

Ivan J. Vechetti, PhD

CURRICULUM VITAE

University of Nebraska-Lincoln
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Department of Nutrition and Health Sciences
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PROFESSIONAL EXPERIENCE

- 2018-2020** **Affiliate Postdoctoral Researcher**
University of Kentucky, College of Medicine, Department of Physiology
Area of Focus: Skeletal muscle physiology
Mentors: Charlotte A. Peterson, PhD, John J. McCarthy, PhD
Project: Discovery of biomarkers in muscle, urine, and blood; DoD grant.
- 2017-2020** **Postdoctoral Scholar**
University of Kentucky, College of Medicine, Department of Physiology
Area of Focus: Skeletal muscle physiology
Mentor: John J. McCarthy, PhD
Project Title: Exosomal myomiR regulation of adipocyte metabolism.
- 2016-2017** **Postdoctoral Visiting Scholar**
University of Kentucky, College of Medicine, Department of Physiology
Area of Focus: MicroRNAs and skeletal muscle adaptation
Mentors: John J. McCarthy, PhD and Maeli Dal-Pai-Silva, PhD (Brazil)
Project Title: The effect of global depletion of microRNAs in skeletal muscle by Dicer knockout.

EDUCATION

- 2015** **Ph.D., Molecular Biology**
Sao Paulo State University, Botucatu, Sao Paulo, Brazil
Mentor: Maeli Dal-Pai-Silva, PhD
Dissertation: Morphological and molecular responses of skeletal muscle of aged rats submitted to physical training after atrophic stimulus.
- 2013** **Ph.D. visiting scholar – 4 months**
University of Kentucky, College of Medicine, Department of Physiology
Area of Focus: MicroRNAs and muscle cell
Mentor: John J. McCarthy, PhD and Maeli Dal-Pai-Silva, PhD (Brazil)
- 2011** **Master of General and Applied Biology - Molecular Biology**
Sao Paulo State University, Botucatu, Sao Paulo, Brazil
Mentor: Maeli Dal-Pai-Silva, PhD
Thesis: Morpho-functional adaptations and molecular responses of skeletal muscle in rats submitted to aerobic training
- 2007** **Bachelor of Physical Education**
Integrated school of Bauru, Bauru, Sao Paulo, Brazil

EMPLOYMENT HISTORY

2020-Present **Assistant Professor**

University of Nebraska-Lincoln
College of Education and Human Sciences
Department of Nutrition and Health Sciences
Area of Focus: Extracellular Vesicles and Skeletal muscle

2014-2017 **Assistant Professor**

Integrated School of Bauru, Brazil
Course: Anatomy

PROFESSIONAL DEVELOPMENT

2021-2022 Scholarly Enhancement: Research and Discovery, University of Nebraska-Lincoln

2021 Search Committee Training, University of Nebraska-Lincoln

Broader Impacts Training, University of Nebraska-Lincoln

IANR New Faculty Research Workshop, University of Nebraska-Lincoln

2020 Writing Winning Grant Proposals workshop

2019 Good Research Practices and Data Reproducibility, University of Kentucky

PUBLICATION IMPACT

Google Scholar

h-index: 21
*i*10-index: 35
Total citations: 8,637

ResearchGate

h-index: 20
Total citations: 9,960

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U.S. National Library of Medicine MyNCBI

https://www.ncbi.nlm.nih.gov/myncbi/119_yepVsm5AX/bibliography/public/

SCHOLARLY CONTRIBUTIONS

Original peer-reviewed research articles in PubMed-indexed journals (listed from newest to oldest):

1. Cui M, Jannig P, Halladjian M, Figueiredo VC, Wen Y, **Vechetti IJ**, Krogh N, Jude B, Edman S, Lanner J, McCarthy J, Murach KA, Nielsen H, Walden FB. The rRNA epitranscriptome and myonuclear SNORD landscape in skeletal muscle fibers contributes to ribosome heterogeneity and is altered by hypertrophic stimulus. *Am J Physiol Cell Physiol*. 2024 Jun 2024. [doi:10.1152/ajpcell.00301.2024](https://doi.org/10.1152/ajpcell.00301.2024)
2. Ismaeel A, Thomas NT, McCashland M, **Vechetti IJ**, Edman S, Lanner JT, Figueiredo VC, Fry CS, McCarthy JJ, Wen Y, Murach KA, von Walden F. Coordinated Regulation of Myonuclear DNA Methylation, mRNA, and miRNA Levels Associates With the Metabolic Response to Rapid Synergist Ablation-Induced Skeletal Muscle Hypertrophy in Female Mice. *Function*, November 2023. [doi:10.1093/function/zqad062](https://doi.org/10.1093/function/zqad062)

3. Mattingly ML, Ruple B, Sexton CL, Godwin J, Mcintosh MC, Smith MA, Plotkin DL, Michel JM, Anglin DA, Kontos NJ, Fei S, Phillips S, Mobley CB, **Vechetti IJ**, Vann C and Roberts MD. Resistance training in humans and mechanical overload in rodents do not elevate muscle protein lactylation. *Frontiers in Physiology*, 2023. [doi:10.3389/fphys.2023.1281702](https://doi.org/10.3389/fphys.2023.1281702)
4. Wen Y, **Vechetti IJ**, Alimov AP, Valentino T, Hoffman JF, Vergara VB, Kalinich JF, Zhang XD, McCarthy JJ, and Peterson CA. Early transcriptomic signatures and biomarkers of renal damage due to prolonged exposure to embedded metal. *Cell Biology and Toxicology*, 2023. [doi:10.1007/s10565-023-09806-9](https://doi.org/10.1007/s10565-023-09806-9)
5. Lim S, Lee D, Silva FM, Koopmans PJ, **Vechetti IJ**, Walden FV, Greene NP, Murach KA. MicroRNA Control of the Myogenic Cell Transcriptome and Proteome: The Role of miR-16. *Am J Physiol Cell Physiol*, 2023. [doi:10.1152/ajpcell.00071.2023](https://doi.org/10.1152/ajpcell.00071.2023)
6. Verboven K and **Vechetti IJ**. Editorial -Inter-organ crosstalk during exercise in health and disease: extracellular vesicles as new kids on the block. *Frontiers in Physiology*, 2023. [doi:10.3389/fphys.2023.1180972](https://doi.org/10.3389/fphys.2023.1180972)
7. Ismaeel A, Van Pelt DW, Hettinger ZR, **Vechetti IJ**, Fu X, Richards C, Butterfield TA, Drummond M, Dupont-Versteegden EE. Extracellular vesicle distribution and localization in skeletal muscle at rest and following disuse atrophy. *Skeletal Muscle*, 2023. Mar 10;13(1):6. [doi:10.1186/s13395-023-00315-1](https://doi.org/10.1186/s13395-023-00315-1)
8. **Vechetti IJ**, Norrbom J, Alkner B, Hjalmarsson E, Palmcrantz A, Pontén E, Pingel J, von Walden F, Fernandez-Gonzalo R. Extracellular vesicle characteristics and microRNA content in cerebral palsy and typically developed individuals at rest and in response to aerobic exercise. *Frontiers in Physiology*, 2022. [doi:10.3389/fphys.2022.1072040](https://doi.org/10.3389/fphys.2022.1072040)
9. Nilsson A, Nerhall AM, **Vechetti IJ**, Fornander L, Wiklund S, Alkner B, Schilcher J, Walden FV. A prophylactic subcutaneous dose of the anticoagulant Tinzaparin does not influence qPCR-based assessment of circulating levels of miRNA in humans. *Plos One*, 2022. [doi:10.1371/journal.pone.0277008](https://doi.org/10.1371/journal.pone.0277008)
10. Engel LE, Souza FLA, Giometti IC, Okoshi K, Mariano TB, Ferreira NZ, Pinheiro DG, Floriano RS, Aguiar AF, Cicogna AC, **Vechetti IJ**, Pacagnelli FL. The high-intensity interval training mitigates the cardiac remodeling in spontaneously hypertensive rats. *Life Sciences*, 2022. [doi:10.1016/j.lfs.2022.120959](https://doi.org/10.1016/j.lfs.2022.120959)
11. Murach KA, Liu Z, Jude B, Casagrande-Figueiredo V, Wen Y, Khadgi S, Lim S, Silva FM, Greene NP, Lanner J, Peterson CA, McCarthy JJ, **Vechetti IJ***, Walden FV*. Multi-transcriptome analysis following an acute skeletal muscle growth stimulus yields tools for discerning global and MYC regulatory networks. *Journal of Biological Chemistry*. 2022. [doi:10.1016/j.jbc.2022.102515](https://doi.org/10.1016/j.jbc.2022.102515)
12. Wackerhage H, **Vechetti IJ**, Baumert P, Gehlert S, Becker L, Jaspers RT, Angelis MH. Does a hypertrophying muscle fibre reprogram its metabolism similar to a cancer cell? *Sports Med*. 2022 April 23. [doi:10.1007/s40279-022-01676-1](https://doi.org/10.1007/s40279-022-01676-1)
13. Valentino TR, Figueiredo VC, Mobley CB, McCarthy JJ, **Vechetti IJ Jr**. Evidence of myomiR regulation of the pentose phosphate pathway during mechanical load induced hypertrophy. *Physiological Reports*. December 2021. [doi:10.14814/phy2.15137](https://doi.org/10.14814/phy2.15137)
14. Valentino TR, **Vechetti IJ Jr**, Mobley CB, Dungan C, Golden LR, Ghosh J, McCarthy JJ. Dysbiosis of the Gut Microbiome Impairs Mouse Skeletal Muscle Adaptation to Exercise. *The Journal of Physiology*. 2021 Sep 26. [doi:10.1113/JP281788](https://doi.org/10.1113/JP281788)

