

CURRICULUM VITAE

NAME DHANDAPANI KUPPUSWAMY

PHONE

(
[REDACTED])

**OFFICE
ADDRESS**

Department of Medicine, Division of Cardiology
Gazes Cardiac Research Institute
Medical University of South Carolina
114 Doughty Street, Charleston, SC 29403

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EDUCATION

1971-1975	B.Sc. (Chemistry, Mathematics, Physics) University of Madras, India
1976-1978	M.Sc. (Biochemistry) University of Madras, India
1978-1979	M.Phil. (Biochemistry) University of Madras, India
1979-1984	Ph.D. (Biochemistry) University of Madras, India Thesis: Phospholipid and related changes in rat atherosclerosis controlled by <i>Anna Pavala Sindhooram</i>

RESEARCH FELLOWSHIPS AND APPOINTMENTS

1981-1982	Junior Research Fellow, Council of Scientific and Industrial Research, University of Madras, India
1982-1984	Senior Research Fellow, Council of Scientific and Industrial Research, University of Madras, India
1984-1986	Postdoctoral Fellow, Department of Biochemistry, Mount Sinai School of Medicine, New York
1986-1991	Research Associate, HHMI, Department of Biochemistry, Washington University School of Medicine, St. Louis
1991-1993	Research Instructor, Department of Biochemistry, Washington University School of Medicine, St. Louis
1993-1994	Research Trainee, Department of Pathology, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

1994-2001	Assistant Professor of Medicine Medical University of South Carolina, Charleston, SC 29425
2001-Present	Associate Professor of Medicine Medical University of South Carolina, Charleston, SC 29425
1999-Present	Health Scientist Ralph H. Johnson Veterans Affairs Medical Center, Charleston

RESEARCH INTERESTS Integrin-dependent and -independent signaling in hypertrophying myocardium

PROFESSIONAL ACTIVITIES

Awards

1981	Service Award (Best Social Service Worker) University of Madras, India
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Membership in Scientific Societies

1996-present	American Heart Association (Basic Science)
2000-present	American Physiological Society (Regular Member)
1996-present	International Society for Heart Research (ISHR)
2003-present	American Society for Biochemistry and Molecular Biology (ASBMB)

Review Positions

<u>Study section</u>	<i>Ad hoc</i> Member, Veteran Administration Merit Review Subcommittee for Cardiovascular Studies (2004 - 2006)
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Journal

Cardiovascular Research (*Ad hoc*)
 Circulation Research (*Ad hoc*)
 Circulation (*Ad hoc*)
 J. Molecular and Cellular Cardiology (*Ad hoc*)
 FASEB J (*Ad hoc*)
 J. Cell Science (*Ad hoc*)
 J. Biol. Chemistry (*Ad hoc*)
 J. Physiology (*Ad hoc*)
 International Journal of Biological Sciences (*Ad hoc*)
 Journal Cellular Biochemistry (*Ad hoc*)

University Service (at MUSC)

University

2002- 1997- 1998	Alternate Member, University Research Council Member, Library Ad Hoc Committee
1997- 1998	Member, University Research Council Member, Pathology Chair Search Committee

1998-1999	Chair of Advisory Committee, Biotechnology Resource Laboratory/Nucleic Acid Analysis Division
1999- 2001	Chair of Advisory Committee, Biotechnology Resource Laboratory/Protein Sequencing Facility
2003-2004	Member, University Research Council
2004	Chair/Reviewer on a URC grant
2005	MUSC Research Core Facility Subcommittee

College

1997-1998	Member, MCBP Qualifying Exam Committee
2003- 2007	Member, College of Graduate Studies Admissions Committee
2006-present	Ad hoc member, College of Graduate Studies Admissions Committee

Department/Division

1997- 1998	Cardiology grand round talks to cardiology fellows
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Veterans Administrations Hospital

2002- 2005	Research and Development Committee, Ralph H. Johnson VAMC, Charleston, SC
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Teaching (at MUSC)

Scientific Literature and Methodologies course (PATH 782) (spring 1999, 2 hours)

Cell and Molecular Biology, MCBP-720 (Fall semester 2000, 4 hours)

Parallel Curriculum, Phase II (Co-facilitator, Fall, 2000, 4 hours/week; Total 8 weeks)

Advanced Cell Biology, ACB 01 (Spring semester 2001, 4 hours/week; Total 8 weeks)

Advanced Cell Biology, CGS 701 (Carbohydrate Metabolism; Fall semester 2001, 4 hours total)

Advanced Cell Biology, CGS 701 (Carbohydrate Metabolism; Fall semester 2002, 4 hours total)

Cardiovascular Biology, (Fall Semester 2002, 2 hours)

Electives- signal transduction
(Adhesion-mediated signaling, Spring 2003, 1 hour)

Advanced Cell Biology, CGS 701 (Carbohydrate Metabolism; Fall semester 2003, 6 hours total)

Cardiovascular Biology, (Fall Semester 2003, 2 hours)

Advanced Cell Biology, CGS 701 (Carbohydrate Metabolism,

Unit Leader, Fall semester 2004, 8 hours total)

