

Patents

Vasonatin Peptide and Analogs Thereof, US Patent #5,583,108; Issued 12/10/96

DNP and Analogs Thereof, US Patent #6,407,211; Issued 6/18/02

Chimeric Natriuretic Peptides 6,818,619; Issued 11/16/2004

Principal Investigator/Program Director (Last, First, Middle):

Burnett, John C.