

CURRICULUM VITAE

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EDUCATION:

UNDERGRADUATE University of Torino Torino, Italy	MSc.	07/2004
GRADUATE University of Torino Torino, Italy	Ph.D.	11/2008
POSTDOCTORAL University of Genova Muscular and Neurodegenerative Disease Unit Genova, Italy	Post-Doc	01/2009 – 01/2010
University of Miami Miller School of Medicine Sylvester Comprehensive Cancer Center Miami, FL	Post-Doc	03/2010 – 07/2011
Thomas Jefferson University Kimmel Cancer Center Philadelphia, PA	Post-Doc	08/2011 – 07/2013

ACADEMIC APPOINTMENTS:

Indiana University School of Medicine
Indianapolis, IN

Department of Surgery Research Assistant Professor	*08/2013 – 03/2015
Department of Surgery Assistant Professor (tenure-track)	*04/2015 – present
Department of Otolaryngology – Head & Neck Surgery Adjunct Assistant Professor	*08/2016 – present
Department of Anatomy, Cell Biology & Physiology Adjunct Assistant Professor	*11/2016 – present

University of Torino
Torino, Italy

Department of Life Sciences and Systems Biology Visiting Professor	*12/2018 – 12/2019
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PROFESSIONAL ORGANIZATIONS AND MEMBERSHIPS:

ACADEMIC

IU Simon Cancer Center

Associate Member

*12/2014 – 04/2018

Full Member

*04/2018 – present

Indiana University School of Medicine

Center for Cachexia Research Innovation and Therapy (CCRIT)

Member

*08/2015 – present

Indiana Center for Musculoskeletal Health

Muscle Bone Crosstalk Research Team (MBCRT)

Member

*02/2017 – present

Muscle Bone Crosstalk Research Team (MBCRT)

Co-Leader (with Uma Sankar)

*05/2020 – present

NON-ACADEMIC

SCWD

Society on Cachexia, Sarcopenia and Wasting Disorders

Member

*05/2011 – present

AACR

American Association for Cancer Research

Active Member

*06/2012 – 2019

APS

American Physiological Society

Regular Member

*06/2012 – present

ASBMR

American Society for Bone and Mineral Research

Regular Member

*07/2017 – present

ISSNAF

Italian Scientists and Scholars of North America Foundation

Affiliate

*11/2017 – present

AHA

American Heart Association

Member

*01/2020 – present

CCS

Cancer Cachexia Society

Member

*08/2020 – present

PROFESSIONAL HONORS AND AWARDS:

RESEARCH

Best Basic Science Poster

6th Cachexia Conference

Milan, Italy

12/2011

Best Poster

09/2012

Cancer Cachexia Conference: Molecular Mechanisms and Therapeutic Approaches
Boston, MA

Best Poster

06/2013

Postdoctoral Research Symposium, Thomas Jefferson University
Philadelphia, PA

Best Poster

*09/2014

2nd Cancer Cachexia Conference: Evolving mechanisms and therapies
Montreal, Canada

Best Basic Science Poster

*12/2015

8th Cachexia Conference
Paris, France

Research Scholar

*12/2017

V Foundation for Cancer Research
Cary, NC

Research Scholar

*07/2018

Showalter Trust
Indianapolis, IN

Research Scholar

*07/2018

American Cancer Society
Atlanta, GE

Excellence in Research

*09/2018

4th Cancer Cachexia Conference
Philadelphia, PA

PROFESSIONAL DEVELOPMENT

Foundations of Translational Science Bootcamp

09/2010

University of Miami, Miami, FL

Bone and Skeletal Muscle Interactions Workshop

07/2012

Kansas City, MO

Responsible Conduct of Research Series – Authorship and Publications

*10/2013

Indiana University – Office of Research Ethics, Education and Policy
Indianapolis, IN

Responsible Conduct of Research Series – Collaborative Science

*11/2013

Indiana University – Office of Research Ethics, Education and Policy
Indianapolis, IN

Responsible Conduct of Research Series – Research Misconduct

*02/2014

Indiana University – Office of Research Ethics, Education and Policy
Indianapolis, IN

Write winning Grant Proposals Workshop

*09/2014

Indiana University School of Medicine, Indianapolis, IN

Assistant Professor Faculty Development/Mentoring Program

*12/2014

Effective Teaching Skills

Office of Research in Surgical Education, Indiana University

Independent Investigator Incubator (I³) Program

*12/2014 – present

Indiana University – CTSI, Indianapolis, IN

**Assistant Professor Faculty Development/Mentoring Program
Designing an Academic Career** *02/2015

Office of Research in Surgical Education, Indiana University

**Assistant Professor Faculty Development/Mentoring Program
Promotion and Tenure Guidance** *05/2015

Office of Research in Surgical Education, Indiana University

IUPUI Promotion and Tenure Program – Excellence in Research *10/2016

Indianapolis, IN

Communicating Science Session 1: Connecting with your Audience *08/2017

Office of Faculty Affairs and Professional Development, IUSM

Communicating Science Session 2: Distilling Your Message *09/2017

Office of Faculty Affairs and Professional Development, IUSM

Communicating Science Session 3: Media Training *09/2017

Office of Faculty Affairs and Professional Development, IUSM

IUPUI Promotion and Tenure Program – Personal Statement *02/2018

Indianapolis, IN

Enhancing your scientific career: unlocking your inner mentor *03/2018-06/2018

Office of Faculty Affairs and Professional Development, IUSM

Communicating Science Workshop *04/2019

Alan Alda Center at V Foundation Scholar Summit 2019

TEACHING:

TEACHING ASSIGNMENTS

Undergraduate:

B8526 Immunology 2005 – 2007

Department of Biological Sciences

University of Torino, Italy

18 hours

Format: Lecture

Enrollment: 30 undergraduate students of Biological Sciences were in attendance

Role: Lecturer

S8923 Laboratory of Biological Chemistry and Pathology 2005 – 2008

Department of Biological Sciences

University of Torino, Italy

47 hours

Format: Laboratory

Enrollment: 30 undergraduate students of Biological Sciences were in attendance

Role: Technical Support and Mentor

Continuing Education:

Physiology and Physiopathology 09/2007

'Tecniche della Prevenzione nell'ambiente e nei luoghi di lavoro' for employees of S.S.R. Regione Piemonte (ASL 5), University of Torino, Polytechnic School of Torino

18 hours

Format: Lecture

Enrollment: 30 Veterinarians were in attendance.

Role: Lecturer

Graduate:

P531 Physiology, Pathophysiology, and Pharmacology

***04/2017**

School of Health and Rehabilitation Sciences

Indiana University, Indianapolis, IN

2 hours

Format: Lecture

Enrollment: 40 Doctor of Physical Therapy students were in attendance.

Role: Lecturer

MEDX-750 Musculoskeletal and Dermatology

***01/2018**

School of Medicine

Indiana University, Indianapolis, IN

2 hours

Format: Lecture and Team-Based Learning

Enrollment: 40 medical students were in attendance.

Role: Lecturer

G819 Basic Bone Biology

***04/2018**

School of Medicine

Indiana University, Indianapolis, IN

2 hours

Format: Lecture

Enrollment: 40 graduate students were in attendance.

Role: Lecturer

TIC08_DIP_BIOS Oncology and Molecular Pathology

***12/2018**

Department of Life Sciences and Systems Biology

University of Torino, Italy

16 hours

Format: Lecture, Laboratory and Team-based learning

Enrollment: 60 graduate students in attendance.

Role: Visiting Professor

SABS II Muscle Physiology

***11/2019**

School of Dentistry

Indiana University, Indianapolis, IN

1 hour

Format: Lecture

Enrollment: 40 graduate students were in attendance.

Role: Lecturer

TIC14_DIP_BIOS Oncology and Molecular Pathology

***12/2019**

Department of Life Sciences and Systems Biology

University of Torino, Italy

16 hours

Format: Lecture, Laboratory and Team-based learning

Enrollment: 60 graduate students in attendance.

Role: Visiting Professor

G801 Neuromusculoskeletal Cell Biology

***07/2020**

Indiana Center for Musculoskeletal Health
Indiana University, Indianapolis, IN
Format: Video-lecture
Enrollment: 9 graduate students were in attendance.
Role: Lecturer

D615-SABS II Muscle Physiology

***10/2020**

School of Dentistry
Indiana University, Indianapolis, IN
1 hour
Format: Video-lecture
Enrollment: 40 graduate students were in attendance.
Role: Lecturer

Laboratory Instruction of Learners/Mentees:

Indianapolis Project STEM

***06/2017 - 08/2017**

IUPUI - Indiana University, Indianapolis, IN
8 weeks
Format: Laboratory (full time)
Enrollment: 2 high school students were in attendance.
Role: Laboratory

Indianapolis Project STEM

***06/2018 - 08/2018**

IUPUI - Indiana University, Indianapolis, IN
8 weeks
Format: Laboratory (full time)
Enrollment: 1 high school student was in attendance.
Role: Laboratory

IUSCC – Summer Research Program (SRP)

***06/2018 - 08/2018**

IU Simon Cancer Center, Indianapolis, IN
8 weeks
Format: Laboratory (full time)
Enrollment: 1 college student was in attendance.
Role: Laboratory

Indianapolis Project STEM

***06/2019 - 08/2019**

IUPUI - Indiana University, Indianapolis, IN
8 weeks
Format: Laboratory (full time)
Enrollment: 1 high school student was in attendance.
Role: Laboratory

IUSCC – Future Scientist Program (FSP)

***06/2019 - 08/2019**

IU Simon Cancer Center, Indianapolis, IN
6 weeks
Format: Laboratory (full time)
Enrollment: 1 high school student was in attendance.
Role: Laboratory

IMPRS Program

***05/2020 – 07/2020**

Indiana University School of Medicine, Indianapolis, IN
10 weeks

Format: Analysis of clinical datasets (remotely)

Enrollment: 2 med students were mentored.