Electives- signal transduction
(Adhesion-mediated signaling, Spring 2004, 1 hour)

Advanced Cell Biology, CGS 701 (Carbohydrate Metabolism,
Unit Leader, Fall semester 2005, 10 hours total)

Electives- signal transduction
(Adhesion-mediated signaling, Spring 2005, 1 hour)

Advanced Cell Biology, CGS 701 (Carbohydrate Metabolism,
Unit Leader, Fall semester 2006, 10 hours total)

Cardiovascular Biology, (Fall Semester 2006-Present; 2 hours/year)

Cardiovascular Biology (Convener of Exams; 2009)

Teaching Award

One of the Top 10 Teachers of the Year 2004-2005, MUSC

Nominated for the "Outstanding Teacher of the Year Award" for lecturing in the
Graduate First Year Curriculum 2004-2005, MUSC.

Advising

Graduate Students

Rebecca Johnston, PhD student, Molecular Cellular and
Pathobiology Program (MCBP) 2005 - present
Phill Moschella, PhD student, Medical Student Training Program
(MSTP) 2004 - Present
Arun Palanisamy, PhD student, Molecular Cellular and
Pathobiology Program (MCBP) 2002 - 2008
Christopher D. Willey, PhD student, Medical Student Training
Program (MSTP) 1998-2003
Vijaykumar S. Kasi, PhD student, Molecular Cellular and
Pathobiology Program (MCBP) 1995-1999

Postdoctoral Fellows

Sundar Balasubramanian	2007-Present (Research Instructor)
Jim Tuxworth	2002-2008
Santhosh Kumar	2002-2007
Hirokazu Shiraishi	2001-2005
Bala Sundaravadivel	1999-2003
Yoshihiro Iijima	1999-2002
Vijaykumar S. Kasi	1999-2000
Toshio Nagai	1997-1999
Martin Laser	1997-1999

Laboratory Rotation /Medical and Summer Students

Christopher D. Willey (Lab Rotation)	1997, 1998
Mathew T. Eison (Medical Student Training)	1997
Lisa L. Hart (Medical Student Training)	1998
Tiffany Adams (Summer undergraduate)	1999
Maria C. Rodriguez (Summer undergraduate)	2000
Phil Moschella (Lab Rotation)	2003
Sangeetha Chandrasekaran (Lab Rotation)	2003
Anandkumar Shumugavel (Lab Rotation)	2003
Joannie L Hayes (Summer undergraduate)	2004
Chitra Veugopal (Lab Rotation)	2004
Rebecca Johnston (Lab Rotation)	2005
Vinodh Rajagopalan (Lab Rotaion)	2007

Graduate Student Advisory Committee

Elizabeth G. Burton, Cell Biology & Anatomy (PhD)
 Elaine Wirrig, Cell Biology & Anatomy (PhD; 09)
 Jason Guichard, MSTP (PhD; 08)
 Laura S. Spruill, MSTP (PhD; 07)
 Stephanie A. Robinson, Cell and Molecular Pharmacology (PhD; '06)
 Christy Kappler, MCBP (PhD; '06)
 Claudia Rocha, MCBP (PhD)
 Lena Heung, Biochemistry and Molecular Biology (PhD; '05)
 Jessica M. Paulk, Cell Biology & Anatomy (MS; '05)
 Grant Beldsoe, Biochemistry and Molecular Biology (PhD, '04)
 David Montanari, Biochemistry and Molecular Biology (PhD, 04)
 Marianne Ellen Albert, Cell and Molecular Pharmacology (MS; '04)
 Robert S. Smith, MCBP (PhD; '04)
 Beth Neilsen, MCBP (MS; 03)
 Vijay Rao, MCBP (PhD; '03)
 Yumei Chen, Biochemistry and Molecular Biology (PhD; '03)
 Jim Tuxworth, MCBP (PhD; '02)

EXTRAMURAL GRANTS/AWARD AMOUNT:**As Principal Investigator**

(Active)

12/19/08 - 12/18/12 Principal Investigator, 40% effort; NIH-RO1
 mTOR in Growth and Protection of Hypertrophying Myocardium
 Total Award \$1,000,000

(Completed)

08/01/03 - 07/31/08 Project Leader, 35% effort
 Project Title: Integrin signaling in cardiac hypertrophy

NIH Program Project Grant (Program Director: Cooper, G),
Load-induced cardiac hypertrophy in the adult mammal,
Total award for entire grant: Year 01: \$1,400,000; Year 02: \$1,442,000;
Year 03: \$1,485,260; Year 04: \$1,529,818; Year 05: \$1,575,712

10/01/02 - 09/30/06 Principal Investigator, 40% effort
Veteran Administration Merit Review Grant (Type-I),
S6K Activation in Hypertrophying Myocardium,
Year 01: 193,600; Year 02: 181,600; Year 03: 181,600; Year 04: 181,600

10/01/99 - 09/30/02 Principal Investigator, 40% effort
Veteran Administration Merit Review Grant (Type-I),
Role of c-Raf in Load-induced activation of p70S6K,
Year 01: 115,700; Year 02: 107,700; Year 03: 107,700

