BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Ravussin, Eric

eRA COMMONS USER NAME (credential, e.g., agency login): ravusse

POSITION TITLE: Boyd Professor, Clinical Science

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date	FIELD OF STUDY
Lycée, Lausanne	OTH	1967	(Math - Sciences)
High School at the 'Gymnase Cantonal Scientifique', Lausanne	BS	1969	Bacchalaureat es Sciences and Federal Maturity type 'C'
University of Lausanne, Switzerland	MS	1974	Biochemistry, Microbiology, Human Physiology and Plant Physiology
University of Lausanne, Switzerland	PHD	1980	"Doctorat es Sciences" in Human Physiology

A. Personal Statement

Dr. Ravussin is a world expert in the conduct of translational research in obesity and type 2 diabetes. Over his more than 45-year career, he has conducted numerous clinical investigations on measures of energy expenditure, body composition, carbohydrate metabolism and biomarkers of aging in health and disease states. He has also established a wet lab **studying skeletal muscle and adipose tissue cross talks** and the relationship of these two tissues on nutrient partitioning, insulin sensitivity, inflammation, and senescence. Over the past 20 years Dr. Ravussin has conducted translational research on the impact of caloric restriction on biomarkers of aging, looked at the impact of weight loss and weight gain (overfeeding) in the cross talk between adipose and skeletal muscle and has conducted randomized clinical trial on the impact of dietary, physical activity, surgical and pharmacological interventions on insulin sensitivity and energy balance. He has published more than 650 peer reviewed manuscripts in the field of obesity, type 2 diabetes and aging, has an h-index of >123 and has mentored more than 60 postdoctoral fellows. In 2021, Dr. Ravussin has been the recipient of multiple international and national awards (see honors below). Presently, his major interests in translational research are: 1) impact of caloric restriction on biomarkers of aging; 2) mechanisms of weight loss relapse; 3) strategies to delay the onset of diabetes in pre-diabetics; and 4) nutritional programing.

Ongoing and recently completed projects that I would like to highlight include:

UG1HD107696 Ravussin (PI) 12/10/2021-11/30/2026 LA-NPH Clinical Center

U01 AR071160 Ravussin (PI) 12/2023 - 6/2025 Pennington MoTrPAC Adults

R01DK120322 Role: sub-PI 08/01/2019 06/30/2024
Investigating the Effects of Aerobic and Resistance Training in Vivo on Skeletal Muscle Metabolism in Vitro in Primary Human Muscle Cells (MoTrMyo)

R01 DK121944 Role: co-investigator 01/15/2020-12/31/2024
Testing the Adipose Expandability Hypothesis In Vivo During Overfeeding

R01 AG069476 Role: co-investigator 07/01/2020 - 06/30/2024
Aging and the mitochondrial response to exercise training, measured by noninvasive 31P magnetic resonance spectroscopy

R01DK125728 Role: co-investigator 04/01/2021 - 03/31/2026

Resistance Training Modulation of Fat Metabolism in Obese Postmenopausal Women

R01DK127162 Role: co-investigator 07/20/21-04/30/26
Effects of daily low oxygen exposure on weight status, body composition, and metabolic health

R01HL66306-01A1 Role: co-investigator 07/01/2023 – 6/30/2028
Cardiovascular risk and circadian misalignment in short sleepers- role of extended eating period.

P30 DK072476 Redman (PI) Role: sub-PI 05/01/2021 - 04/30/2026 Pennington/Louisiana NORC

000539056-SC007 (Prime - 1UM1TR004771-01) Ravussin (PI) 05/01/2024 - 04/30/2031
1/6 - CTSA UM1 at the University of Alabama at Birmingham

Pending
1R01DK140669 Role: sub-PI 04/2025 – 03/2031
The effects of alcohol consumption on metabolic health outcomes following weight loss in persons with obesity: A Randomized Controlled Trial

UG1HD107696 Role: co-investigator Ravussin (Contact); Redman, Leanne; Shellito, Judd 07/2024-11/2026
Enhancing Enrollment of Individuals Underrepresented in Biomedical Research to the Louisiana Nutrition for Precision Health Clinical Center (Supplement)

R01AG092725 Role: sub-PI 04/2025 – 03/2030
Lifestyle intervention to improve muscle function in older adults

R01DK141669 Role: sub-PI 12/2024 – 11/2027
Role of insomnia on metabolic health in women undergoing menopause transition (RIHT)

PB240129 Role: sub-PI 04/2025 – 03/2030
A psychobioecological model to understand the Food Insecurity-Obesity Paradox

R01HL179236 Role: sub-PI 04/2025-03/2030
Metabolic Impact of Shortened Sleep Duration During Overeating

