

Ken D. Sumida

EDUCATION:

Ph.D., University of Southern California, 1993

M.S., Chapman University, 1987

Health Care Administration - Certificate, California State University, Long Beach, 1984

B.S., University of Southern California, 1981

AWARDS:

Institutional:

- Warren D. Hancock Endowed Chair in Natural Sciences – Chapman University, 2006-present.
- Valerie Scudder Award - Chapman University, 2008
Chapman's highest “all around” faculty award (~5 awards given annually) for outstanding achievement in teaching, scholarly activity, and service to the community.
- Associated Student Body Award of Excellence – University of Southern California, 2004.
Voted by the Dental Hygiene class ('05) as the most outstanding faculty member even though I was a visiting professor.
- Warren D. Hancock Visiting Endowed Chair in Natural Sciences – Chapman University, 2002.
- Wang-Fradkin Professorship in Scholarly Excellence - Chapman University, 1998-2000.
Chapman's highest faculty award (1 award given annually) for distinguished scholarly activity.
- Valerie Scudder Award - Chapman University, 1996
Chapman's highest “all around” faculty award (~5 awards given annually) for outstanding achievement in teaching, scholarly activity, and service to the community.

Research:

- Trainee Investigator Award - American Federation for Clinical Research, 1994
for "Preservation of Interventricular Septal Function in Pacing-Induced Heart Failure is Associated with Regional Alterations in Adrenergic Signaling." Clinical Research Meeting, Baltimore, MD.
- Hermann Rahn Award - American Physiological Society (APS), 1992
for "Hepatic Gluconeogenesis is Limited by Precursor Delivery, Not Oxygen Availability, During Severe Reductions in Flow." APS Conference - Integrative Biology of Exercise, Colorado Springs, CO.

FUNDED GRANTS:

- Principal Investigator (1 of 3 PIs on the grant) – Irvine Health Foundation, 9/1/07 – 8/31/09, for “Characterization of Bone Health in Orange County Residents: Phase 1” - \$500,000 (2 yr total).
- Principal Investigator - National Institute on Aging (R15 AG14565-01), 7/15/97 - 6/30/00, for "Effects of Aging and Training on Hepatic Gluconeogenesis" - \$93,741 (3 yr total).
- Principal Investigator - National Institute on Alcohol Abuse & Alcoholism (R03 AA11259-01), 5/1/97 - 4/30/99, for "Alcohol & Gender Differences on Hepatic Gluconeogenesis" - \$120,428 (2 yr total). Was granted a 1 year no cost extension to 4/30/00.

PUBLICATIONS:

Papers:

34. Kuchenbecker, S.Y, S.D. Pressman, J. Celniker, K.M. Grewen, **K.D. Sumida**, N. Jonathan, B. Everett, and G.M. Slavich. Oxytocin, cortisol, and cognitive control during acute and naturalistic stress. *Stress* 24(4): 370-383, 2021.
33. Dror A.D. , K. Virk, K. Lee, A. Gerston, A. Prakash, M.J. Abbott, S. Victoria Jaque, and K.D. Sumida. Resistance training threshold for elevating BMD in growing female rats. *International Journal of Sports Medicine* 39: 382-389, 2018.
32. Shields, G.S., S.Y. Kuchenbecker, S.D. Pressman, **K.D. Sumida**, and G.M. Slavich. Better cognitive control of emotional information is associated with reduced pro-inflammatory cytokine reactivity to emotional stress. *Stress* 19(1): 63-68, 2016.
31. Joo, W., H. Singh, C.P. Ahles, Y. Lee, W. Colazas, L.C. Lee, A. Prakash, S.V. Jaque, and K.D. Sumida. Training-induced increase in bone mineral density between growing male and female rats. *International Journal of Sports Medicine* 36: 992-998, 2015.
30. Sternlicht, E., F. Frisch, and **K.D. Sumida**. Zumba® fitness workouts: are they an appropriate alternative to running or cycling? *Sport Sciences for Health* 9(3): 155-159, 2013.
29. Ahles, C.P., H. Singh, W. Joo, Y. Lee, L.C. Lee, W. Colazas, R.A. Pierce, A. Prakash, S.V. Jaque, and K.D. Sumida. High volumes of resistance exercise are not required for greater bone mineral density during growth. *Medicine and Science in Sports and Exercise* 45(1): 36-42, 2013.
28. Horani, M., A. Dror, D. Holland, F. Caporaso, K.D. Sumida, and F. Frisch. Prevalence of vitamin D₃ deficiency in Orange County residents. *Journal of Community Health* 36(5): 760-764, 2011.
27. Caporaso, F., F. Frisch, and **K.D. Sumida**. Compromised bone health in non-obese, older women with low caloric intake. *Journal of Community Health* 36(4): 559-564, 2011.
26. Pierce, R.A., L.C. Lee, C.P. Ahles, S.M. Shdo, S.V. Jaque, and K.D. Sumida. Different training volumes yield equivalent increases in BMD. *International Journal of Sports Medicine* 31: 803-809, 2010.
25. Kayser, B.D., J.K. Godfrey, R.M. Cunningham, R.A. Pierce, S.V. Jaque, and K.D. Sumida. Equal BMD after daily or triweekly exercise in growing rats. *International Journal of Sports Medicine* 31: 44-50, 2010.