15. **Vechetti IJ Jr***, Wen Y*, Hoffman JF, Alimov AP, Vergara VB, Kalinich JF, Gaitens JM, Hines SE, McDiarmid MA, McCarthy JJ & Peterson CA. Urine miRNAs as potential biomarkers for systemic reactions induced by exposure to embedded metal. *Biomarkers in Medicine*. September 2021. [doi:10.2217/bmm-2021-0120](https://doi.org/10.2217/bmm-2021-0120)
16. Valentino TR, Rule BD, Mobley CB, Nikolova-Karakashian M, **Vechetti IJ**. Skeletal Muscle Cell Growth Alters the Lipid Composition of Extracellular Vesicles. *Membranes (Basel)*. 2021 Aug 12; 11(8):619. [doi:10.3390/membranes11080619](https://doi.org/10.3390/membranes11080619)
17. von Walden F*, **Vechetti IJ Jr***, Englund D, Figueiredo VC, Fernandez-Gonzalo R, Murach KA, Pingel J, McCarthy JJ, Stål P, Pontén E. Reduced mitochondrial DNA and OXPHOS protein content in skeletal muscle of children with cerebral palsy. *Developmental Medicine & Child Neurology*. June 2021. [doi:10.1111/dmcn.14964](https://doi.org/10.1111/dmcn.14964)
18. Figueiredo VC, Wen Y, Alkner B, Fernandez-Gonzalo R, Norrbom J, **Vechetti IJ Jr**, Valentino T, Mobley CB, Zentner GE, Peterson CA, McCarthy JJ, Murach KA, von Walden F. Genetic and Epigenetic Regulation of Skeletal Muscle Ribosome Biogenesis with Exercise. *J Physiol*. 2021 Apr 29. [doi:10.1113/JP281244](https://doi.org/10.1113/JP281244)
19. **Vechetti IJ Jr**, Peck BD, Wen Y, Walton RG, Alimov AP, Valentino TR, Dungan CM, Van Pelt DW, von Walden F, Alkner B, Peterson CA and McCarthy JJ. Mechanical overload-induced muscle-derived extracellular vesicles promote adipose lipolysis. *FASEB J*. 2021 Jun;35(6):e21644. [doi:10.1096/fj.202100242R](https://doi.org/10.1096/fj.202100242R)
20. Vann CG, Morton RW, Mobley CB, **Vechetti IJ Jr**, Ferguson BK, Haun CT, Osburn SC, Sexton CL, Fox C, Oikawa SY, McGlory C, Young KC, Phillips SM, McCarthy JJ, Roberts MD. An intron variant of the GLI Family Zinc Finger 3 (GLI3) gene differentiates resistance training-induced muscle fiber hypertrophy in younger men. *FASEB J*. 2021 May;35(5):e21587. [doi:10.1096/fj.202100113RR](https://doi.org/10.1096/fj.202100113RR)
21. Murach KA, Peck BD, Policastro RA, **Vechetti IJ Jr**, Van Pelt DW, Dungan CM, Denes LT, Fu X, Brightwell CR, Zentner GE, Dupont-Versteegden EE, Richards CI, Wang ET, Smith JJ, Fry CS, McCarthy JJ, Peterson CA. Early Satellite Cell Communication Creates a Permissive Environment for Long-Term Hypertrophic Growth. *iScience*. 2021 Mar 29;24(4):102372. eCollection 2021 Apr 23. [doi:10.1016/j.isci.2021.102372](https://doi.org/10.1016/j.isci.2021.102372)
22. WEN Y, **VECHETTI IJ JR**, ALIMOV AP, HOFFMAN JF, VERGARA VB, KALINICH JF, MCCARTHY JJ, and PETERSON CA. Time-course analysis of the effect of embedded metal on skeletal muscle gene expression. *Physiol Genomics*. 2020 Dec 7. [doi:10.1152/physiolgenomics.00096.2020](https://doi.org/10.1152/physiolgenomics.00096.2020)
23. DUNGAN CM, VALENTINO TR, **VECHETTI IJ JR**, ZDUNEK CJ, MURPHY MP, LIN A, MCCARTHY JJ, PETERSON CA. Exercise-mediated alteration of hippocampal Dicer mRNA and miRNAs is associated with lower BACE1 gene expression and A β^{1-42} in female 3xTg-AD mice. *Journal of Neurophysiology*, 2020 2020 Dec 1. [doi:10.1152/jn.00503.2020](https://doi.org/10.1152/jn.00503.2020)
24. WEN Y, **VECHETTI IJ JR**, VALENTINO TR, MCCARTHY JJ. High-Yield Skeletal Muscle Protein Recovery from TRIzol® after RNA and DNA Extraction. *BioTechniques*. 2020 Aug 11. [doi:10.2144/btn-2020-0083](https://doi.org/10.2144/btn-2020-0083)
25. VAN PELT D, **VECHETTI IJ JR**, LAWRENCE M, VAN PELT K, PATEL P, MILLER B, BUTTERFIELD T, AND DUPONT-VERSTEEGDEN E. Serum extracellular vesicle miR-203a-3p content is associated with skeletal muscle mass and protein turnover during disuse atrophy and regrowth. *American Journal of Physiology Cell Physiology*. 2020 Aug 1;319(2):C419-C431. [doi:10.1152/ajpcell.00223.2020](https://doi.org/10.1152/ajpcell.00223.2020)