Role: The students were involved in data analysis and mentored remotely

MENTORING

Ho Lam (Candy) Chan Research Associate University of Miami School of Medicine Role: Supervisor (in Teresa Zimmers' lab)	05/2010 - 07/2011
Ryan Santos Student enrolled in the STEP-UP Program, NIH/NIDDK University of Miami School of Medicine Role: Mentor and Supervisor (in Teresa Zimmers' lab)	06/2010 - 08/2010
Felipe E. Pedroso, MD Medical school graduate trained in his pre-residency research fellowship University of Miami and Thomas Jefferson University Role: Mentor and Supervisor (in Teresa Zimmers' lab)	08/2010 - 08/2012
Briaira Geiger Student enrolled in the STEP-UP Program, NIH/NIDDK Thomas Jefferson University Role: Supervisor (in Teresa Zimmers' lab)	06/2012 - 08/2012
Andrea Camperi, PhD Visiting graduate student Thomas Jefferson University and Indiana University Role: Supervisor (in Teresa Zimmers' lab)	09/2012 - 02/2013
Ernie D. Au Graduate student Biochemistry and Molecular Biology PhD Program, Indiana University. Role: Supervisor (in Teresa Zimmers' lab)	04/2013 - 04/2015
Crystal Goodwin Undergraduate student enrolled in the IUPUI Women in Science Program Role: Supervisor (in Teresa Zimmers' lab)	*05/2014 - 08/2014
Valorie A. Parker Ryan R. Matthews Medical students performing elective summer research Indiana University Role: Supervisor (in Teresa Zimmers' lab)	*06/2014 - 08/2014
Rafael Barreto Research Technician Trainee Indiana University Role: Primary Mentor and Supervisor	*05/2015 - 08/2017
Christopher Schneble Medical student performing elective summer research Indiana University Role: Supervisor (in Teresa Zimmers' lab)	*06/2015 - 08/2015
Katherine E. Couch	*05/2017 - 08/2017

Student enrolled in the Indiana CTSI Project STEM Internship Program
Indiana University
Role: Primary Mentor and Supervisor

Kyra C. Colston

***05/2017 - 08/2017**

Student enrolled in the Indiana CTSI Project STEM Internship Program
Indiana University
Role: Primary Mentor and Supervisor

Fabrizio Pin, PhD,

***05/2017 - present**

Postdoctoral fellow
Indiana University

Carlie E. Erne

***10/2017 - 03/2018**

Research Technician Trainee
Indiana University
Role: Primary Mentor and Supervisor

Vershawna Barnes

***06/2018 - 08/2018**

Student enrolled in the IUSCC SRP Program
Indiana University
Role: Primary Mentor and Supervisor

Alexander J. Jones, MD

***05/2018 - 09/2018**

Third-year medical student performing elective research training in my lab
Indiana University
Role: Mentor and Supervisor

Alyson L. Essex

***05/2018 - present**

Graduate student
Indiana University
Role: Mentor (with Lilian Plotkin, PhD)

Maya Gutierrez

***06/2018 - 08/2018**

Student enrolled in the Indiana CTSI Project STEM Research Program
Indiana University
Role: Primary Mentor and Supervisor

Leah J. Novinger, MD, PhD

***07/2018 - 02/2019**

Second-year ENT medical resident performing elective research in my lab
Indiana University
Role: Co-Mentor (with Marion Couch) and Supervisor

Joshua R. Huot, PhD

***11/2018 - present**

Postdoctoral Fellow
Indiana University
Role: Primary Mentor and Supervisor

Austin Keith

***06/2019 - 08/2019**

Student enrolled in the Indiana CTSI Project STEM Research Program
Indiana University
Role: Primary Mentor and Supervisor

Thang Cin Uap

***06/2019 - 08/2019**

Student enrolled in the IUSCC FSP Program
Indiana University
Role: Primary Mentor and Supervisor

Marelle M. Rukes

Medical student enrolled in the IMPRS Program
Indiana University
Role: Primary Mentor and Supervisor

*06/2020 - 08/2020

Faisal S. Shariff

Medical student enrolled in the IMPRS Program
Indiana University
Role: Primary Mentor and Supervisor

*06/2020 - 08/2020

MENTORED AWARDEES

Rafael Barreto

Basic Science Poster (3rd place)
IUSCC Research Day 2016
Indianapolis, IN

*05/2016

Fabrizio Pin, PhD

Best Poster Presentation (2nd place)
IUSM Postdoc Symposium
Indianapolis, IN

*10/2017

Best Oral Presentation
IUSM Postdoc Symposium
Indianapolis, IN

*10/2018

CTSI Postdoc Challenge Grant
(\$5,000)
Indiana University School of Medicine
Indianapolis, IN

*04/2019 – 03/2020

Young Investigator Travel Grant
American Society for Bone and Mineral Research (ASBMR)
ASBMR 2019 Symposium – Orlando, FL

*08/2019

Young Investigator Award
12th International Conference on Cachexia Sarcopenia and
Wasting Disorders (SCWD)
Berlin, Germany

*12/2019

Best Oral Presentation
IUSM Postdoc Symposium
Indianapolis, IN

*10/2020

Alyson L. Essex

Recipient of Graduate NIH Training Fellowship
T32-AR065971 (PI: Robling)

*2018-2024

Young Investigator Travel Grant
American Society for Bone and Mineral Research (ASBMR)
ASBMR 2019 Symposium – Orlando, FL