07/01/99 - 07/01/00 Principal Investigator, 20% effort
American Heart Association-- Grant-in-Aid,
Role of c-Raf in Load-induced activation of p70S6K'
Year 01: 55,000; Year 02: 55,000

07/01/96 - 07/01/98 Principal Investigator, 30% effort
American Heart Association-- South Carolina Affiliate,
Mechanism of pp60c-Src regulation in the heart,
Year 01: \$25,000; Year 02: 25,000

As Co-Investigator

08/01/03 - 07/31/08 NIH Program Project Grant (Program Director: Cooper, G)
Load-induced cardiac hypertrophy in the adult mammal,
Co-Investigator, Project 1 (5% effort); Co-Investigator, Project 4 (10%
effort); Total award for entire grant: Year 01: \$1,400,000; Year 02:
\$1,442,000; Year 03: \$1,485,260; Year 04: \$1,529,818; Year 05: \$1,575,712

07/01/01 - 06/31/06 Co-Investigator, 5% effort
NIH RO1 grant (PI: Donald R. Menick)
Signaling pathways mediating NCX1 expression
Total costs 1,711,700/5 Yr

04/01/99 - 03/31/04 Co-Investigator, 0% effort
Research Enhancement Award Program (REAP)
VA Research & Development 250,000/Yr; Total award 1,359,000
REAP award provides for collaborative research initiatives between
Funded VA investigators.

08/01/98 - 07/31/03 Co-Investigator, 30% effort
NIH Program Project Grant (Program Director: Cooper, G),
Load-induced cardiac hypertrophy in the adult mammal,
Co-Investigator, Project 1 (5% effort); Co-Investigator, Project 4 (10%
effort); Co-Investigator, Project 5 (10% effort); Core Director (5%
effort), Cell Isolation Core. Total award for entire grant: Year 01:
\$1,500,293; Year 02: \$1,550,233; Year 03: \$1,635,414; Year 04: \$1,679,049;
Year 05: \$1,729,413

16/01/95 - 09/30/00 Co-Investigator, 5% effort
 Veteran Administration Merit Review Grant (PI: Cooper, G)
 Growth regulation of adult feline cardiac muscle cells,
 \$100,000/yr

Student and Postdoctoral Training Grants

07/01/08 - 08/01/09 Mentor, NIH Cardiovascular Graduate Student Training Award to Rebecca K. Johntson. Total award \$21,000

07/01/06 - 08/01/08 Mentor, American Heart Association Graduate Student Training Award to Rebecca K. Johntson. Total award \$44,000

07/01/05 - 6/31/06 Mentor, NIH Cardiovascular Postdoctoral Training Fellowship for William Tuxworth, \$40,000

07/01/01 - 07/01/02 Mentor, American Heart Association Postdoctoral Training Grant Award to Dr. Bala Sundaravadivel. Total award \$60,000

07/01/01 - 08/01/01 Mentor, American Heart Association Medical Student Training Award to Anil Ellapragada. Total award \$2,000

07/01/00 Mentor, NIH predoctoral fellowship offered by the MSTP Scholarship Committee for Christopher D. Willey, \$18,000

08/18/97 - 5/31/98 Mentor, Medical University of South Carolina Postdoctoral Fellowship Award for Martin Laser, \$28,850

Intramural and Training Grants

07/01/02 - 06/30/07 Participant, NIH Training Grant (T32), Training to Improve Cardiovascular Drug Therapy. Total award \$2,406,220

05/01/95 - 04/30/96 Principal Investigator, 20% effort, MUSC Institutional Grant, Protein kinase inhibitors in cardiomyocyte differentiation, \$17,000

07/01/99 - 06/30/04 Participant, NIH Training Grant (T32), Multidisciplinary research in developmental cardiology. Total award \$990,750

Pending Grant

10/01/09 - 09/30/13 Principal Investigator, 40% effort
 Veteran Administration Merit Review Grant,
 Tyrosine Kinase Activation in Myocardial Hypertrophy
 Total Award \$1,062,100

Inventions

2003 Co-inventor, Cell Scraping Pipet Tip (Provisional Patent)
 2008 Inventor, Therapeutic Use of Rapamycin to Upregulate Akt-driven Cardiomyocyte Survival