26. MURACH KA, **VECHETTI IJ JR**, VAN PELT DW, CROW SE, DUNGAN CM, FIGUEIREDO VC, KOSMAC K, FU X, RICHARDS CI, FRY CS, MCCARTHY JJ, PETERSON CA. Fusion-Independent Satellite Cell Communication to Muscle Fibers During Load-Induced Hypertrophy. *Functions*. 2020;1(1): zqaa009. [doi:10.1093/function/zqaa009](https://doi.org/10.1093/function/zqaa009)
27. FERNANDEZ GF, FERREIRA JH, **VECHETTI IJ JR**, MORAES LN, CURY SS, FREIRE PP, GUTIÉRREZ J, FERRETTI R, DAL-PAI-SILVA M, ROGATTO SR AND CARVALHO RF. MicroRNA-mRNA co-sequencing identifies transcriptional and posttranscriptional regulatory networks underlying muscle wasting in cancer cachexia. *Frontiers in Genetics*. 2020 May 29;11:541. [doi:10.3389/fgene.2020.00541](https://doi.org/10.3389/fgene.2020.00541)
28. ENGLUND D, MURACH KA, DUNGAN CM, FIGUEIREDO VC, **VECHETTI IJ JR**, DUPONT-VERSTEEG DEN E, MCCARTHY JJ, PETERSON CA. Depletion of resident muscle stem cells negatively impacts running volume, physical function, and muscle hypertrophy in response to lifelong physical activity. *Am J Physiol Cell Physiol*. 2020 Apr 22. [doi:10.1152/ajpcell.00090.2020](https://doi.org/10.1152/ajpcell.00090.2020)
29. FIGUEIREDO VC, ENGLUND DA, **VECHETTI IJ JR**, ALIMOV A, PETERSON CA, MCCARTHY JJ. Phosphorylation of eukaryotic initiation factor 4E is dispensable for skeletal muscle hypertrophy. *Am J Physiol Cell Physiol*. 2019 Oct 9. [doi:10.1152/ajpcell.00380.2019](https://doi.org/10.1152/ajpcell.00380.2019)
30. HOFFMAN JF, **VECHETTI IJ JR**, ALIMOV AP, KALINICH JF, MCCARTHY JJ, PETERSON CA. Hydrophobic sand is a viable method of urine collection from the rat for extracellular vesicle biomarker analysis. *Mol Genet Metab Rep*. 2019. [doi:10.1016/j.ymgmr.2019.100505](https://doi.org/10.1016/j.ymgmr.2019.100505)
31. PARRY HA, MOBLEY CB, MUMFORD PW, ROMERO MA, HAUN CT, ZHANG Y, ROBERSON PA, ZEMPLIENI J, FERRANDO AA, **VECHETTI IJ JR**, MCCARTHY JJ, YOUNG KC, ROBERTS MD, KAVAZIS AN. Bovine Milk Extracellular Vesicles (EVs) Modification Elicits Skeletal Muscle Growth in Rats. *Front Physiol*. 2019. [doi:10.3389/fphys.2019.00436](https://doi.org/10.3389/fphys.2019.00436)
32. **VECHETTI IJ JR**, WEN Y, CHAILLOU T, MURACH KA, ALIMOV AP, FIGUEIREDO VC, DAL-PAI-SILVA M, MCCARTHY JJ. Life-long reduction in myomiR expression does not adversely affect skeletal muscle morphology. *Scientific Reports*. 2019. [doi:10.1038/s41598-019-41476-8](https://doi.org/10.1038/s41598-019-41476-8)
33. DUNGAN CM, MURACH KA, FRICK KK, JONES SR, CROW SE, ENGLUND DA, **VECHETTI IJ JR**, FIGUEIREDO VC, LEVITAN BM, SATIN J, MCCARTHY JJ, PETERSON CA. Elevated Myonuclear Density During Skeletal Muscle Hypertrophy In Response to Training Is Reversed During Detraining. *Am J Physiol Cell Physiol*. 2019. [doi:10.1152/ajpcell.00050.2019](https://doi.org/10.1152/ajpcell.00050.2019)
34. IWATA M; ENGLUND D; WEN Y; DUNGAN C; MURACH K; **VECHETTI IJ JR**; BROOKS CM; PETERSON CA; MCCARTHY JJ. A novel tetracycline-responsive transgenic mouse strain for skeletal muscle-specific gene expression. *Skeletal Muscle*. 2018 Oct 27;8(1):33. [doi:10.1186/s13395-018-0181-y](https://doi.org/10.1186/s13395-018-0181-y)
35. OMOTO ACM, MORAES LN, GARCIA GJF, **VECHETTI IJ JR**, ROSCANI MG, CARVALHO RF AND GOBBI JIF. Paroxetine Alters Cardiac Stress Markers in Rats with Aortic Regurgitation. *European Journal of Experimental Biology*. 2018 Vol. 8 No. 3:19. [doi:10.21767/2248-9215.100060](https://doi.org/10.21767/2248-9215.100060)
36. FERREIRA JH, CURY SS, **VECHETTI IJ JR**, FERNANDEZ GJ, MORAES LN, ALVES CAB, FREIRE PP, FREITAS CEA, DAL-PAI-SILVA M, CARVALHO RF. Low-level laser irradiation induces a transcriptional myotube-like profile in C2C12 myoblasts. *Lasers Med Sci*. 2018 May 2. [doi:10.1007/s10103-018-2513-x](https://doi.org/10.1007/s10103-018-2513-x)

37. WEN Y1, MURACH KA, **VECHETTI IJ JR**, FRY CS, VICKERY CD, PETERSON CA, MCCARTHY JJ, CAMPBELL KS. MyoVision: Software for Automated High-Content Analysis of Skeletal Muscle Immunohistochemistry. *Journal of Applied Physiology* (1985). 2018 Jan 1;124(1):40-51. [doi:10.1152/japplphysiol.00762.2017](https://doi.org/10.1152/japplphysiol.00762.2017)
38. MORAES LN, FERNANDEZ GJ, **VECHETTI IJ JR**, FREIRE PP, SOUZA RWA, VILLACIS RAR, ROGATTO SR, REIS PP, DAL-PAI-SILVA M, CARVALHO RF. Integration of miRNA and mRNA expression profiles reveals microRNA-regulated networks during muscle wasting in cardiac cachexia. *Scientific Reports*. 2017 Aug 1;7(1):6998. [doi:10.1038/s41598-017-07236-2](https://doi.org/10.1038/s41598-017-07236-2)
39. AGUIAR AF, **VECHETTI IJ JR**, SOUZA RW, PIEDADE WP, PACAGNELLI FL, LEOPOLDO AS, CASONATTO J, DAL-PAI-SILVA M. Nitric Oxide Synthase Inhibition Impairs Muscle Regrowth Following Immobilization. *Nitric Oxide*, 2017. [doi:10.1016/j.niox.2017.07.006](https://doi.org/10.1016/j.niox.2017.07.006)
40. **VECHETTI IJ JR**, BERTAGLIA RS, FERNANDEZ GJ, DE PAULA TG, SOUZA RWA, MORAES LN, MARECO EA, FREITAS CEA, AGUIAR AF, CARVALHO RF, DAL-PAI-SILVA M. Aerobic Exercise Recovers Disuse-induced Atrophy Through the Stimulus of the LRP130/PGC-1 α Complex in Aged Rats. *J Gerontol A Biol Sci Med Sci*. 2016 May;71(5):601-9. [doi:10.1093/gerona/glv064](https://doi.org/10.1093/gerona/glv064)
41. FREITAS CEA, BERTAGLIA RS, **VECHETTI IJ JR**, MARECO EA, SALOMÃO RAS, PAULA TG, NAI GA, CARVALHO RF, PACAGNELLI FL AND DAL-PAI M. High Final Energy of Low- Level Gallium Arsenide Laser Therapy Enhances Skeletal Muscle Recovery Without a Positive Effect on Collagen Remodeling. *Photochemistry and Photobiology*. 2015;91(4):957-65. [doi:10.1111/php.12446](https://doi.org/10.1111/php.12446)
42. BONAMIN F, MORAES TM, DOS SANTOS RC, KUSHIMA H, FARIA FM, SILVA MA, **VECHETTI IJ JR**, NOGUEIRA L, BAUAB TM, SOUZA-BRITO ARM, DA ROCHA LRM, HIRUMA-LIMA CA. The effect of a minor constituent of essential oil from *Citrus aurantium*: The role of β -myrcene in preventing peptic ulcer disease. *Chemico-Biological Interactions* (Print). 2014 Apr 5;212:11-9. [doi:10.1016/j.cbi.2014.01.009](https://doi.org/10.1016/j.cbi.2014.01.009)
43. SOUZA RWA, AGUIAR AF, **VECHETTI IJ JR**, PIEDADE WP, ROCHA-CAMPOS GE, DAL-PAI-SILVA M. Resistance training with excessive training load and insufficient recovery alters skeletal muscle mass-related protein expression. *Journal of Strength and Conditioning Research*. 2014 Aug;28(8):2338-45. [doi:10.1519/JSC.0000000000000421](https://doi.org/10.1519/JSC.0000000000000421)
44. SOUZA RWA, PIEDADE WP, SOARES LC, SOUZA PAT, AGUIAR AF, **VECHETTI IJ JR**, CAMPOS DHS, FERNANDES AAH, OKOSHI K, CARVALHO RF, CICOGNA AC, DAL-PAI-SILVA M. Aerobic Exercise Training Prevents Heart Failure-Induced Skeletal Muscle Atrophy by Anti-Catabolic, but Not Anabolic Actions. *Plos One*. 2014 Oct 17;9(10):e110020. [doi:10.1371/journal.pone.0110020](https://doi.org/10.1371/journal.pone.0110020)
45. GUTIERREZ DE PAULA T, ALMEIDA FLA, CARANI FR, **VECHETTI IJ JR**, PADOVANI CR, SALOMÃO RAS, MARECO EA, DOS SANTOS VB, DAL-PAI-SILVA M. Rearing temperature induces changes in muscle growth and gene expression in juvenile pacu (*Piaractus mesopotamicus*). *Comparative Biochemistry and Physiology. Part B: Biochemistry & Molecular Biology* (Print). 2014 Mar;169:31-7. [doi:10.1016/j.cbpb.2013.12.004](https://doi.org/10.1016/j.cbpb.2013.12.004)
46. **VECHETTI IJ JR**, AGUIAR A, DE SOUZA RWA, ALMEIDA FL, DE ALMEIDA DIAS H, DE AGUIAR SILVA M, CARANI F, FERRARESSO RL, CARVALHO RF, DAL-PAI-SILVA M. NFAT Isoforms Regulate Muscle Fiber Type Transition without Altering CaN during Aerobic Training. *International Journal of Sports Medicine*. 2013 Oct;34(10):861-7. [doi:10.1055/s-0032-1331758](https://doi.org/10.1055/s-0032-1331758)