*08/2019

Research Grant
Beckman-Coulter

*12/2019

ASBMR Young Investigator Award
ASBMR, 2020 ECTS Digital Masterclass

*06/2020

Selected talk *09/2020
ASBMR, 2020 Annual Meeting Virtual Event

Travel Grant *08/2020
Graduate Student Representative and Travel Committee - IUSM

Joshua R. Huot, PhD

Recipient of IUSM Travel Award *02/2018
Indiana University School of Medicine
Indianapolis, IN

Selected talk at IUSCC Research Day 2019 *05/2019
IUSCC Research Day 2019
Indianapolis, IN

Basic Science Research Poster (2nd place) *05/2019
Category: Post-Doctoral Fellows
IUSCC Research Day 2019
Indianapolis, IN

Best Oral Presentation *10/2019
IUSM Postdoc Symposium
Indianapolis, IN

Recipient of NIH Comprehensive Musculoskeletal Training Fellowship *2019-2021
T32-AR065971 (PI: Alexander G. Robling)

Recipient of 2020-2021 David B. Burr Musculoskeletal Fellow Award *2020-2021
Indiana Center for Musculoskeletal Health, IUSM
Indianapolis, IN

Selected talk, Next Generation Researcher in Cancer Cachexia *08/2020
Virtual Cancer Cachexia Conference 2020

Best Poster *10/2020
IUSM Postdoc Symposium
Indianapolis, IN

Leah J. Novinger, MD, PhD

Translational/Clinical Research Poster (3rd place) *05/2019
Category: Residents
IUSCC Research Day 2019
Indianapolis, IN

Recipient of ICMH Pilot Funding grant (Co-PI, with Andrea Bonetto) *2020-2021
Indiana University
Indianapolis, IN

Alexander J. Jones, MD

Translational/Clinical Research Poster (1st place) *05/2019
Category: Graduate Students
IUSCC Research Day 2019
Indianapolis, IN

Marelle M. Rukes, MD

Recipient of William H. and Fern L. Hardiman Scholarship *08/2020
IMPRS-IUSM
Indianapolis, IN

RESEARCH:

ACTIVE RESEARCH GRANTS/FELLOWSHIPS

Mechanisms of chemotherapy-induced muscle weakness and fatigue

American Cancer Society (132013-RSG-18-010-01-CCG)

Principal Investigator

4.0 calendar months

***07/2018 - 06/2022**

Direct: \$165,000/yr

Functional and molecular analysis of muscle in patients with and without head and neck cancer cachexia

ICMH Pilot Funding

Principal Investigator

0.0 calendar month

***01/2020 – 12/2020
(NCE: 12/2021)**

Direct: \$47,000

Effects of FDY-5301 on the preservation of muscle mass and function in cachexia

Faraday Pharmaceuticals, Inc.

Principal Investigator

0.15 calendar month

***07/2020 – 06/2021**

Direct: \$43,468

FGF10 and the skeletal muscle consequences of osteocytic miR21 deletion

Bridge Funding Grant Application (IUPUI OVCR)

Co-Investigator (PI: Lilian Plotkin)

0.0 calendar month

***07/2020 - 06/2021**

Direct: \$45,000

RANKL is a new target for the treatment of musculoskeletal abnormalities in ovarian cancer cachexia

OC200152 - W81XWH-20-OCRP-IIRA (DOD)

Principal Investigator

2.4 calendar months

***02/2021 - 01/2025**

PENDING RESEARCH SUPPORT

Targeting RANKL for the treatment of muscle and bone defects in cachexia

R01 AR079379 (NIH/NIAMS)

Principal Investigator

6.0 calendar months

***09/2021 - 08/2026**

Musculoskeletal complications of TREM2 mutations associated with Alzheimer's Disease

VA Merit Award (1I01BX005154-02)

Co-Investigator (PI: Lilian Plotkin)

1.8 calendar month

***02/2021 - 01/2025**

COMPLETED RESEARCH GRANTS/FELLOWSHIPS

(PQB-3) Roles of skeletal muscle mass in chemotherapy-associated cachexia

R21 CA190028-01 (NIH/NCI)

Principal Investigator

6.0 calendar months

*09/2014 - 08/2016

PQB3: Mechanisms & Targeting of Sonic Hedgehog Signaling in Muscle Wasting of Cancer Cachexia

NIH/NCI 1 R01 CA194593-01

Co-Investigator (PI: Teresa A. Zimmers)

4.2 calendar months

*09/2014 - 04/2015

Synthesis of JAK1/2 inhibitors for pre-clinical testing in models of pancreatic cancer cachexia

IUSCC Medicinal and Synthetic Chemistry Core - IU Simon Cancer Center

Co-Principal Investigator (with Teresa Zimmers)

0.0 calendar month

*05/2015 - 04/2017

Proteomic profiling of skeletal muscle in chemotherapy-associated cachexia

CTSI Core Pilot Proposal (UL1TR001108)

Principal Investigator

0.0 calendar month

*09/2015 - 08/2017

Metabolic analysis of chemotherapy-induced cachexia with extracellular flux analysis