BIBLIOGRAPHY

Manuscripts

1. **Kuppuswamy, D.**, Radha, V., and Shanmugasundaram, K.R.: Tissue glycolipid variations in experimental hypercholesterolemia - Effect of Anna Pavala Sindhooram. *J. Health Science*, VIII, 67-73 (1982)
2. **Kuppuswamy, D.**, Iyer, R.B., Kareem, M.A. and Shanmugasundaram, K.R.: Regression of atherosclerotic lesions and control of plasma lipids and lipoprotein cholesterol by Anna Pavala Sindhooram. *Pharmacol. Res. Commun.*, 16, 737-754 (1984)
3. Shanmugasundaram, K.R., **Kuppuswamy, D.**, and Visvanathan, A.: Ferric acetate-Uranium acetate reagent in cholesterol estimations in plasma and high-density lipoprotein fractions. *J. Biochem. Biophys. Methods.*, 11, 227-233 (1985)
4. Shanmugasundaram, K.R., Visvanathan, A., **Kuppuswamy, D.**, Srinivasan, N., Rasappan, P., Gilbert, R., Alladi, S., Kancharla, S. and Vasanthi, N.: Effect of high-fat diet on cholesterol distribution in plasma lipoproteins, cholesterol esterifying activity in leukocytes, and erythrocyte membrane components studied: importance of body weight. *Am. J. Clin. Nutr.*, 44, 805-815 (1986)
5. Walker, D.H., **Kuppuswamy, D.**, Visvanathan, A. and Pike, L.J.: Substrate specificity and kinetic mechanism of human placental insulin receptor/kinase. *Biochemistry*, 26, 1428-1433 (1987)
6. **Kuppuswamy, D.**, and Pike, L.J.: Ligand induced desensitization of ¹²⁵I-EGF internalization. *J. Biol. Chem.*, 264, 3357-3363 (1989)
7. Cunningham, T.W., **Kuppuswamy, D.**, and Pike, L.J.: Treatment of A431 cells with epidermal growth factor (EGF) induces desensitization of EGF-stimulated phosphatidylinositol turnover. *J. Biol. Chem.*, 264, 15351-15356 (1989)
8. **Kuppuswamy, D.**, and Pike, L.J.: Desensitization of EGF receptor alters its ability to undergo EGF-induced dimerization. *Cellular Signalling*, 3, 107-117 (1991)
9. **Kuppuswamy, D.**, Dalton, M., and Pike, L.J.: Serine 1002 is a site of *in vivo* and *in vitro* phosphorylation of the EGF receptor. *J. Biol. Chem.*, 268, 19134-19142 (1993)
10. Tlsty, T., Briot, A., Gualberto, Hall, I., Hess, S., Hixon, M., **Kuppuswamy, D.**, Ramanov, S., Sage, M., and White, A.: Genomic Instability and Cancer. *Mutation Research*, 337, 1-7 (1995)
11. Xiong, Y*, **Kuppuswamy, D***, Li, Y., Livanos, E., Hixon, M., White, A., Beach, D., and Tlsty, T.: Alteration of cell cycle kinase in human papilloma E6- and E7- expressing fibroblasts precedes neoplastic transformation. *J. Virology*, 70, 999-1008 (1996). (*equal authorship)
12. Tagawa, H., Roszich, J. D., Tsutsui, H., Narishige, T., **Kuppuswamy, D.**, Sato, H., McDermott, P. J., Koide, M. and Cooper, IV, G.: Basis for increased microtubules in pressure hypertrophied cardiocytes. *Circulation*, 93, 1230-1243 (1996).
13. **Kuppuswamy, D.**, Kerr, C., Narishige, T., Kasi, V.S., Menick, R., and Cooper, G. IV.:

- Association of tyrosine phosphorylated c-Src with the cytoskeleton of hypertrophying myocardium. *J. Biol. Chem.*, 272, 4500-4508 (1997).
14. Sato, H., Narishige, T., **Kuppuswamy, D.**, Koide, M., Menick, D.R., and Cooper, G. IV.: Microtubule stabilization in pressure overload cardiac hypertrophy. *J. Cell Biol.*, 139, 963-973 (1997).
 15. Laser, M., Kasi, V.S., Hamawaki, Cooper, G., M., Kerr, C.M., and **Kuppuswamy, D.**: Differential activation of p70 and p85 S6 kinase isoforms during cardiac hypertrophy in the adult mammal. *J. Biol. Chem.*, 273, 24610-24619 (1998).
 16. Narishige, T., Blade, K.L., Ishibashi, Y., Nagai, T., Hamawaki, M., Menick, D.R., **Kuppuswamy, D.**, and Cooper, G. IV.: Cardiac hypertrophy and developmental regulation of the β -tubulin multigene family. *J. Biol. Chem.*, 274, 9692-9697 (1999).
 17. Nagai, T., Laser, M, Baicu, C.F., Zile, R. M., Cooper, G., and **Kuppuswamy, D.**: β 3-Integrin-Mediated Focal Adhesion Complex Formation: Studies of Adult Cardiocytes Embedded in a Three-Dimensional Collagen Matrix. *Am. J. Cardiol.*, 83, 38H-43H (1999).
 18. Kasi, V.S., and **Kuppuswamy, D.**: Inhibition of SRC family kinases by a combinatorial action of 5'AMP and small heat shock proteins, both identified from the adult heart. *Mol. Cell. Biol.*, 19, 6858-6871 (1999).
 19. Laser, M., Willey, D., Jiang, W., Cooper, G., Menick, D. R., Zile, R. M., and **Kuppuswamy, D.**: Integrin activation and focal complex formation in cardiac hypertrophy. *J. Biol. Chem.*, 275, 35624-3563 (2000).
 20. Iijima, Y., Laser, M., Shiraishi, H., Willey, D.C, Sundaravadivel, B., Xu, L., McDermott, P.J., and **Kuppuswamy, D.**: c-Raf/MEK/ERK Pathway Controls PKC-mediated p70S6K Activation in Adult Cardiac Muscle Cells. *J. Biol. Chem.*, 277, 23065-23075 (2002)
 21. **Kuppuswamy, D.**: Importance of integrin signaling in myocyte growth and survival. *Circ. Res.*, 90, 1240-1242 (2002)
 22. Cheng, G., Iijima, Y., Ishibashi, Y., **Kuppuswamy, D.**, and Cooper, G.: Inhibition of G protein-coupled receptor trafficking in neuroblastoma cells by MAP 4 decoration of microtubules. *Am J Physiol Heart Circ Physiol.*, 283, H2379-2388 (2002)
 23. Basuroy, S., Sheth, P., **Kuppuswamy, D.**, Balasubramanian, S., Ray, R.M., and Rao, R.K.: Expression of kinase-inactive c-Src delays oxidative stress-induced disassembly and accelerates calcium-mediated reassembly of tight junctions in Caco-2 cell monolayer. *J. Biol. Chem.*, 278, 11916-11924 (2003)
 24. Willey, C.D., Rodríguez Rosas, M.C., Balasubramanian, S., Ross, R.S., and **Kuppuswamy, D.**: Focal complex formation in adult cardiomyocytes is accompanied by the activation of β 3 integrin and c-Src. *J. Mol. Cell. Cardiol.*, 35, 671-683 (2003)
 25. Takahashi, M., Shiraishi, H., Ishibashi, Y., Blade, K.L., McDermott, P.J., Menick, D.M., **Kuppuswamy, D.**, and Cooper, G.IV.: Phenotypic consequences of β -1 tubulin expression and MAP4 decoration of microtubules in adult cardiocytes. *Am. J Physiol. Heart Circ. Physiol.*, 285, H2072-H2083 (2003)