47. AGUIAR AF, **VECHETTI IJ JR**, SOUZA RWA, CASTAN EP, AGUIAR RCM, PADOVANI CR, CARVALHO RF, DAL-PAI-SILVA M. Myogenin, MyoD and IGF-I Regulate Muscle Mass but not Fiber-type Conversion during Resistance Training in Rats. *International Journal of Sports Medicine*. 2013 Apr;34(4):293-301. [doi:10.1055/s-0032-1321895](https://doi.org/10.1055/s-0032-1321895)
48. AGUIAR e SILVA MA, **VECHETTI IJ JR**, NASCIMENTO AF, FURTADO KS, AZEVEDO L, RIBEIRO DA, BARBISAN LF. Effects of swim training on liver carcinogenesis in male Wistar rats fed a low-fat or high-fat diet. *Applied Physiology, Nutrition and Metabolism (Print)*, 2012 Dec;37(6):1101-9. [doi:10.1139/h2012-129](https://doi.org/10.1139/h2012-129)
49. AGUIAR AF, SOUZA RWA, AGUIAR DH, MILANEZI RC, **VECHETTI IJ JR**, DAL-PAI-SILVA M. Creatine does not promote hypertrophy in skeletal muscle in supplemented compared with non-supplemented rats subjected to a similar workload. *Nutrition Research* 2011 Aug;31(8):652-7. [doi:10.1016/j.nutres.2011.08.006](https://doi.org/10.1016/j.nutres.2011.08.006)

* Denotes equal contribution.

Peer-reviewed review articles in PubMed-indexed journals (listed from newest to oldest):

1. Joshua A. Welsh, Deborah C. I. Goberdhan, Lorraine O'Driscoll, Edit I. Buzas, Cherie Blenkiron, Benedetta Bussolati, Houjian Cai, Dolores Di Vizio, Tom A. P. Driedonks, Uta Erdbrügger, Juan M. Falcon-Perez, Qing-Ling Fu, Andrew F. Hill, Metka Lenassi, Sai Kiang Lim, Mÿ G. Mahoney, Sujata Mohanty, Andreas Möller, Rienk Nieuwland, Takahiro Ochiya, Susmita Sahoo, Ana C. Torrecilhas, Lei Zheng, Andries Zijlstra, Sarah Abuelreich, Reem Bagabas, Paolo Bergese, Esther M. Bridges, Marco Brucale, Dylan Burger, Randy P. Carney, Emanuele Cocucci, Rossella Crescitelli, Edveena Hanser, Adrian L. Harris, Norman J. Haughey, An Hendrix, Alexander R. Ivanov, Tijana Jovanovic-Talisman, Nicole A. Kruh-Garcia, Vroniqa Ku'ulei-Lyn Faustino, Diego Kyburz, Cecilia Lässer, Kathleen M. Lennon, Jan Lötvall, Adam L. Maddox, Elena S. Martens-Uzunova, Rachel R. Mizenko, Lauren A. Newman, Andrea Ridolfi, Eva Rohde, Tatu Rojalín, Andrew Rowland, Andras Saftics, Ursula S. Sandau, Julie A. Saugstad, Faezeh Shekari, Simon Swift, Dmitry Ter-Ovanesyan, Juan P. Tosar, Zivile Useckaite, Francesco Valle, Zoltan Varga, Edwin van der Pol, Martijn J. C. van Herwijnen, Marca H. M. Wauben, Ann M. Wehman, Sarah Williams, Andrea Zendrini, Alan J. Zimmerman, MISEV Consortium, Clotilde Théry, Kenneth W. Witwer (2024). Minimal information for studies of extracellular vesicles (MISEV2023): from basic to advanced approaches. *Journal of Extracellular Vesicles*. 2024 doi: <https://doi.org/10.1002/jev2.12404>
2. Mobley CB, **VECHETTI IJ JR**, Valentino TR, McCarthy JJ. CORP: Using transgenic mice to study skeletal muscle physiology. *J Appl Physiol* (1985). 2020 May 1;128(5):1227-1239. [doi:10.1152/jappphysiol.00021.2020](https://doi.org/10.1152/jappphysiol.00021.2020)
3. **VECHETTI IJ JR**, Valentino TR, Mobley CB, McCarthy JJ. The role of extracellular vesicles in skeletal muscle and systematic adaptation to exercise. *J Physiol*. 2020 Jan 15. [doi:10.1113/JP278929](https://doi.org/10.1113/JP278929)
4. **VECHETTI IJ JR**. Emerging role of extracellular vesicles in the regulation of skeletal muscle adaptation. *J Appl Physiol* (1985). 2019. [doi:10.1152/jappphysiol.00914.2018](https://doi.org/10.1152/jappphysiol.00914.2018)
5. Clotilde Théry, Kenneth W Witwer, Elena Aikawa, Maria Jose Alcaraz, Johnathon D Anderson, Ramarosan Andriantsitohaina, Anna Antoniou, Tanina Arab, Fabienne Archer, Georgia K Atkin-Smith, D Craig Ayre, Jean-Marie Bach, Daniel Bachurski, Hossein Baharvand, Leonora Balaj, Shawn Baldacchino, Natalie N Bauer, Amy A Baxter, Mary Bebawy, Carla Beckham, Apolonija Bedina Zavec, Abderrahim Benmoussa, Anna C Berardi, Paolo Bergese, Ewa Bielska, Cherie Blenkiron, Sylwia Bobis-Wozowicz, Eric Boilard, Wilfrid Boireau, Antonella Bongiovanni, Francesc E Borràs, Steffi Bosch, Chantal M Boulanger, Xandra Breakefield, Andrew M Breglio, Meadhbh Á Brennan, David R Brigstock, Alain Brisson, Marike LD Broekman, Jacqueline F Bromberg, Paulina Bryl-Górecka, Shilpa Buch, Amy H Buck, Dylan Burger, Sara Busatto, Dominik Buschmann, Benedetta Bussolati, Edit I Buzás, James Bryan Byrd, Giovanni Camussi,