CTSI Core Pilot Proposal (UL1TR001108)

Co-Principal Investigator (with Thomas O'Connell, PhD)

0.0 calendar month

Direct: \$5,000

*03/2017 - 02/2019

Consequences of TREM2 mutations in bone and muscle

ICMH Collaborative Pilot Project

Co-Principal Investigator (with Lilian Plotkin, PhD)

0.0 calendar month

Direct: \$20,000

*07/2018 - 06/2019

Novel role for PDK4 in the pathogenesis of cancer- and chemotherapy-associated cachexia

Pilot Project Proposal for IUSCC Associate Members

Principal Investigator

0.0 calendar months

Direct: \$50,000

*12/2017 - 11/2018
(NCE: 12/2019)

Muscle derangements in Alzheimer's disease: the role of TREM2 mutations

Research Support Funds Grant Application (RSFG) – IUPUI OVCR

Principal Investigator

0.0 calendar months

Direct: \$35,000

*06/2019 - 05/2020

Mechanisms and treatment of chemotherapy-induced cachexia and muscle weakness

V Foundation Scholar Grant (V2017-021)

Principal Investigator

2.4 calendar months
Direct: \$100,000/yr

***11/2017 - 10/2019
(NCE: 10/2020)**

Face and construct validity of new preclinical models of metastatic colorectal cancer

Showalter Young Investigator Award (Showalter Trust)

Principal Investigator

0.24 calendar months

Direct: \$50,000

***07/2018 - 06/2019
(NCE: 06/2020)**

SUBMITTED BUT NOT FUNDED RESEARCH GRANTS/FELLOWSHIPS

Investigating the pathogenesis of cachexia in ovarian cancer: IL-6 versus IL-11

NIH/NCI 1K99CA187924-01

Principal Investigator

9.0 calendar months

***07/2014 – 06/2019**

(PQB-3) New models of cancer cachexia

NIH/NCI 1R21CA194472-01

Principal Investigator

6.0 calendar months

***04/2015 – 03/2017**

New strategies to treat chemotherapy-related cachexia in platinum-resistant ovarian cancer

DOD – Ovarian Cancer Academy – Early-Career Investigator Award #OC150326

Principal Investigator

3.6 calendar months

***07/2016 – 06/2021**

Use of MEK inhibitors for the treatment of chemotherapy-related cachexia in colorectal cancer

CTSI - Young Investigator Award in Clinical - Translational Research

Principal Investigator

9.0 calendar months

***07/2016 – 06/2019**

Characterization of cachexia in high-grade serous ovarian cancer

American Cancer Society-Research Scholar Grant

Principal Investigator

6.0 calendar months

***01/2017 - 12/2020**

A Multi-Systems Approach to Defining Mechanisms Underlying Cachexia in Pancreatic Cancer Patients

Carle-Illinois Collaborative Research Seed Program

Co-Investigator (PI: Michael De Liso, University of Illinois)

0.0 calendar months

***07/2016 - 06/2017**

Face and construct validity of new preclinical models of metastatic colorectal cancer cachexia

Pardee Foundation Grant

Principal Investigator

0.0 calendar months

***10/2016 - 09/2017**

Face and construct validity of new preclinical models of high-grade serous ovarian cancer cachexia

Rivkin Center - Pilot Grant
Principal Investigator
0.0 calendar months *04/2017 - 03/2018

Mechanisms of chemotherapy-induced muscle weakness and fatigue (A0)

American Cancer Society-Research Scholar Grant
Principal Investigator
6.0 calendar months *07/2017 - 06/2021

Characterization of new preclinical models of metastatic colorectal cancer

American Cancer Society-Institutional Research Grant
Principal Investigator
0.0 calendar months *07/2017 - 06/2019

Face and construct validity of new preclinical models of metastatic colorectal cancer

NIH/NCI R03-CA223689
Principal Investigator
0.6 calendar months *12/2017 - 11/2019

Mechanisms and treatment of chemotherapy-induced cachexia and muscle weakness

NIH/NCI R01-CA221909
Principal Investigator
3.0 calendar months *09/2017 - 08/2021

Mechanisms of chemotherapy-induced muscle weakness and fatigue (A1)

American Cancer Society-Research Scholar Grant
Principal Investigator
6.0 calendar months *01/2018 - 12/2021

Biomarkers of the metabolic axes of cachexia for diagnosis and stratification

NINR R21NR017703
Co-Principal Investigator (with Thomas O'Connell)
1.2 calendar months *01/2018 - 12/2019

Symptoms science in cancer

MultiCenter Pilot Grant
Co-Investigator (PI: Teresa Zimmers, PhD)
0.0 calendar months *12/2017 - 11/2018

Consequence of TREM2 mutations in brain and bone

MultiCenter Pilot Grant
Co-Investigator (PI: Lilian Plotkin, PhD)
0.0 calendar months *12/2017 - 11/2018

Consequences of TREM2 mutations in brain and bone

IU Collaborative Research Grants (IUCRG)
Co-Investigator (PI: Lilian Plotkin)
0.0 calendar months *07/2018 - 06/2018

(PQ12) Mitochondria-targeting agents for the prevention of chemotherapy-associated muscle weakness and cachexia