26. Balasubramanian, S., and **Kuppuswamy, D.**: RGD-containing peptides activate S6K1 through β_3 integrin in adult cardiac muscle cells. *J. Biol. Chem.*, 278, 42214-42224 (2003)
27. Cheng, G., Qiao, F., Gallien T.N., **Kuppuswamy, D.**, and Cooper, G.: Inhibition of β -adrenergic receptor trafficking in adult cardiocytes by MAP4 decoration of microtubules. *Am. J. Physiol. Heart Circ. Physiol.* 288, H1193-202 (2005)
28. Balasubramanian, S., Mani, S., Shiraishi, H., Johnston, R.K., Yamane, K., Willey, C.D., Cooper, G, Tuxworth, W.J., and **Kuppuswamy, D.**: Enhanced ubiquitination of cytoskeletal proteins in pressure-overloaded myocardium is accompanied by changes in specific E3 ligases. *J. Mol. Cell. Cardiol.*, 41, 669-679 (2006)
29. Chellaiah, M.A., Kuppuswamy, D., Lasky, L. and Linder, S.: Phosphorylation of a WASP-associated signal complex is critical in osteoclastbone resorption. *J Biol Chem.*, 282:10104-16, 2007.
30. Moschella, P., Rao, V., McDermott, J. and **Kuppuswamy, D.**: Differential regulation of p70S6K activation by the nPKC isoforms, PKC and PKC δ , in adult cardiac muscle cells. *J Mol Cell Cardiol.*, 43: 754-66, 2007
31. Tuxworth, W.J., Shiraishi, H., Yamane, K., McDermott, P.J. and **Kuppuswamy, D.**: Increases in Ribosomal Protein Translation are Temporally Responsive to the Duration of *in vivo* Pressure Overload. *Basic Research in Cardiology*, 103: 41-53, 2008.
32. Mani, S., Shiraishi, H., Balasubramanian, S. Yamane, K., Chellaiah, M., Cooper, G., Banik, N., Zile, M.R. and **Kuppuswamy, D.**: In vivo administration of calpeptin attenuates calpain activation and carddiomyocyte loss in pressure overloaded feline myocardium. *Am. J. Physiol. Heart Circ. Physiol.*, 295: H314-H326, 2008.
33. Willey, C.D., Palanisamy, A., Shiraishi, H., Balasubramanian, S., Zile, M.R, Tuxworth, W.J. and **Kuppuswamy, D.**: Activation and redistribution of STAT3 in pressure-overloaded myocardium: Involvement of integrins and the tyrosine kinase BMX. *International Journal of Biological Sciences*, 27: 184-99, 2008.
34. Balasubramanian, S, Johnston, R.K., Moschella, P.C., Mani, S.K., Tuxworth, S.J. and **Kuppuswamy, D.**: mTOR in Growth and Protection of Hypertrophying Myocardium. *Cardiovascular and Hematological Agents in Medicinal Chemistry*, 7: 52-63, 2009.
35. Johnston, R.K., Balasubramanian, S., Kasiganesan, H., Baicu, C.F., Zile, M.R., and **Kuppuswamy, D.**: β_3 integrin-mediated ubiquitination activates survival signaling during myocardial hypertrophy. *FASEB J*, 23: (2009) (*in Press*).
36. Johnston, R.K., Moschella, P.C., Balasubramanian, S., Baicu, C.F., Zile, M.R., and **Kuppuswamy, D.**: Rapamycin Augments Akt Activation and Ubiquitin-mediated Survival Signaling During Cardiac Hypertrophy (Manuscript submitted).
37. Chinnakkannu, P., Samanna, V., Cheng, G., Ablonczy, Z., Baicu, C.F., Bethard, J., Menick, M.R., **Kuppuswamy, D.** and Cooper, G: Site-specific dephosphorylation causes microtubule network densification in pressure overload cardiac hypertrophy (Manuscript submitted).
38. Mani, S., Balasubramanian, S., Zavadzkas, J.A., Jeffords, L.B., Rivers, W.T., Zile, M.R.,