David RF Carter, Sarah Caruso, Lawrence W Chamley, Yu-Ting Chang, Chihchen Chen, Shuai Chen, Lesley Cheng, Andrew R Chin, Aled Clayton, Stefano P Clerici, Alex Cocks, Emanuele Cocucci, Robert J Coffey, Anabela Cordeiro-da-Silva, Yvonne Couch, Frank AW Coumans, Beth Coyle, Rossella Crescitelli, Miria Ferreira Criado, Crislyn D'Souza-Schorey, Saumya Das, Amrita Datta Chaudhuri, Paola de Candia, Eliezer F De Santana Junior, Olivier De Wever, Hernando A del Portillo, Tanguy Demaret, Sarah Deville, Andrew Devitt, Bert Dhondt, Dolores Di Vizio, Lothar C Dieterich, Vincenza Dolo, Ana Paula Dominguez Rubio, Massimo Dominici, Mauricio R Dourado, Tom AP Driedonks, Filipe V Duarte, Heather M Duncan, Ramon M Eichenberger, Karin Ekström, Samir EL Andaloussi, Celine Elie-Caille, Uta Erdbrügger, Juan M Falcón-Pérez, Farah Fatima, Jason E Fish, Miguel Flores-Bellver, András Försönits, Annie Frelet-Barrand, Fabia Fricke, Gregor Fuhrmann, Susanne Gabrielsson, Ana Gámez-Valero, Chris Gardiner, Kathrin Gärtner, Raphael Gaudin, Yong Song Gho, Bernd Giebel, Caroline Gilbert, Mario Gimona, Ilaria Giusti, Deborah CI Goberdhan, André Görgens, Sharon M Gorski, David W Greening, Julia Christina Gross, Alice Gualerzi, Gopal N Gupta, Dakota Gustafson, Aase Handberg, Reka A Haraszti, Paul Harrison, Hargita Hegyesi, An Hendrix, Andrew F Hill, Fred H Hochberg, Karl F Hoffmann, Beth Holder, Harry Holthofer, Baharak Hosseinkhani, Guoku Hu, Yiyao Huang, Veronica Huber, Stuart Hunt, Ahmed Gamal-Eldin Ibrahim, Tsuneya Ikezu, Jameel M Inal, Mustafa Isin, Alena Ivanova, Hannah K Jackson, Soren Jacobsen, Steven M Jay, Muthuvel Jayachandran, Guido Jenster, Lanzhou Jiang, Suzanne M Johnson, Jennifer C Jones, Ambrose Jong, Tijana Jovanovic-Talisman, Stephanie Jung, Raghu Kalluri, Shin-ichi Kano, Sukhbir Kaur, Yumi Kawamura, Evan T Keller, Delaram Khamari, Elena Khomyakova, Anastasia Khvorova, Peter Kierulf, Kwang Pyo Kim, Thomas Kislinger, Mikael Klingeborn, David J Klinke II, Miroslaw Kornek, Maja M Kosanović, Árpád Ferenc Kovács, Eva-Maria Krämer-Albers, Susanne Krasemann, Mirja Krause, Igor V Kurochkin, Gina D Kusuma, Sören Kuypers, Saara Laitinen, Scott M Langevin, Lucia R Languino, Joanne Lannigan, Cecilia Lässer, Louise C Laurent, Gregory Lavieu, Elisa Lázaro-Ibáñez, Soazig Le Lay, Myung-Shin Lee, Yi Xin Fiona Lee, Debora S Lemos, Metka Lenassi, Aleksandra Leszczynska, Isaac TS Li, Ke Liao, Sten F Libregts, Erzsebet Ligeti, Rebecca Lim, Sai Kiang Lim, Aija Linē, Karen Linnemannstöns, Alicia Llorente, Catherine A Lombard, Magdalena J Lorenowicz, Ákos M Lörincz, Jan Lötvall, Jason Lovett, Michelle C Lowry, Xavier Loyer, Quan Lu, Barbara Lukomska, Taral R Lunavat, Sybren LN Maas, Harmeet Malhi, Antonio Marcilla, Jacopo Mariani, Javier Mariscal, Elena S Martens-Uzunova, Lorena Martin-Jaular, M Carmen Martinez, Vilma Regina Martins, Mathilde Mathieu, Suresh Mathivanan, Marco Maugeri, Lynda K McGinnis, Mark J McVey, David G Meckes Jr, Katie L Meehan, Inge Mertens, Valentina R Minciocchi, Andreas Möller, Malene Møller Jørgensen, Aizea Morales-Kastresana, Jess Morhayim, François Mullier, Maurizio Muraca, Luca Musante, Veronika Mussack, Dillon C Muth, Kathryn H Myburgh, Tanbir Najrana, Muhammad Nawaz, Irina Nazarenko, Peter Nejsum, Christian Neri, Tommaso Neri, Rienk Nieuwland, Leonardo Nimrichter, John P Nolan, Esther NM Nolte-'t Hoen, Nicole Noren Hooten, Lorraine O'Driscoll, Tina O'Grady, Ana O'Loghlen, Takahiro Ochiya, Martin Olivier, Alberto Ortiz, Luis A Ortiz, Xabier Osteikoetxea, Ole Østergaard, Matias Ostrowski, Jaesung Park, D. Michiel Pegtel, Hector Peinado, Francesca Perut, Michael W Pfaffl, Donald G Phinney, Bartijn CH Pieters, Ryan C Pink, David S Pisetsky, Elke Pogge von Strandmann, Iva Polakovicova, Ivan KH Poon, Bonita H Powell, Ilaria Prada, Lynn Pulliam, Peter Quesenberry, Annalisa Radeghieri, Robert L Raffai, Stefania Raimondo, Janusz Rak, Marcel I Ramirez, Graça Raposo, Morsi S Rayyan, Neta Regev-Rudzki, Franz L Ricklefs, Paul D Robbins, David D Roberts, Silvia C Rodrigues, Eva Rohde, Sophie Rome, Kasper MA Rouschop, Aurelia Rughetti, Ashley E Russell, Paula Saá, Susmita Sahoo, Edison Salas-Huenuleo, Catherine Sánchez, Julie A Saugstad, Meike J Saul, Raymond M Schiffelers, Raphael Schneider, Tine Hiorth Schøyen, Aaron Scott, Eriomina Shahaj, Shivani Sharma, Olga Shatnyeva, Faezeh Shekari, Ganesh Vilas Shelke, Ashok K Shetty, Kiyotaka Shiba, Pia R-M Siljander, Andreia M Silva, Agata Skowronek, Orman L Snyder II, Rodrigo Pedro Soares, Barbara W Sódar, Carolina Soekmadji, Javier Sotillo, Philip D Stahl, Willem Stoorvogel, Shannon L Stott, Erwin F Strasser, Simon Swift, Hidetoshi Tahara, Muneesh Tewari, Kate Timms, Swasti Tiwari, Rochelle Tixeira, Mercedes Tkach, Wei Seong Toh, Richard Tomasini, Ana Claudia Torrecilhas, Juan Pablo Tosar, Vasilis Toxavidis, Lorena Urbanelli, Pieter Vader, Bas WM van Balkom, Susanne G van der Grein, Jan Van Deun, Martijn JC van Herwijnen, Kendall Van Keuren-Jensen, Guillaume van Niel, Martin E van

Royen, Andre J van Wijnen, M Helena Vasconcelos, **Ivan J Vechetti Jr**, Tiago D Veit, Laura J Vella, Émilie Velot, Frederik J Verweij, Beate Vestad, Jose L Viñas, Tamás Visnovitz, Krisztina V Vukman, Jessica Wahlgren, Dionysios C Watson, Marca HM Wauben, Alissa Weaver, Jason P Webber, Viktoria Weber, Ann M Wehman, Daniel J Weiss, Joshua A Welsh, Sebastian Wendt, Asa M Wheelock, Zoltán Wiener, Leonie Witte, Joy Wolfram, Angeliki Xagorari, Patricia Xander, Jing Xu, Xiaomei Yan, María Yáñez-Mó, Hang Yin, Yuana Yuana, Valentina Zappulli, Jana Zarubova, Vytautas Žėkas, Jian-ye Zhang, Zezhou Zhao, Lei Zheng, Alexander R Zheutlin, Antje M Zickler, Pascale Zimmermann, Angela M Zivkovic, Davide Zocco, Ewa K Zuba-Surma. Minimal information for studies of extracellular vesicles 2018 (MISEV2018): a position statement of the International Society for Extracellular Vesicles and update of the MISEV2014 guidelines. *Journal of Extracellular Vesicles* (2019), 8:1, 1535750, [doi:10.1080/20013078.2018.1535750](https://doi.org/10.1080/20013078.2018.1535750)

Articles under review:

1. Valente JS, Colombelli KT, Pereira LL, Perez ES, Zanella BTT, Delgado AQ, Bosqueiro JR, Padovani, CR, **Vechetti IJ**, Damasceno DC, Justulin LA Jr, Dal-Pai-Silva M. Aerobic exercise attenuates changes in skeletal muscle glycolysis metabolism and glycogen content in offspring rats submitted to a maternal low protein diet. Submitted to *Molecular and cellular endocrinology*, 2024.
2. Lovett JAC, McColl RS, Durcan P, **Vechetti I**, Myburgh KH. Analysis of human plasma-derived small extracellular vesicle characteristics and microRNA cargo following exercise-induced skeletal muscle damage. Submitted to *PlosOne*, 2024
3. Burke BBI, Ismaeel A, Long DE, Depa LA, Coburn PT, Goh J, Saliu TP, Walton BJ, **Vechetti IJ**, Valentino TR, Mobley CB, Memetimin H, Wang D, Finlin BS, Kern PA, Peterson CA, McCarthy JJ, Wen Y. Extracellular Vesicle miR-1 Delivery from Skeletal Muscle to Adipose Tissue Modifies Lipolytic Pathways in Response to Resistance Exercise in Humans. Submitted to *JCI insight*, 2024
4. Godwin JS, Michel JM, Libardi CA, Kavazis AN, Fry CS, Frugé AD, McCashland M, **Vechetti IJ**, Mobley CB, Roberts MD. Vimentin is a cytoskeletal protein mechanistically associated with mechanical overload-induced skeletal muscle hypertrophy. Submitted to *eLife*, 2024.
5. Fei S, Rule BD, Godwin JS, Mobley CB, Roberts MD, Walden FV, **Vechetti IJ**. Skeletal muscle-specific overexpression of miRNA-1 impairs mechanical overload-induced skeletal muscle hypertrophy. Submitted to *American Journal of Physiology-Cell Physiology*, 2024.