NIH/NCI R01 CA231129 (Impact Score: 39)
Principal Investigator
3.0 calendar months *09/2018 - 08/2023

Rescue of Skeletal Muscle in Cancer Cachexia with Dichloroacetate
NIH/NCI (R21) (Impact score: 35. Percentile: 21)
Co-Investigator (PI: Thomas O'Connell)
1.2 calendar months *07/2018 - 06/2019

Characterization and treatment of musculoskeletal consequences of TREM2 mutation in Alzheimer's disease
R21AG063017 (NIH/NIA)
Co-Principal Investigator (with Lilian Plotkin)
1.8 calendar months *04/2019 - 03/2021

Osteocytic miR21 and the control of bone mass and strength
2R01-AR067210-06 (NIH/NIAMS)
Co-Investigator (PI: Lilian Plotkin, PhD)
0.9 calendar months *06/2019 - 05/2024

Characterization of cachexia in head and neck cancer patients receiving free flap reconstruction
CTSI Core Pilot Proposal (UL1TR001108)
Principal Investigator
0.0 calendar month *02/2019 - 01/2021

Targeting Pyruvate Dehydrogenase Kinase to Mitigate Cachexia Induced by Cancer and Chemotherapy
R01 CA242146-01 (NIH/NCI)
Principal Investigator (with Thomas O'Connell, PhD)
2.4 calendar months *07/2019 - 06/2024

Features of Cachexia in Tissue of Head and Neck Cancer Patients
Resident Research Award (AAO-HNSF)
Co-Investigator (Leah Novinger, PI)
0.0 calendar months *07/2019 - 06/2020

Sex Matters in the Musculoskeletal Effects of Cancer
ICMH Collaborative Pilot Project
Co-Principal Investigator (with Zimmers, Plotkin, Guise, Willis, Sankar, Robling, Nakshatri)
0.0 calendar month *07/2019 - 06/2020

Osteocytic miR21 and the control of bone mass and strength
R01 AR067210-06 (NIH)
Co-Investigator (PI: Lilian Plotkin)
0.9 calendar months *04/2020 - 03/2025

RANKL as a new target for the treatment of muscle and bone abnormalities in cachexia
R01 AR077062-01 (NIH)
Principal Investigator
6.0 calendar months *04/2020 - 03/2025

Detection of bone resorption in non-bone metastatic cancer patients
CTSI Core Pilot Proposal (UL1TR001108)
Principal Investigator

0.0 calendar month *01/2020 - 12/2020

Musculoskeletal complications of TREM2 mutations associated with Alzheimer's Disease

VA Merit Award (GRANT 12934546)

Co-Investigator (PI: Lilian Plotkin)

3.0 calendar month

*04/2020 - 03/2024

Musculoskeletal defects in Alzheimer's Disease and their contributions to primary brain disease

R01 (NIH)

Co-Investigator (PI: Monte Willis)

1.2 calendar month

*04/2020 - 03/2024

Preservation of skeletal and cardiac muscle function in metastatic colorectal cancer by pharmacologic blockade of ACVR2B

AHA Transformational Project Award (20TPA35490130)

Principal Investigator

0.6 calendar month

*07/2020 - 06/2023

Musculoskeletal complications of TREM2 mutations associated with Alzheimer's Disease

VA Merit Award (1I01BX005154-02)

Co-Investigator (PI: Lilian Plotkin)

1.8 calendar month

*10/2020 - 09/2024

Targeting the Pyruvate Dehydrogenase Complex to Prevent or Reverse Cachexia Induced by Cancer and Chemotherapy

R01 CA258041 (NIH/NCI)

Principal Investigator (with Thomas O'Connell)

3.0 calendar months

*04/2021 - 03/2026

RANKL as a new target for the treatment of muscle and bone abnormalities in cachexia

R01 AR077062-01A1 (NIH/NIAMS)

Principal Investigator

6.0 calendar months

*09/2020 - 08/2025

INVITED PRESENTATIONS/RESEARCH

Local:

Muscle wasting in ovarian cancer cachexia: role of IL-6 versus IL-11

Indiana University Department of Surgery – Research Seminar Series

Indianapolis, IN

*05/2014

Muscle wasting in ovarian cancer cachexia: role of IL-6 versus IL-11

Ovarian Cancer Working Group – Seminar Series

Indianapolis, IN

*06/2014

Depletion of stromal cells expressing fibroblast activation protein- α from skeletal muscle and bone marrow results in cachexia and anemia