Mukherjee, R., Spinale, F.G. and **Kuppuswamy, D.**: Calpain inhibition preserves myocardial structure and function following myocardial infarction (Manuscript Submitted).

Book Chapters

1. Laser, M., Nagai, T., Kasi, V.S., Baicu, C.F., Willey, C.W., Kerr, C.M., Zile, M.R., Cooper, G.IV., and **Kuppuswamy, D.**: Integrin -dependent and -independent signaling during pressure overload cardiac hypertrophy. In: *The hypertrophied heart*: edited by Takeda, N., Nagano, T.M., and Dhalla, N. S. Kluwer Academic Publishers, Boston, 2000. pp. 143-164.

Abstracts (Selected)

1. Kasi, V.S., and **Kuppuswamy, D.**: Identification and characterization of novel pp60c-Src kinase suppressor activity in adult cardiomyocytes. XVIII Annual Meeting on "cellular signalling in the cardiovascular system", International Society for Heart Research, J. Mol. and Cell. Cardiol., (1996)

2. **Kuppuswamy, D.**, Kerr, C., Narishige, T., Menick, D.R., Cooper, G, IV.: Cytoskeletal association of tyrosine kinase and phosphorylation of the associated proteins in hypertrophy. XVIII Annual Meeting on "cellular signalling in the cardiovascular system", International Society for Heart Research, J. Mol. and Cell. Cardiol., (1996)

3. Kasi, V.S., and **Kuppuswamy, D.**: Identification and characterization of a novel c-Src kinase inhibitory activity in adult cardiocytes. *Circulation* 94 (Suppl. I): 409, 1996.

4. **Kuppuswamy, D.**, Kerr, C., Narishige, T., Kasi, V.S., Menick, D.R., and Cooper, G, IV.: A Potential Mechanism Coupling Load to Growth During Cardiac Hypertrophy. *Circulation* 94 (Suppl. I): 531, 1996.

5. Sato, H., Narishige, T., Hamawaki, M., Menick, D.R., **Kuppuswamy, D.**, and Cooper, G, IV.: Mechanism for Enhanced Microtubule Density in Pressure Hypertrophied Myocardium. *Circulation* 94 (Suppl. I): 726, 1996.

6. Kasi, V.S., and **Kuppuswamy, D.**: A combinatorial inhibition of Src family kinases by two components isolated from the heart. Abstract presented at the 70th Scientific Sessions of the American Heart Association, 1997.

7. Laser, M., Kasi V.J., Hamawaki, M., Cooper, G. IV., Kerr, C., and **Kuppuswamy, D.**: Differential activation of p70 and p85 S6 kinase isoforms in cardiac hypertrophy. Abstract presented at the "Third annual Astra Merck young investigator's forum, Washington, D. C., 1997.

8. Kasi, V.S., and **Kuppuswamy, D.**: A novel combinatorial inhibition of Src family kinases by two components, both isolated from the heart. Abstract won second prize at the 32nd Annual M.U.S.C Student Research Day, (3rd year Ph.D category) 1997.

9. Laser, M., Kasi V.J., Hamawaki, M., Cooper, G. IV., Kerr, C., and **Kuppuswamy, D.**: Differential activation of p70 and p85 S6 kinase isoforms in cardiac hypertrophy. Abstract won second prize at the 32nd Annual M.U.S.C Student Research Day (Postdoctoral category), 1997.