24. Godfrey, J.K., B.D. Kayser, G.V. Gomez, J. Bennett, S.V. Jaque, and K.D. Sumida. Interrupted resistance training & BMD in growing rats. *International Journal of Sports Medicine* 30: 579-584, 2009.
23. Goettsch, B.M., M.Z. Smith, J.A. O'Brien, G.V. Gomez, S.V. Jaque, and K.D. Sumida. Interrupted vs. uninterrupted training on BMD during growth. *International Journal of Sports Medicine* 29: 980-986, 2008.
22. Smith, M.Z., B.M. Goettsch, R.D. Van Ramshorst, J.A. O'Brien, S.V. Jaque, and K.D. Sumida. Resistance training & bone mineral density during growth. *International Journal of Sports Medicine* 29: 316-321, 2008.
21. **Sumida, K.D.,** J.M. Hill, and A.V. Matveyenko. Sex differences in hepatic gluconeogenic capacity after chronic alcohol consumption. *Clinical Medicine & Research* 5(3): 193-202, 2007.
20. **Sumida, K.D.,** A.A. Cogger, and A.V. Matveyenko. Alcohol-induced suppression of gluconeogenesis is greater in ethanol fed female rat hepatocytes than males. *Alcohol* 41(2): 67-75, 2007.
19. **Sumida, K.D.,** J.H. Urdiales, and C.M. Donovan. Impact of flow rate on lactate uptake and gluconeogenesis in glucagon-stimulated perfused livers. *American Journal of Physiology: Endocrinology & Metabolism* 290(1): E185-E191, 2006.
18. **Sumida, K.D.,** J.H. Urdiales, and C.M. Donovan. Lactate delivery (not oxygen) limits hepatic gluconeogenesis when blood flow is reduced. *American Journal of Physiology: Endocrinology & Metabolism* 290(1): E192-E198, 2006.
17. **Sumida, K.D.,** A.A. Cogger, S.M. Arimoto, and A.V. Matveyenko. Opposing effects of chronic alcohol consumption on hepatic gluconeogenesis for female versus male rats. *Alcoholism: Clinical and Experimental Research* 29(10): 1899-1905, 2005.
16. **Sumida, K.D.,** S.C. Crandall, P.L. Chadha, and T. Qureshi. Differential effects of alcohol upon gluconeogenesis from lactate in young and old hepatocytes. *Experimental Gerontology* 40(4): 324-329, 2005.
15. **Sumida, K.D.,** T. Qureshi, M.J. Catanzaro, S.M. Arimoto, and J.M. Hill. Chronic alcohol consumption yields sex differences in whole body glucose production in rats. *Alcohol & Alcoholism* 39(5): 418-426, 2004.
14. **Sumida, K.D.,** J.H. Garrett, W.T. McJilton, A.L. Hevener, and C.M. Donovan. Effect of endurance training and fasting on renal gluconeogenic enzymes in the rat. *International Journal of Sport Nutrition and Exercise Metabolism* 14(3): 323-332, 2004.
13. **Sumida, K.D.,** S.M. Arimoto, M.J. Catanzaro, and F. Frisch. Effect of age and endurance training on the capacity for epinephrine-stimulated gluconeogenesis in rat hepatocytes. *Journal of Applied Physiology* 95(2): 712-719, 2003.
12. **Sumida, K.D.,** M.B. Greenberg, and J.M. Hill. Hot gel packs and reduction of delayed-onset muscle soreness 30 minutes after treatment. *Journal of Sport Rehabilitation* 12(3): 221-227, 2003.
11. Hill, J.M. and **K.D. Sumida.** Acute effect of 2 topical counterirritant creams on pain induced by delayed onset muscle soreness. *Journal of Sport Rehabilitation* 11(3): 202-208, 2002.
10. **Sumida, K.D.,** S.C. Crandall, P.L. Chadha, and T. Qureshi. Hepatic gluconeogenic capacity from various precursors in young versus old rats. *Metabolism* 51(7): 876-880, 2002.