Bone Journal Club – Research Seminar Series

Indianapolis, IN

*07/2015

Cachexia Working Group Update

IU Simon Cancer Center – TMM Retreat

*08/2015

Indianapolis, IN

New insights into chemotherapy-associated cachexia *11/2015

IU Cancer Research Club – Research Seminar Series
Indianapolis, IN

Understanding the pathogenesis of chemotherapy-associated cachexia *05/2016

IUSCC Cancer Research Day 2016
Indianapolis, IN

**Cancer cachexia vs. chemotherapy-associated cachexia:
two sides of the same coin?** *10/2016

Medical Sciences Seminars in Cancer Biology
Bloomington, IN

Mechanisms of chemotherapy-induced muscle weakness and fatigue *10/2016

Anatomy & Cell Biology Fall Retreat
Indianapolis, IN

New Insights into chemotherapy-derived cachexia and muscle weakness *11/2016

Grand Rounds-Department of Otolaryngology
Indianapolis, IN

**Understanding the mechanisms associated with chemotherapy-derived
cachexia and muscle weakness** *01/2017

IUSCC Tumor Microenvironment & Metastasis (TMM) program meeting
Indianapolis, IN

Mechanobiology/Muscle-Bone Crosstalk subteam: Muscle & Cachexia *09/2017

1st ICMH Annual Retreat
Indianapolis, IN

**Ovarian cancer causes loss of muscle and bone mass:
a new model for the study of cancer cachexia** *06/2018

Grand Rounds - Department of Surgery, IU
Indianapolis, IN

Mechanisms of chemotherapy-induced muscle weakness and fatigue *08/2018

American Cancer Society – Research Breakfast
Indianapolis, IN

Mechanisms of chemotherapy-induced muscle weakness and fatigue *11/2018

American Cancer Society – Indiana Volunteer Leadership Conference
Brownsburg, IN

Mechanisms of cancer- and chemotherapy-induced cachexia *02/2019

IUSCC Grand Rounds
Indianapolis, IN

I have a faculty job offer: now what? *07/2019

Office of Postdoctoral Affairs, IUSM
Indianapolis, IN

Muscle/bone crosstalk in cancer cachexia: the role of RANKL *07/2019

Grand Rounds – Otolaryngology, Head and Neck Surgery, IU
Indianapolis, IN

Mechanisms of chemotherapy-induced muscle weakness and fatigue *02/2020

American Cancer Society – Indiana Volunteer Leadership Conference
Brownsburg, IN

- Musculoskeletal deficits induced by cancer and its treatments** *06/2020
IUSCCC Seminar Series
Indianapolis, IN
- Tumor- and host-derived mediators trigger muscle and bone loss in experimental cancer cachexia** *08/2020
IUSCCC TMM/ICMH Lecture
Indianapolis, IN
- Update on Muscle and Bone Crosstalk Research Team** *08/2020
ICMH EAB Meeting
Indianapolis, IN
- Functional and molecular analysis of muscle in patients with and without head and neck cancer cachexia** *08/2020
ICMH EAB Meeting
Indianapolis, IN
- Consequences of TREM2 mutations in bone and muscle** *08/2020
ICMH EAB Meeting
Indianapolis, IN
- Tumor- and host-derived mediators trigger muscle and bone loss in experimental cachexia** *10/2020
IUSCCC Colorectal Cancer Working Group
Indianapolis, IN
- National/International:*
- Mitochondrial depletion and MAPKs activation are associated with the occurrence of muscle loss and fatigue: a potential mechanism for chemotherapy-associated cachexia** *12/2015
8th Cachexia Conference
Paris, France
- New insights into chemotherapy-related muscle atrophy and fatigue** *01/2016
Advances in skeletal muscle biology in health and disease
Gainesville, FL
- Cancer cachexia vs. chemotherapy-associated cachexia: two sides of the same coin?** *09/2016
3rd Cancer Cachexia Conference
Washington, DC
- Modeling cachexia: the impact of anti-neoplastic therapy** *12/2017
10th Cachexia Conference
Rome, Italy
- Understanding the mechanisms associated with chemotherapy-derived cachexia and muscle weakness** *12/2017
Doctoral School in Life and Health Sciences
University of Torino
Torino, Italy
- Understanding the mechanisms responsible for cancer- and chemotherapy-derived cachexia** *05/2018
Department of Clinical Laboratory Sciences

University of Tennessee Health Science Center
Memphis, TN

Understanding the mechanisms associated with chemotherapy-derived cachexia and muscle weakness *09/2018

Department of Cancer Biology
Loyola University Stritch School of Medicine
Chicago, IL

PDK4 drives metabolic alterations and skeletal muscle atrophy in cancer cachexia *09/2018

4th Cancer Cachexia Conference
Philadelphia, PA

PDK4 drives metabolic alterations and skeletal muscle atrophy in cancer cachexia *12/2018

11th Cachexia Conference
Maastricht, Netherlands

Metabolic abnormalities in cancer cachexia *12/2018

Doctoral School in Life and Health Sciences
University of Torino
Torino, Italy

Cancer- and chemotherapy-induced musculoskeletal complications *11/2019

Pennsylvania State University
State College, PA

Musculoskeletal complications of cancer and its treatments *12/2019

12th Cachexia Conference
Berlin, Germany

SERVICE:

UNIVERSITY SERVICE

Grant Review:

Indiana University Simon Cancer Center (IUSCC)

Review of pre-proposals for the V Foundation Scholar RFA final submission. *03/2015

Review of applications for AACR Travel Awards. *03/2016

Review of applications for IUSCC Assistant Professor Pilot Proposals. *06/2018

Review of applications for 2018 Hester Scholarship Applications. *06/2018

Review of applications for AACR Travel Awards. *03/2019

Review of Pilot Projects for Cancer Prevention and Control (CPC) *04/2019

Review of Breast Cancer Drug Discovery Pilot Proposal *05/2020

Review of applications for 2020 Deutsch Scholarships *05/2020

CTSI Core Pilot Grants

Review of proposals for the CTSI Core Pilot Grants. *11/2015

Indiana University Wells Center for Pediatric Research

Review of applications for Simmons Clinical and Translation awards. *01/2016

Research Support Funds Grants (IUPUI)

Review of applications for Research Support Funds supported by the IUPUI Office of the Vice Chancellor for Research.