PRESENTATIONS

Invited Lectures, Meeting presentations, and Conferences

- 2023 International Society of Extracellular Vesicles (ISEV), Seattle, WA USA
Virtual NIH Grants Conference
- 2022 “The Role of NADPH in the regulation of skeletal muscle growth.” Scientific Meeting: The German Molecular Exercise Physiology Group – TUM, German (via Zoom)
“Emerging evidence of a cancer-like reprogramming during skeletal muscle hypertrophy.” Seminar: TUM Integrative Physiology Seminar Series – TUM, Germany (via Zoom)
“Does exercise affect extracellular vesicle biology?” Discipline: Tópicos Especiais em Biologia Geral e Aplicada - UNESP, Brazil (via Zoom)
- 2021 “Extracellular vesicles and microRNAs: small entities with big relevance for systemic adaptation.” Discipline: Tópicos Especiais – UNOESTE, Brazil (via Zoom)

- 2020 “Emerging role of extracellular vesicles in the regulation of skeletal muscle adaptation.” Discipline: Signaling pathways that control skeletal muscle phenotype – UNESP, Brazil (via Zoom)
- 2018 “Exosomal myomiR regulation of adipocyte metabolism.” APS Intersociety Meeting: The Integrative Biology of Exercise, San Diego, CA
- 2017 “Exosomal myomiR regulation of adipocyte metabolism.” American Society of Exosomes and Microvesicles, Pacific Grove, CA

Presentations at Regional/National/International Conferences:

- 2024 Pacagnelli FL, Camila HL, Ferreira NZ, Freitas AB, Carvalho APF, Okoshi K, Giometti IC, Freire PP, Carvalho RF, Aguiar AF, **Vechetti IJ**. High-intensity interval training does not affect the expression of endothelial genes in spontaneously hypertensive rat. 33rd European Meeting on Hypertension and Cardiovascular Protection, Berlin, Germany, 2024.
- 2023 Camilo HL, Freitas AB, Carvalho APF, Ferreira NZ, Freire APCF, Silva JPLN, Okoshi K, Giometti IC, **Vechetti IJ**, Pacagnelli FL. Avaliação dos níveis pressóricos de ratos hipertensos e sua relação com Fatores vasculares musculares: repercussões de um treinamento intervalado de alta intensidade. 78th Congresso Brasileiro de Cardiologia, Porto Alegre, Brasil, 2023.
- Jannig PR, McCashland M, Nilsson A, **Vechetti IJ**, Palmcrantz A, Ponten E, Schilcher J, von Walden F. Skeletal Muscle Gene Expression Profiling Following Tibial Fracture. Physiology in Focus, Talinn, Estonia, 2023.
- Wehbe M, Mariano TB, Mareco EA, Cury SS, Carvalho RF, **Vechetti IJ**, Pacagnelli FLP. Effect of preventive training in cardiac transcriptoma in rats with pulmonary hypertension. European Society of Cardiology – Preventive Cardiology, Malaga, Spain, 2023.
- Koopmans P, Jones III R, von Walden F, **Vechetti IJ**, Murach K. Insight on the loading-mediated regulation of Runx1 in skeletal muscle. American Physiology Summit, Long Beach, California, 2023.
- Omoto ACM, **Vechetti IJ**, Rule B, Carmo JM, Silva AA, Aitken N, Dai X, Nelson B, Wang Z, Li X, Mouton A, Hall JE. Potential role of brown adipose tissue-derived extracellular vesicles in mediating the cardioprotective effect of CNS leptin infusion after ischemia/reperfusion injury. American Physiology Summit, Long Beach, California, 2023.
- Burke B, Wen Y, Depa L, Goh J, Saliu T, Valentino T, **Vechetti IJ**, Alimov A, Kern P, Peterson C, McCarthy J. Skeletal Muscle Exosomal miR-1 Delivery to White Adipose Tissue in Response to an Acute Bout of Resistance Exercise. 18th annual Center for clinical and translational science spring conference, Lexington, Kentucky, 2023.
- Walden FV, **Vechetti IJ**, Norrbom J, Alkner B, Hjalmarsson E, Palmcrantz A, Pontén E, Pingel J, Fernandez-Gonzalo R. Plasma extracellular vesicle characteristics and microRNA content in cerebral palsy and typically developed individuals – a role for miR-486? The European Academy of Childhood Disability (EACD), Ljubljana, Slovenia.
- 2022 Sherrick R, Rule B, **Vechetti IJ**. G6PD Deficiency Blunts Skeletal Muscle Hypertrophy. John H. Lawrence Biomedical Symposium, Vermillion, South Dakota.
- von Walden F, Murach K, Wen Y, Figueiredo V, Jude B, Liu Z, Lanner JT, Peterson C, McCarthy J, **Vechetti IJ**. Contribution of newly synthesized RNA to muscle response with mechanical overload. International Biochemistry of Exercise Conference (IBEC) 2022, Quebec, Canada.
- Wen Y, Valentino TR, Goh J, Alimov A, **Vechetti IJ Jr**, Peterson CA, McCarthy JJ. Impact of Obesity on Exercise-Induced Skeletal Muscle Exosomes. Experimental Biology 2022, Philadelphia, Pennsylvania.