10. Laser, M., Kasi, V.J., Kerr, C., Baicu, C.F., Nagai, T., Zile, M.R., Cooper, G. IV., and

- Kuppuswamy, D.:** Integrin-dependent and -independent signaling during pressure overload cardiac hypertrophy. Abstract presented at the "International Conference on Cardiac Hypertrophy", Tokyo, Japan, 1998.
11. Laser, M., Kasi, V.J., Hamawaki, M., Cooper, G. IV., Kerr, C., and **Kuppuswamy, D.:** Differential activation of p70 and p85 S6 kinase isoforms in cardiac hypertrophy. Abstract presented at the "American Heart Association- 71st Scientific Sessions", Dallas, Texas, 1998.
 12. Nagai, T., Laser, M., Baicu, C.F., Zile, M.R., Cooper, G. IV., and **Kuppuswamy, D.:** Beta3-integrin mediated focal adhesion formation: Cell culture studies in adult cardiocytes using a three-dimensional collagen matrix. Abstract presented at the "American Heart Association-71st Scientific Sessions", Dallas, Texas, 1998.
 13. Laser, M., Jiang, W., Willey, C.D., Cooper, G. IV., Menick. D., Zile, M. R., and **Kuppuswamy, D.:** Cytoskeletal assembly of signaling proteins in cardiac hypertrophy. Abstract presented at the "Scientific Conference on Molecular, Cellular, and Integrated Physiological Approaches to the Failing Heart" American Heart Association Meeting, Salt Lake City, Utah, August 1999.
 14. Kasi, V. J., and **Kuppuswamy, D.:** Combinatorial Inhibition of Src family kinases by small heat shock proteins and 5'-AMP, identified from the adult heart. Abstract presented at the "Scientific Conference on Molecular, Cellular, and Integrated Physiological Approaches to the Failing Heart" American Heart Association Meeting, Salt Lake City, Utah, August 1999.
 15. Iijima, Y., Laser, M., Baicu, C. F., Nemoto, S., Cooper, G. IV., Zile, M. R., McDermott, P. J., and **Kuppuswamy, D.:** Requirement of c-Raf for protein kinase C (PKC) mediated p70/85 S6K activation in adult feline cardiomyocyte. Abstract presented at the "Scientific Conference on Molecular, Cellular, and Integrated Physiological Approaches to the Failing Heart" American Heart Association Meeting, Salt Lake City, Utah, August 1999.
 16. Laser, M., Willey, D., Jiang, W., Cooper, G., Menick, D. R., Zile, R. M., and **Kuppuswamy, D.:** Integrin activation and focal complex formation in cardiac hypertrophy. Abstract accepted for the "American Heart Association- 73rd Scientific Sessions", New Orleans, Lu, 2000.
 17. Ijima, Y., Laser, M., Baicu, C. F., Cooper, G., Zile, R. M., McDermott, P. J., and **Kuppuswamy, D.:** A PKC-mediated pathway involving c-Raf and p38 MAPK activates p70/85 S6K during cardiac hypertrophy. Abstract accepted for the "American Heart Association- 73rd Scientific Sessions", New Orleans, Lu, 2000.
 18. Ijima, Y., Laser, M., Baicu, C. F., Willey, D., Nemoto S., Cooper, G., Zile, R. M., McDermott, P. J., and **Kuppuswamy, D.:** PKC-mediated p70S6K activation and pseudosubstrate phosphorylation in adult cardiac muscle cells. Abstract submitted for the "HFSA 5th Annual Scietntific Meeting", Washington, DC, 2001.
 19. Willey, D., Kerr, C., Zile, R. M., Cooper, G., and **Kuppuswamy, D.:** Pressure Overload hypertrophy stimulates NFkB cell survival signaling in an integrin and c-Src dependent pathway. *Journal of Cardiac Failure.* 2001;7 (abstract).
 20. Willey, D., Rodriguez Rosas, M., Ross, R. S., McDermott, P. J., and **Kuppuswamy, D.:** Potential mechanism of focal complex assembly in cardiac hypertrophy. *Journal of Cardiac Failure.* 2001;7 (abstract).

21. Cheng, G., Gallien, T., **Kuppuswamy, D.**, and Cooper, G.: Role of microtubules (MT) and microtubule-associate protein 4 (MAP 4) in cardiocyte muscarinic acetylcholine receptor (mAChR) recycling. *Journal of Cardiac Failure*. 2001;7 (abstract).
22. Balasubramanian, S., and **Kuppuswamy, D.**: Integrin-mediated activation of S6K1 in cardiomyocytes. 67th Cold Spring Harbor Laboratory; Symposium on Quantitative Biology. New York, May 29- June 3, 2002.
23. Balasubramanian, S., and **Kuppuswamy, D.**: β 3-integrin mediates RGD-stimulated S6K1 activation in adult cardiomyocytes. XV Scientific Meeting of the Inter-American Society of Hypertension. San Antonio, TX. April 27-30, 2003.
24. Tuxworth, W.J., Shiraisha, H., McDermott, P.J., and Kuppuswamy, D. Measuring Translational Efficiency using RT-PCR in a Model of Cardiac Hypertrophy. Scientific Conference on Molecular Mechanisms of Growth, Death and Regeneration in the Myocardium: Basic Biology and Insights into Ischemic Heart Disease and Heart Failure. American Heart Association, 2003.
25. Tuxworth, W.J., Shiraisha, H., McDermott, P.J., and Kuppuswamy, D. Increases in Ribosomal Protein Translation are Temporally Responsive to the Duration of in vivo Pressure Overload. MUSC Student Research Day. 2004.
26. Hayes, J., Kuppuswamy, D., and Tuxworth, W.J. The characterization of ARC and Apaf-1 as apoptotic regulators in pressure-overloaded myocardium. Annual Biomedical Research Conference for Minority Students (ABRCMS), 2004.
27. Mani, S., Shiraishi, H., Yamane, K., Cooper, G., and Kuppuswamy, D. Role of gelsolin in myocyte loss during cardiac hypertrophy. ISHR, New Orleans, May 2005.
28. Palanisamy, A., Willey, C.D., and Kuppuswamy, D. A potential mechanism of p130Cas phosphorylation by c-Src and Bmx during cardiac hypertrophy. Experimental Biology, San Francisco, April 2006.
29. Moschella, P., Rao, V., McDermott, P.J., and Kuppuswamy, D. nPKC isoforms differential activation of S6K1 in adult cardiac myocytes. Experimental Biology, San Francisco, April 2006.
30. Palanisamy, A., Willey, C.D., and Kuppuswamy, D. Bmx and c-Src mediates phosphorylation of p130Cas during cardiac hypertrophy. ISHR, June 2006
31. Johnston, R.K., Mani, S., Balasubramanian, S. and Kuppuswamy, D.: Increased ubiquitination of specific proteins in early pressure-overloaded myocardium may enhance survival of hypertrophying cardiomyocytes. FASEB Summer Research Conference on Ubiquitin and Cellular Regulation. July, 2006.
32. Mani, S., Balasubramanian, S., Johnston, R.K. and Kuppuswamy, D.: Calpain activation during cardiac hypertrophy is critical for the selective cleavage of myocardial cytoskeletal proteins. FASEB Summer Research Conference on Biology of Calpains in Health and Disease. July 2007.
33. Mani, S., Balasubramanian, S., Baicu, C.F, Van Laer, Mukherjee, R.D., Juozas A. Zavadzkas, J.A, Spinale, F.G, Zile, M.R., and Kuppuswamy, D. Calpain inhibition preserves ventricular structure and function in two distinct cardiomyopathic models. *Journal of Cardiac*