9. **Sumida, K.D.** and C.M. Donovan. Lactate removal is not enhanced in non-stimulated perfused skeletal muscle after endurance training. *Journal of Applied Physiology* 90(4): 1307-1313, 2001.
8. Frisch, F. and **K.D. Sumida**. Temporal effects of testosterone propionate injections on serum lipoprotein concentrations in rats. *Medicine and Science in Sports and Exercise* 31(5): 664-669, 1999.
7. Frisch, F. and **K.D. Sumida**. Strength training does not alter the effects of testosterone propionate injections on high-density lipoprotein cholesterol concentrations. *Metabolism* 48(12): 1493-1497, 1999.
6. Donovan, C.M. and **K.D. Sumida**. Training enhanced hepatic gluconeogenesis: the importance for glucose homeostasis during exercise. *Medicine and Science in Sports and Exercise* 29(5): 628-634, 1997.
5. **Sumida, K.D.** and C.M. Donovan. Enhanced hepatic gluconeogenic capacity for selected precursors after endurance training. *Journal of Applied Physiology* 79(6): 1883-1888, 1995.
4. **Sumida, K.D.**, F. Frisch, and C.M. Donovan. Training suppresses hepatic lactate dehydrogenase activity without altering the isoenzyme profile. *Medicine and Science in Sports and Exercise* 27(4): 507-511, 1995.
3. **Sumida, K.D.** and C.M. Donovan. Endurance training fails to inhibit skeletal muscle glucose uptake during exercise. *Journal of Applied Physiology* 76(5): 1876-1881, 1994.
2. **Sumida, K.D.**, J.H. Urdiales, and C.M. Donovan. Enhanced gluconeogenesis from lactate in perfused livers after endurance training. *Journal of Applied Physiology* 74(2): 782-787, 1993.
1. Donovan, C.M. and **K.D. Sumida**. Training improves glucose homeostasis in rats during exercise via glucose production. *American Journal of Physiology* 258 (Regulatory, Integrative, and Comparative Physiology 27): R770-R776, 1990.

Abstracts:

Slater, B., K. Lee, H. Folta, Q. Wong, B. Gettleman, J. Hernandez, A. Prakash, S.V. Jaque and K.D. Sumida. The impact of caloric restriction and resistance training on bone mineral density and bone strength in growing male rats. Experimental Biology annual meeting, San Diego, CA. April, 2016. *Brady Slater was among 15 students awarded the David Bruce Undergraduate Research Excellence Award sponsored by the American Physiological Society.

Joo, W., H. Singh, C.P. Ahles, W. Colazas, L.C. Lee, Y. Lee, S.V. Jaque and K.D. Sumida. Sex differences in bone mineral density after resistance training in growing rats. Experimental Biology annual meeting, San Diego, CA. April, 2012. *Woojin Joo was among 26 students awarded the David Bruce Undergraduate Research Outstanding Award sponsored by the American Physiological Society.

Lee, L.C., C.P. Ahles, W. Colazas, R.A. Pierce, H. Singh, Y. Lee, S.V. Jaque, and K.D. Sumida. The effects of caloric restriction and resistance training on bone mineral density and bone strength during the growth period in rats. Presented at the Southwest Chapter of the American College of Sports Medicine annual meeting, San Diego, CA. October, 2010. This abstract was not published.

Shdo, S.M., R.M. Cunningham, R.A. Pierce, L.C. Lee, C.P. Ahles, S.V. Jaque, and K.D. Sumida. Equal increases in BMD despite differences in resistance training volume in growing rats. *FASEB Journal*, 24: 618.20, 2010. Experimental Biology annual meeting, Anaheim, CA. April, 2010. *Suzie Shdo was

among 23 students awarded the David Bruce Undergraduate Research Outstanding Award sponsored by the American Physiological Society.