- 2019 Van Pelt, DW, **Vechetti IJ Jr**, Confides AL, Hunt ER, Butterfield TA, Dupont-Versteegden EE. Reduced Extracellular Vesicle Biogenesis Contributes to Disuse-Induced Skeletal Muscle Atrophy. 2019 Advances in Skeletal Muscle Biology in Health and Disease, Gainesville, FL.
- Englund DA, Murach KA, Dungan CM, Figueiredo VC, **Vechetti IJ Jr**, Dupont-Versteegden EE, McCarthy JJ, Peterson CA. Depletion of resident muscle stem cells inhibits muscle fiber hypertrophy induced by lifelong physical activity. 2019 Advances in Skeletal Muscle Biology in Health and Disease, Gainesville, FL.
- 2018 Englund DA, Murach KA, Dungan CM, Figueiredo VC, **Vechetti IJ Jr**, Dupont-Versteegden EE, McCarthy JJ, Peterson CA. Satellite Cells Mediate Muscle Fiber Size in Response to Lifelong Exercise. 2018 APS Intersociety Meeting: The Integrative Biology of Exercise, San Diego, CA.
- 2017 **Vechetti IJ Jr**, Wen Y, Peterson CA, McCarthy JJ. Exosomal myomiR regulation of adipocyte metabolism. American Society for Exosomes and Microvesicles, Pacific Grove, CA.
- 2016 **Vechetti IJ Jr**, Wen Y, Murach K, Peterson L, Ming G, Dal-Pai-Silva M, McCarthy JJ. Life-long reduction in myomiR expression does not adversely affect skeletal muscle morphology. 2016 APS Intersociety Meeting: The Integrative Biology of Exercise, Phoenix, AZ.
- 2014 OMOTO, A. C. M.; **Vechetti IJ Jr**; MORAES, L. N.; ROSCANI, M. G.; MATSUBARA, L. S.; MATSUBARA, B. B.; Carvalho, RF; GOBBI, J.I. Paroxetine and myosin isoforms in aortic regurgitation: Role for improvement in contractility. PanAmerican Congress of Physiological Sciences: Physiology without Borders, Foz do Iguacu.
- Vechetti IJ Jr**; BERTAGLIA RS; PAULA, T. G.; SILVA, M.D.P. Exercise training promote a decrease in catabolic changes but did not change anabolic factors in plantaris muscle of old rats after immobilization-induced atrophy. European Muscle Conference, Salzburg.
- BERTAGLIA RS; **Vechetti IJ Jr**; DIAS, H. B. A.; Carvalho, RF; SILVA, M.D.P. Differential response to Myogenic Regulatory Factors (MRFs) in fast and slow muscles of rats after atrophic stimulus following aerobic exercise. New directions in biology and disease of skeletal muscle, Illinois.
- 2013 MORAES, L. N. ; SOUZA, R.W.A. ; ROGATTO, S. R. ; VILLACIS, R.; **Vechetti IJ Jr**; BERTAGLIA RS ; FREIRE, P. P. ; REIS, P. P. ; SILVA, M.D.P. ; Carvalho, RF. Integrated miRNA and mRNA expression profiling in skeletal muscle wasting in rats with cardiac cachexia. EMBO Workshop, Ascona.
- 2012 FELISBINO, S. L.; SAROBO, C.; LACORTE, L. M.; MARTINS, M.; RINALDI, J. C.; **Vechetti IJ Jr**; MOROZ, A.; SCARANO, W. R.; DELELLA, F. K. Chronic caffeine intake increases androgenic stimuli, epithelial cell proliferation and hyperplasia in rat ventral prostate. 10th International Congress on Cell Biology and 16th Meeting of the Brazilian Society for Cell Biology, Rio de Janeiro.
- AGUIAR, A.F.; **Vechetti IJ Jr**; ALMEIDA, FLA; DAL-PAI-SILVA, MAELI . NFATc3 regulates muscle fiber-type transition independently from the activation of calcineurin (CaN) during long-term endurance training in rats. The integrative Biology of Exercise. Bethesda, Maryland.
- BERTAGLIA, R. S.; **Vechetti IJ Jr**; Prado, P.H.; DIAS, H. B. A.; Carvalho, RF; DAL-PAI-SILVA, M. Aerobic training enhances the regenerative process after muscle atrophic stimulus. 10th International Congress on Cell Biology and 16th Meeting of the Brazilian Society of Cell Biology, Rio de Janeiro.
- 2011 SILVA, M.D.P.; **Vechetti IJ Jr**; AGUIAR, A.F.; DIAS, H. B. A.; ALMEIDA, FLA; CARANI, FR. Long-term endurance training modifies skeletal muscle phenotype and does not alter calcineurin (CaN) gene expression. EMBO Myogenesis Conference Series.

FUNDING

EXTRAMURAL:

Pending

- NIA/CMAD (R01-October 5th)

The role of NADPH in the recovery from disuse-induced atrophy during aging.

Role: MPI 07/2024-06/2029

Aims:

1. Determine if activation of PPP is necessary for muscle regrowth following immobilization-induced muscle atrophy.
2. Determine if increasing 6PGD activity is sufficient for muscle regrowth following immobilization-induced muscle atrophy.
3. Determine if restoring NADPH levels in aged muscle is necessary to enhance muscle regrowth following immobilization-induced muscle atrophy.

- NIA/SMEP (R21-October 16th)

The role of miRNAs in sarcopenia

Role: MPI. 07/2024 – 06/2026

Aims:

1. Determine whether inhibition of miRNA-mediated gene repression can induce precocious sarcopenia.
2. Determine which myomiRs are essential for NMJ maintenance in aged muscles.

Completed Research Support

- NIH (1P20GM104320)

The role of muscle-derived extracellular vesicles in adipocyte Metabolism.

PI: Ivan Vechetti (3 person months calendar) - 8/17/2020 – 5/31/2023

\$683,088.00 (Direct Costs: \$450,000.00)

Aims:

1. Determine whether the lipid composition of skeletal muscle extracellular vesicles is altered in response to a hypertrophic stimulus.
2. Determine whether mEVs stimulate adipocyte lipolysis through PKC activation.
3. Determine whether extracellular vesicles in response to a hypertrophic stimulus can induce fat loss through enhanced lipolysis in obese mice.

Requested but not funded

- NIH/NIAMS (GRANT 13479458)

The role of NADPH in the regulation of skeletal muscle mass.

PI: Ivan Vechetti (3 person months calendar) - 06/01/2023 – 05/31/2028

\$2,589,869.00 (Direct Costs \$1,859,664.00)

Aims:

1. Determine if PPP activation of NADPH synthesis is necessary MOV-induced ribosome biogenesis.
2. Determine if PPP activation of redox regulation is necessary for MOV-induced ribosome biogenesis.
3. Determine if PPP activation is able to ameliorate MOV-induced ribosome biogenesis in aged mice.

- Glenn Foundation

The role of miRNAs in sarcopenia.

PI: Ivan Vechetti. 06/01/2023 – 05/31/2025

\$150,000.00.

Aims:

1. Determine if the blockage of myomiR's function can induce sarcopenia in adult mice.
2. Determine if the blockage of myomiR's function in old mice affects muscle's ability to growth following a mechanical overload.

- NIH/NIDDK (1R01DK129584-01)

The effects of obesity in the lipid composition of skeletal muscle-derived Extracellular Vesicles.

PI: Ivan Vechetti (3 person months calendar). 09/01/2021 – 08/31/2025

\$1,457,774.00 (Direct Costs \$969,383.00).

Aims:

1. Determine whether the lipid composition of plasma-derived and organ-derived EVs from lean and obese subjects are significantly different.
2. Determine whether obesity attenuates the efficiency of skmEVs to facilitate adipose tissue lipolysis.

- NIH/NIAMS (1R01DK130983-01)

Analysis of extracellular vesicle-induced metabolic adaptations by CRISPR/Cas9-mediated gene editing.

PI: Ivan Vechetti (3 person months calendar). 12/01/2021-11/30/2026

\$2,374,435.00 (Direct Costs \$1,591,620.00).

Aims:

1. Determine whether the Integrin beta 5 is required to skmEV uptake in metabolic cells after a hypertrophic stimulus.
2. Determine the trophism between skmEVs and metabolic organs after muscle hypertrophy.
3. Determine whether the manipulation of TSG101 in skeletal muscle affects whole-body metabolism.

INTRAMURAL:

Completed Research Support

- Biomedical Research

Inhibition of miRNA-mediated Gene Repression During Skeletal Muscle Adaptation.

PI: Ivan Vechetti. 6/17/2022 – 6/16/2023

\$25,000

Aims:

1. Determine the necessity of myomiRs for skeletal muscle hypertrophy.
2. Evaluate the effects of inhibition of miRNA-mediated gene repression during muscle atrophy.

- ARD Strategic (Miscellaneous) Funding 2023 – IANR

Acquisition of cryostat for muscle sectioning

\$24,400

TEACHING EXPERIENCE

2022-Present Nutrition Function During Exercise
University of Nebraska-Lincoln

2021-Present Extracellular Vesicles
University of Nebraska-Lincoln

2009-2011 Human Anatomy
School of Biomedicine, Integrated School of Bauru, Brazil

STUDENT MENTORING & TRAINING

1. Role as Primary Advisor for Students:

Current

Ph.D. students

Spring 2023-Present Raechel Sherrick (Department of Nutrition and Health Sciences, UNL)

Former

Master's students

- Fall 2021-Spring 2023 Shengyi Fei (Department of Nutrition and Health Sciences, UNL)
Spring 2022-Spring 2023 Tesha Kerr (Department of Nutrition and Health Sciences, UNL)
Fall 2022-Fall 2022 Mariah McCashland (Department of Nutrition and Health Sciences (UNL))

2. Member of graduate committees (*other than as Chair*):

Master's students

- 2021 Leticia Estevam Engel (Unoeste, Brazil), M.S.
(*Mentor: Francis Lopes Pacagnelli*)
2020 Peter Kish (Korlinska Institute, Sweden), M.S.
(*Mentor: Ferdinand von Walden*)