B. Positions, Scientific Appointments, and Honors

Positions

2012 -	Professor (Adjunct) Biochemistry and Molecular Biology Division, Louisiana State University Biology Department, Pennington Biomedical Research Center, Baton Rouge, LA
2012 - 2023	Associate Executive Director for Obesity-Diabetes, Pennington Biomedical Research Center
2011 - 2017	Professeur Associe de Recherche (Associate Professor of Research), Université de Paris Pierre et Marie Curie (UPMC), Paris
2009 -	Professor (Adjunct), Joint Program on Diabetes, Endocrinology, and Metabolism, Louisiana State University Health Science Center School of Medicine, Pennington Biomedical Research Center, New Orleans & Baton Rouge, LA
2004 -	Adjunct Professor, Louisiana State University, Baton Rouge, LA
2004 -	Director, Nutrition Obesity Research Center (NORC), formerly Clinical Nutrition Research Center (CNRU), Pennington Biomedical Research Center, Baton Rouge, LA
2001 -	Professor, LSU PENNINGTON BIOMEDICAL RESEARCH CTR
1999 - 2000	Director, Endocrine Research & Clinical Investigation, Lilly Research Laboratories, Indianapolis, IN
1998 - 1999	Director, Obesity Research & Clinical Investigation, Lilly Research Laboratories, Indianapolis, IN
1984 - 1998	Adjunct Professor, Dept. of Health & Physical Education, Arizona State University, Temple, AZ
1984 - 1998	Visiting Scientist, Clinical Diabetes & Nutrition Section, National Institute of Diabetes & Digestive and Kidney Diseases, National Institutes of Health, Leader of Obesity Research, Phoenix, AZ
1984	Lecturer in Exercise Physiology, Arizona State University
1982 - 1984	Lecturer, Physiology & Sports Biology for physical educ., University of Lausanne, Teaching Experience

1982 - 1982	Five months as Visiting Scientist, Phoenix Clinical Research Section, National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases, National Institutes of Health, Phoenix, AR
1980 - 1982	Visiting Assistant Professor, University of Vermont, Department of Medicine, Directed by Prof. Dr. E. Horton, Burlington, VT
1977 - 1980	Lecturer in Physiology and Sports Biology for physical, University of Lausanne, Teaching Experience
1974 - 1980	Assistant at the Institute of Physiology, University of Lausanne, to Professor M. Dolivo, Postgraduate Formation
1974 - 1975	Lecturer in Physiology for laboratory technicians in the Professional , School of Lausanne, Teaching Experience
1973 - 1974	Teacher of Natural Sciences in High School, Lausanne, Switzerland, Director M. Leroy, Postgraduate Formation

Scientific Appointments

2015	Associate Editor of Nutrition and Healthy Aging
2013 -	member, Molecular Metabolism Editorial Board
2012 - 2022	Editor in Chief, Obesity
2011 - 2012	Associate Editor, Diabetes Care
2005 -	member, Editorial Board of Cell Metabolism
1997 -	member, Internal Advisory Board for the 1997 IDF Meeting
1994 - 1998	member, Editorial Board of American Journal of Physiology, Endocrinology and Metabolism Section
1992 -	member, American Diabetes Association
1990 - 2000	member, Editorial Board of the International Journal of Obesity
1990 -	member, American Institute of Nutrition
1989 -	member, North American Association for the Study of Obesity now called The Obesity Society
1986 - 1998	member, International Diabetic Athletes Association
1982 - 1992	member, American Federation for Clinical Research
1979 - 1987	member, Swiss Physiological Society
	Invited Speaker or Keynote Speaker at more than 50 international scientific meetings
	member, International Group for the Study of Diabetes
	member, Weight Risk Investigation Study Council
	member, Metabolism Study Section
	Honorary Member, Argentina Nutrition Society
	Executive Member, Nutrition, Physical Activity and Metabolism Council of the American Heart Association
	Vice-Chair, Obesity Committee of the American Heart Association

Honors

2022	The Obesity Society - Presidential Medal of Distinction
2021	George Bray Outstanding Scientific Achievements Award in Obesity Research
2018	ASN Class of 2018 Fellows
2017	Friends of Albert (Mickey) Stunkard Life Achievement Award
2017	Clive McCay Annual lecture to the Division of Nutritional Sciences at Cornell University
2012	Boyd Professor (highest professional rank awarded for his national and international distinction for outstanding teaching, research, or other creative achievements), Louisiana State University
2011	Lecture Award “Caloric Restriction and longevity: Do we live longer, or does it just seem longer?”, The NUTRIUM Lecture 2011 was endowed by NUTRIM School for Nutrition, Toxicology and Metabolism; Maastricht University
2011	George Bray Founders Award” recognizing “significant contributions that advanced the scientific or clinical basis for understanding or treating obesity”, The Obesity Society
2010	IASO Willendorf Award, International Association for the Study of Obesity. XI International Congress on Obesity – Stockholm, Sweden
2006	TOPS Award - for outstanding contributions to the understanding and treatment of obesity, NAASO
2007	President, NAASO; 2006, Vice-President; 2005, President-Elect
2002	Douglas L. Gordon Endowed Chair in Diabetes & Metabolism, LSU

2001 E.V. McCollum Award for actively generating new concepts in nutrition and personally seeing to the execution of studies testing the validity of these concepts, American Society for Clinical Nutrition. Awarded in Orlando, FL.