Failure, 13: S93, 2007 (Abstract).

34. Mani, S.K., Shiraishi, H., Balasubramanian, S., Yamane, K., Chellaiah, M., Cai, S, Boggs, J.M., Cooper, G, Zile, M.R., and Kuppuswamy, D. Cardiomyocyte apoptosis in pressure overloaded myocardium: Possible role of calpain-mediated gelsolin cleavage. *Journal of Cardiac Failure*, 13: S97, 2007 (Abstract).

35. Johnston RK, Balasubramanian S, Kuppuswamy D. Integrin activation causes increased ubiquitin-mediated signaling for NFkB activation in adult cardiomyocytes. Poster. FASEB Summer Conference: Ubiquitin and Cellular Regulation. June 2008. Saxtons River, Vermont.

Other: Invited Presentations:

“Ligand-induced Desensitization of EGF-Receptor,” Department of Pathology, University of North Carolina at Chapel Hill, Chapel Hill, NC, July 1993.

“Cytoskeletal Association of Tyrosine Kinase and Phosphorylation of the Associated Proteins in Hypertrophy” Oral Presentation at the XVIII Annual Meeting on Cellular Signalling in the Cardiovascular System, June, 1996.

“A Potential Mechanism Coupling Load to Growth During Cardiac Hypertrophy,” Oral Presentation at the 69th Scientific Sessions of the American Heart Meetings, New Orleans, Louisiana, October, 1996.

“Mechanism of c-Src Activation in Hypertrophying Heart,” Department of Cell Biology and Anatomy, Medical University of South Carolina, March, 1997.

“c-Src Regulation in Normal and Hypertrophied Heart,” Department of Pharmacology, Medical University of South Carolina, October, 1997.

“Integrin-Dependent and -Independent Signaling During Cardiac Hypertrophy,” Invited speaker for the International Conference on Cardiac Hypertrophy, Tokyo, Japan, October 8-9, 1998.

“Integrin-Dependent and -Independent Signaling During Cardiac Hypertrophy,” Molecular Biology and Pathobiology Program, Medical University of South Carolina, December, 1998.

“c-Src in normal and hypertrophying heart,” Invited speaker for the South Carolina Research Conference, Isle of Palms, South Carolina, January, 1999.

“c-Src in normal and hypertrophying heart,” Department of Internal Medicine/Cardiology, University of Cincinnati, Cincinnati, Ohio, January, 1999.

“c-Src in normal and hypertrophying heart,” Molecular Biology and Pathobiology Program, Medical University of South Carolina, April, 1999.

“Protein kinase signaling *in vivo*,” Invited speaker for the American Heart Association meetings on Molecular Cellular and Integrated Physiological Approaches to the Failing Heart, Snowbird Conference Center, Salt Lake City, Utah, August, 1999.

“Integrin-dependent and independent signaling in hypertrophying myocardium” Department of Medicine, Wuerzburg University, Germany, May, 2002.

“Integrin-dependent signaling in hypertrophying myocardium” Department of Zoology, University of Madras, India, June, 2004.

“Protein Kinase signaling in hypertrophying myocardium” Postgraduate Institute of Basic Medical Sciences, University of Madras, India, January, 2005.

“Growth and Protection of hypertrophying heart” invited speaker, ASPUM international Symposium on: Science in New Millennium. Chennai, India, June, 2006.

“Signaling by mTOR in hypertrophying myocardium” Postgraduate Institute of Basic Medical Sciences, University of Madras, India, January, 2008.