Ph.D. students

- 2023 Linh P. Nguyen (Department of Nutrition and Health Sciences, UNL), Ph.D.
(*Mentor: Jiujiu Yu*)
2022 Jayaram Sakthi Prasad (Department of Nutrition and Health Sciences, UNL), Ph.D.
(*Mentor: Sunil Sukumaran*)
Jamie Weerakkoddy (Department of Biological System Engineering, UNL), Ph.D.
(*Mentor: Angie Pannier*)
Leila Setayesh (Department of Nutrition and Health Sciences, UNL), Ph.D.
(*Mentor: Janos Zempleni*)
2021 Xingzhi (Alan) Li (Department of Nutrition and Health Sciences, UNL), Ph.D.
(*Mentor: Jiujiu Yu*)
Han Yu (Department of Nutrition and Health Sciences, UNL), M.S.
(*Mentor: Jiujiu Yu*)
2020 Afsana Khanam (Department of Nutrition and Health Sciences, UNL), Ph.D.
(*Mentor: Janos Zempleni*)

3. Research Training:

Graduate students

- 2019-2020 Leslie Golden, Department of Physiology, UK (Doctoral)
Jensen Gho, Department of Kinesiology, UK (Masters)
2018-2020 Taylor Valentino, Department of Physiology, UK (Doctoral)
2016-2020 Laura Peterson, Department of Physiology, UK (Doctoral)
2013-2015 Ana C. Omoto, Department of Morphology, UNESP, Brazil (Masters)
2011-2015 Tassiana Paula, Department of Morphology, UNESP, Brazil, (Masters and Doctoral)
Bruno Duran, Department of Morphology, UNESP, Brazil (Masters)
Jessica Valente, Department of Morphology, UNESP, Brazil (Undergraduate and Masters)
Franciele Mosele, Department of Morphology, UNESP, Brazil (Undergraduate and Masters)
2011-2014 Warlen Piedade, Department of Morphology, UNESP, Brazil (Masters)

Undergraduate students

2023-Present	Connor Patterson, Department of Nutrition and Health Sciences, UNL
2023-Present	Luiza Zambelli, Department of Nutrition and Health Sciences, UNL Rani Qaqish, Department of Nutrition and Health Sciences, UNL
2021-2023	Blake Rule, Department of Nutrition and Health Science, UNL
2021-Present	Filipe Goulart Department of Nutrition and Health Sciences, UNL
2017-2018	Jennifer Wayland, Department of Physiology, UK

MEMBERSHIPS AND AWARDS

1. Professional Organization Memberships:

2023-Present	Council of the Midlands Society of Physiological Sciences
2020-Present	American Society for Exosomes and Microvesicles
2017-Present	International Society for Extracellular Vesicles

2. Professional and Academic Awards:

2023	Distinction in scholarship in the American Journal of Physiology-Cell Physiology for the article " <u>MicroRNA control of the myogenic cell transcriptome and proteome: the role of miR-16</u> ". Top downloaded manuscript: " <u>Dysbiosis of the gut microbiome impairs mouse skeletal muscle adaptation to exercise</u> " in The Journal of Physiology. Top downloaded manuscript: " <u>An intron variant of the GLI family zinc finger 3 (GLI3) gene differentiate resistance training-induced muscle fiber hypertrophy in younger men</u> " in FASEB Journal. Top downloaded manuscript: " <u>Mechanical overload-induced muscle-derived extracellular vesicles promote adipose tissue lipolysis</u> " in FASEB Journal. Top downloaded manuscript: " <u>Evidence of myomiR regulation of the pentose phosphate pathway during mechanical load-induced hypertrophy</u> " in Physiological Reports.
2022	Joyce R. Jeffries New Faculty Scholar Award (\$1000 to be spent in research)
2021	Editor's choice at Journal of Physiology: " <u>Dysbiosis of the gut microbiome impairs mouse skeletal muscle adaptation to exercise</u> ".
2020	Cover image for the article: " <u>Independent Satellite Cell Communication to Muscle Fibers During Load-Induced Hypertrophy</u> ". Image of the week from the American Physiological Society for the article: " <u>Depletion of resident muscle stem cells negatively impacts running volume, physical function, and muscle fiber hypertrophy in response to lifelong physical activity</u> ".
2019	Image of the week from the American Physiological Society for the article: " <u>Elevated myonuclear density during skeletal muscle hypertrophy in response to training is reversed during detraining</u> ". Dean's Distinguished Lecture

2016	Visiting Scholar award
2013	Visiting Scholar award
2011	PhD's scholar award
2009	Master's scholar award

3. Awards/Honors for my Advisees:

- 2023 Luiza Zambelli was awarded the UCARE Program (Undergraduate Research and Creative Activity) at the University of Nebraska. The UCARE program is sponsored by Pepsi Cola, and students typically work about 10 hours/week in their advisor's laboratory.
- Filipe Guimaraes was awarded the UCARE Program (Undergraduate Research and Creative Activity) at the University of Nebraska. The UCARE program is sponsored by Pepsi Cola, and students typically work about 10 hours/week in their advisor's laboratory.
- 2022 Travel grant (\$500) for Raechel Sherrick to attend the John H. Lawrence Biomedical Symposium in Vermillion, South Dakota.
- Filipe Guimaraes was awarded the UCARE Program (Undergraduate Research and Creative Activity) at the University of Nebraska. The UCARE program is sponsored by Pepsi Cola, and students typically work about 10 hours/week in their advisor's laboratory.

PROFESSIONAL SERVICE

1. Manuscript Reviews:

- Acta Physiologica (2)
- Journal of Physiology and Biochemistry (1)
- Journal of Cellular Biochemistry (5)
- The FASEB Journal (1)
- Journal of the International Society of Sports Nutrition (5)
- PLOS ONE (2)
- Cells (10)
- International Journal of Molecular Science (4)
- Journal of Applied Physiology (4)
- American Journal of Physiology-Regulatory, Integrative and Comparative Physiology (1)
- Molecular Biology Reports (2)
- Journal of Clinical Medicine (1)
- Applied Sciences (1)
- Scientific Reports (6)
- Medicine & Science in Sports & Exercise (7)
- Experimental and Molecular Pathology (1)
- Frontiers in Physiology (3)
- Cell & Tissue Research (1)
- Free Radical Biology (1)
- The Journal of Physiology (9)
- Nanobiotechnology (1)
- Scandinavian Journal of Medicine and Science in Sports (1)
- Communications Biology (1)
- Applied Physiology, Nutrition, and Metabolism (1)
- BMC Biology (2)
- Journal of Cachexia, Sarcopenia and Muscle (1)

○ BBA - Gene Regulatory Mechanisms (1)

2. Reviewer for Funding Agencies:

December 2022 NPOD Project Leader grant
October 2021 NPOD Seed grant
August 2020 American Institute for Cancer Research, Panel Member

3. University:

Domestic

2024 Judge at the Student/Postdoctoral Fellow Poster Award Competition by the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules, 15th Annual Spring Research Retreat
2023-Present Steering Committee for supported initiative to build connections, community, and collaborations within the broad sectors of virology, immunology, and bioengineering at UNL
2023 Judge at the Student/Postdoctoral Fellow Poster Award Competition by the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules
2022 Judge at the Student/Postdoctoral Fellow Poster Award Competition by the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules
2021-2026 Chair's Advisory Council, Department of Nutrition and Health Sciences
2021-2022 Search Committee for an Assistant Professor (with a focus on inflammation and metabolic syndrome), Department of Nutrition and Health Sciences
2021 Judge at the Student/Postdoctoral Fellow Poster Award Competition by the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules
2020 Judge at the Student/Postdoctoral Fellow Poster Award Competition by the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules

National

2024-Present NIH Study Section ad hoc reviewer, Musculoskeletal Tissue Engineering (MTE) Study Section
2023 Organizing committee of the Midlands Society of Physiological Sciences (MSPS), UNMC
Judge at the Midland Society of Physiological Sciences (MSPS abstracts)

International

2021 Judge at the Student/Postdoctoral Fellow Poster Award Competition by University of Western São Paulo (Unoeste)

4. Editorial Boards:

2024-Present Co-Editor of the Special Issue "Emerging Trends in Cardiac and Skeletal Muscle Pharmacotherapy" for *Frontiers in Pharmacology*
Editorial Board of *BMC Musculoskeletal Disorders*

- 2024 Editor of the Special Issue "The Role of MicroRNA in Muscle Regeneration and Diseases" for Biomedicines
- 2023 Reviewer Editor on the Editorial Board of Translational Pharmacology (specialty section of Frontiers in Pharmacology)
- 2021 Guest Editor "Interorgan crosstalk during exercise in health and disease: extracellular vesicles as new kids on the block" for Frontiers in Physiology

RELEVANT SKILLS

Fluent in English and Portuguese (native)