1990 A. Mayer award for outstanding contributions to research in the field of obesity, International Association for the Study of Obesity. Awarded in Kobe, Japan

C. Contributions to Science

1. Ravussin was the first one to put together the methods of the hyperinsulimic euglycemic clamp and indirect calorimetry to quantify the fate of glucose disposal into glucose oxidation vs. non-oxidative glucose disposal rates.
   a. Ravussin E, Bogardus C, Schwartz RS, Robbins DC, Wolfe RR, Horton ES, Danforth E Jr, Sims EA. Thermic effect of infused glucose and insulin in man. Decreased response with increased insulin resistance in obesity and noninsulin-dependent diabetes mellitus. J Clin Invest. 1983 Sep;72(3):893-902. PubMed Central PMCID: PMC1129254.
   b. Ravussin E, Bogardus C. Thermogenic response to insulin and glucose infusions in man: a model to evaluate the different components of the thermic effect of carbohydrate. Life Sci. 1982 Nov 1;31(18):2011-8. PubMed PMID: 6757619.

2. Early in his career, Ravussin was involved in the building of the first human respiratory chamber in Lausanne, Switzerland. After building the first North America such chamber at NIDDK in Phoenix, he established for the first time the percentages of total daily energy expenditure accounted for by sleeping metabolic rate, the energy cost of arousal, the thermic effect of food and the energy spent in spontaneous physical activity. Then in combination with the doubly labeled water, he was able to quantify the energy cost (and level) of voluntary physical activity. More importantly, he identified the major physiological and genetic determinants of energy metabolism in humans.
   a. Bogardus C, Lillioja S, Ravussin E, Abbott W, Zawadzki JK, Young A, Knowler WC, Jacobowitz R, Moll PP. Familial dependence of the resting metabolic rate. N Engl J Med. 1986 Jul 10;315(2):96-100. PubMed PMID: 3724804.
   b. Ravussin E, Lillioja S, Anderson TE, Christin L, Bogardus C. Determinants of 24-hour energy expenditure in man. Methods and results using a respiratory chamber. J Clin Invest. 1986 Dec;78(6):1568-78. PubMed Central PMCID: PMC423919.
   c. Ravussin E, Lillioja S, Knowler WC, Christin L, Freymond D, Abbott WG, Boyce V, Howard BV, Bogardus C. Reduced rate of energy expenditure as a risk factor for body-weight gain. N Engl J Med. 1988 Feb 25;318(8):467-72. PubMed PMID: 3340128.

3. In the early 2000s, Ravussin undertook a series of experiments to investigate the cross-talk between adipose tissue and skeletal muscle as determinants of insulin sensitivity in response to caloric restriction, overfeeding and physical activity on these factors.
   a. Albu JB, Heilbronn LK, Kelley DE, Smith SR, Azuma K, Berk ES, Pi-Sunyer FX, Ravussin E. Metabolic changes following a 1-year diet and exercise intervention in patients with type 2 diabetes. Diabetes. 2010 Mar;59(3):627-33. PubMed Central PMCID: PMC2828653.
   b. Johannsen DL, Tchoukalova Y, Tam CS, Covington JD, Xie W, Schwarz JM, Bajpeyi S, Ravussin E. Effect of 8 weeks of overfeeding on ectopic fat deposition and insulin sensitivity: testing the "adipose tissue expandability" hypothesis. Diabetes Care. 2014 Oct;37(10):2789-97. PubMed Central PMCID: PMC4170127.

4. Over the past 15 years, Ravussin became involved in a series of studies on the role of energy metabolism on aging and metabolic health. Furthermore, he has conducted feeding studies including caloric restriction, intermittent fasting and time-restricted feeding on metabolic health, markers of aging and oxidative stress.
   a. Heilbronn LK, de Jonge L, Frisard MI, DeLany JP, Larson-Meyer DE, Rood J, Nguyen T, Martin CK, Volaufova J, Most MM, Greenway FL, Smith SR, Deutsch WA, Williamson DA, Ravussin E. Effect of 6-month calorie restriction on biomarkers of longevity, metabolic adaptation, and oxidative stress in overweight individuals: a randomized controlled trial. JAMA. 2006 Apr 5;295(13):1539-48. PubMed Central PMCID: PMC2692623.
   b. Redman LM, Smith SR, Burton JH, Martin CK, Il'yasova D, Ravussin E. Metabolic Slowing and Reduced Oxidative Damage with Sustained Caloric Restriction Support the Rate of Living and Oxidative Damage Theories of Aging. Cell Metab. 2018 Apr 3;27(4):805-815.e4. PubMed Central PMCID: PMC5886711.

c. Sutton EF, Beyl R, Early KS, Cefalu WT, Ravussin E, Peterson CM. Early Time-Restricted Feeding Improves Insulin Sensitivity, Blood Pressure, and Oxidative Stress Even without Weight Loss in Men with Prediabetes. Cell Metab. 2018 Jun 5;27(6):1212-1221.e3. PubMed Central PMCID: PMC5990470.

Complete List of Published Work in My Bibliography:
https://pubmed.ncbi.nlm.nih.gov/collections/58878402/?sort=pubdate