Lee, L.C., R.A. Pierce, C.P. Ahles, S.M. Shdo, S.V. Jaque, and K.D. Sumida. Exercise threshold for stimulating bone mineral density during growth. Presented at the Graduate Women in Science annual meeting held at Chapman University, Orange, CA. March, 2010. This abstract was not published. *Lucy Lee was awarded 2nd place for the presentation of this data in the Undergraduate Research category.

Wilson Z., C. Lau, F. Caporaso, K. Sumida, and F. Frisch. ALP to PTH ratio in young and old females. *FASEB Journal*, 24: 630.9, 2010.

Wilson Z., C. Lau, F. Caporaso, K. Sumida, and F. Frisch. ALP trends in men and women. *FASEB Journal*, 24: 630.10, 2010.

Pierce, R.A., R. Cunningham, S.M. Shdo, C.P. Ahles, L.C. Lee, S.V. Jaque, and K.D. Sumida. Equal increases in BMD despite differences in resistance training volume in growing rats. Presented at the Southwest Chapter of the American College of Sports Medicine annual meeting, San Diego, CA. October, 2009. This abstract was not published.

Kayser, B.D., J.K. Godfrey, R. Cunningham, R. Pierce, S.V. Jaque, and K.D. Sumida. Equivalent elevations in bone mineral density from daily vs. triweekly resistance training in maturing rats. Presented at the Southwest Chapter of the American College of Sports Medicine annual meeting, San Diego, CA. November, 2008. This abstract was not published.

*Godfrey, J.K., B.D. Kayser, G.V. Gomez, J. Bennett, S.V. Jaque, and K.D. Sumida. Effects of interrupted resistance training on bone mineral density in growing rats. *FASEB Journal* 22: 753.22, 2008. Presented at the Experimental Biology annual meeting, San Diego, CA. April, 2008. *James Godfrey was among 7 students awarded the David Bruce Undergraduate Research Excellence Award sponsored by the American Physiological Society.

Godfrey, J.K., B.D. Kayser, G.V. Gomez, J. Bennett, S.V. Jaque, and K.D. Sumida. Effects of interrupted resistance training on bone mineral density in growing rats. Presented at the Southwest Chapter of the American College of Sports Medicine annual meeting, San Diego, CA. November, 2007. This abstract was not published.

*Goettsch, B.M., M.Z. Smith, J.A. O'Brien, G.V. Gomez, S.V. Jaque, and K.D. Sumida. The effects of interrupted and uninterrupted resistance training on bone mineral density in rats. Presented at the Graduate Women in Science annual meeting held at Chapman University, Orange, CA. March, 2007. This abstract was not published. *Brittany Goettsch was awarded 2nd place for her work in the Undergraduate Research category.

Goettsch, B.M., M.Z. Smith, J.A. O'Brien, G.V. Gomez, S.V. Jaque, and K.D. Sumida. The effects of interrupted and uninterrupted resistance training on bone mineral density in rats. Presented at the Southwest Chapter of the American College of Sports Medicine annual meeting, San Diego, CA. November, 2006. This abstract was not published.

Smith, M.Z., B.M. Goettsch, R.D. Van Ramshorst, J.A. O'Brien, and K.D. Sumida. The effects of high-intensity and low-intensity resistance training on serum markers of bone mineral density in male rats. Presented at the Southwest Chapter of the American College of Sports Medicine annual meeting, Las Vegas, NV. November, 2005. This abstract was not published.

Sumida, K.D., R.D. Van Ramshorst, G.C. Van deBittner, B.M. Goettsch, M.Z. Smith, J.A. O'Brien, and F. Frisch. The effects of various concentrations of ethanol on gluconeogenesis in isolated hepatocytes from male and female rats chronically fed alcohol. *FASEB Journal* 19(4): A75, 2005.

Sumida, K.D., T. Qureshi, M.J. Catanzaro, S.M. Arimoto, and J.M. Hill. Chronic alcohol consumption and gender: differential effects on blood glucose and blood alcohol levels after ethanol administration. *FASEB Journal* 17(5): A862, 2003.

Schaub, V.M., **K.D. Sumida**, and C.M. Donovan. Norepinephrine-stimulated gluconeogenesis in isolated hepatocytes following endurance training. *FASEB Journal* 15(5): LB61, 2001.

Sumida, K.D., A. Matveyenko, A. Cogger, S. Crandall, and D. Wellman. Hepatic gluconeogenic capacity in male and female rats after chronic alcohol consumption. *FASEB Journal* 14(4): A91, 2000.

Sumida, K.D., S.M. Arimoto, M.J. Catanzaro, D.A. Framptom, and F. Frisch. Hepatic gluconeogenesis from lactate after endurance training in young and old rats: effects of various concentrations of epinephrine. *Med. Sci. Sports Exer.* 31(5): S54, 1999.

Greenberg, M., C. Gibson, R. Reid, B. Salvaggio, and **K.D. Sumida.** Effects of heat and cold on the pain of delayed onset muscle soreness. (presented at the California APTA conference), 1998.

Sumida, K.D., T.L. Thetford, S.L.S. Stokesbary, A.L. Hevener, and C.M. Donovan. Effects of prolonged exercise on hepatic enzyme activities after endurance training. *FASEB Journal* 11(3): A291, 1997.

Artim, D.E., K.E. McKinney, C.L. Sit, T.A. Castillo, K.D. Sumida, and F. Frisch. Effects of testosterone propionate injections in male rats. *The Physiologist* 39(5): A-84, 1996.

Sumida, K.D. and C.M. Donovan. Lactate removal in non-stimulated perfused skeletal muscle after endurance training. *Med. Sci. Sports Exer.* 28(5): S22, 1996.

Sumida, K.D., J.H. Garrett, and C.M. Donovan. Renal gluconeogenic enzyme activities after endurance training. *FASEB Journal* 9(4): A996, 1995.

Hevener, A.L., **K.D. Sumida**, and C.M. Donovan. Hepatic gluconeogenesis from glutamine after training. *Med. Sci. Sports Exer.* 27(5): S167, 1995.

Sumida, K.D., P. Ping, E. Lynch, and H.K. Hammond. Preservation of interventricular septal function in pacing-induced heart failure is associated with regional alterations in adrenergic signaling. *Clin. Res.* 42(2): 327A, 1994. ***K.D. Sumida - Recipient of the Trainee Investigator Award from the American Federation for Clinical Research.**

Ping, P., D. Kiel, **K.D. Sumida**, E. Lynch, P.A. Insel, and H.K. Hammond. Cardiac β -adrenergic receptor kinase activity reflects levels of adrenergic receptor activation in vivo. *Clin. Res.* 42(2): 334A, 1994.

Ping, P., **K.D. Sumida**, E. Lynch, and H.K. Hammond. Effect of hypoxia and adenosine on stimulatory and inhibitory GTP-binding protein expression in cultured vascular smooth muscle cells. *FASEB Journal* 8(4): A33, 1994.

Sumida, K.D. and C.M. Donovan. Hepatic gluconeogenesis from pyruvate following endurance training in rats. *Med. Sci. Sports Exer.* 25(5): S99, 1993.

Frisch, F., **K.D. Sumida**, and C.M. Donovan. Hepatic LDH activity and isoenzyme patterns following endurance training. *Med. Sci. Sports Exer.* 25(5): S142, 1993.

Sumida, K.D., J.H. Urdiales, and C.M. Donovan. Hepatic gluconeogenesis is limited by precursor delivery, not oxygen availability, during severe reductions in flow. *The Physiologist* 35(4): 171, 1992.
***K.D. Sumida - Recipient of the Hermann Rahn Award from the American Physiological Society.**

Sumida, K.D. and C.M. Donovan. Enhanced hepatic gluconeogenesis from alanine following endurance training in rats. *Med. Sci. Sports Exer.* 24(5): S140, 1992.

Donovan, C.M. and **K.D. Sumida**. Endurance training fails to inhibit skeletal muscle glucose uptake during exercise. *Med. Sci. Sports Exer.* 24(5): S140, 1992.

Sumida, K.D., J.H. Urdiales, M. Hamilton-Wessler, and C.M. Donovan. Hepatic gluconeogenesis during reductions in flow. *FASEB Journal* 6(4): A1541, 1992.

Sumida, K.D. and C.M. Donovan. Hepatic gluconeogenesis from dihydroxyacetone following endurance training. *FASEB Journal* 5(4): A764, 1991.

Sumida, K.D., J.H. Urdiales, and C.M. Donovan. Enhanced hepatic gluconeogenesis from lactate following endurance training. *Med. Sci. Sports Exer.* 22(2): S56, 1990.

Sumida, K.D. and C.M. Donovan. Glucose turnover in fasted, exercising animals: effects of training. *Med. Sci. Sports Exer.* 21(2): S44, 1989.

For all of the above (i.e., papers & abstracts), the names of student authors are underlined. Highlighted abstracts denote research awards.