***10/2018**

IUSM Multi-Center Pilot Grants

Review of two Multi-Center Pilot Grants.

***05/2019**

Dissertation Reviews:

University of Torino, Italy

***10/2019**

PhD School in Life Sciences

Review of Dr. Marc Beltra's dissertation.

University of Jyväskylä, Finland

***09/2020**

PhD School in Sport and Health Sciences

Review of Dr. Tuuli Nissinen's dissertation.

Committees:

Indiana University Cancer Center

Poster Awards

IUSCC Cancer Research day 2016

***05/2016**

Poster Awards

IUSCC Cancer Research day 2017

***05/2017**

Poster Awards

IUSCC Cancer Research day 2018

***05/2018**

Poster Awards

IUSCC Cancer Research day 2019

***05/2019**

Indiana Center for Musculoskeletal Health

Pilot Grants

***04/2017 - present**

Establish the guidelines ICMH Pilot Grants

External Speakers

***04/2017 - present**

Identify speakers for the ICMH Seminar Series

Multi-Center Pilot Grants

***10/2017 - present**

Establish the guidelines for Multi-Center Pilot Grants (IUPUI)

Proposal Review Committee

***02/2018 - present**

Pre-review grant applications by ICMH members

Department of Biochemistry, IUSM

Poster Award

***10/2017**

Biochemistry Research Day 2017

Poster Awards

***10/2018**

Biochemistry Research Day 2018

Office of Postdoctoral Affairs, IUSM

Poster Awards

***10/2018**

Postdoc Symposium 2018

Oral Presentation Awards

***10/2019**

Postdoc Symposium 2019

Gordon Research Conferences

Poster Awards

*06/2019

Gordon Research Conference “Myogenesis” in Lucca, Italy

Biomedical Research Committee, IUSM FAPDD

*06/2019 - present

Review Committee, BRG, REG, Showalter Trust, and Charles FISCH grants

Faculty Community Relations Committee, IUSM FAPDD

*07/2020 - present

Promote the resources and the various educational, research and clinical programs of the IU School of Medicine to enhance health and quality of life in the community and on our campuses

Lab Animal Resource Center (LARC) Advisory Committee, IUSM FAPDD

*08/2020 - present

The mission of the committee is to facilitate information exchange between the LARC staff and the IU School of Medicine faculty and to provide advice on budgeting, infrastructure, regulation, and safety.

PROFESSIONAL SERVICE

Grant Review:

UK Medical Research Council (MRC)

*03/2015

Review grants under consideration at the Medical Research Council (UK)

Poster Award Committee – 3rd Cancer Cachexia Conference

*09/2016

Evaluate posters during the 3rd Cancer cachexia Conference in Washington, DC

Florida Department of Health

Review grants, Bankhead-Coley Cancer Research Program and James and Esther King Biomedical Research Program

*11/2016

Review grants, Bankhead-Coley Cancer Research Program and James and Esther King Biomedical Research Program

*11/2017

Evaluate progress reports, Bankhead-Coley Cancer Research Program and James and Esther King Biomedical Research Program

*05/2018

Review grants, Bankhead-Coley Cancer Research Program and James and Esther King Biomedical Research Program

*12/2018

Health Research Board of Ireland

*03/2017

Review grants under consideration for the Investigator-Led Project Research Program

AFM-Telethon

*12/2017

Review grants under consideration in the ‘Fundamental Myology’ Scientific Study Section at AFM-Telethon (France)

Swiss Cancer League

*03/2018

Review grants under consideration at Swiss Cancer League (Switzerland)

NIH Early Career Review Program

*08/2018 - present

Center for Scientific Review, NIH

French Cancer Institute Review multiple grants under consideration for the French Cancer Institute	*04/2019 - present
Congressionally Directed Medical Research Programs (CDMRP) Panel Member, Spinal Cord Injury Research Program (SCIRP) <i>I was invited to review a grant submitted to the FY19 Spinal Cord Injury Research Program (SCIRP) as ad hoc reviewer</i>	*11/2019
Research Foundation Flanders (FWO) Review Junior and Senior Research Projects under consideration at Research Foundation Flanders (FWO)	*05/2020
BE-FOR-ERC Review one project submitted to the BE-FOR-ERC call of the European Research Council	*10/2020

Committees

Cancer Cachexia Society Member, Education and Communications Committee	*08/2020 - present
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Manuscript Peer-Review:

• Journal of Cellular and Molecular Medicine	2010-present (6)
• Muscle & Nerve	2011-present (5)
• Recent Patents on Regenerative Medicine	*2014-present (1)
• American Journal of Physiology - Heart Circulatory Physiology	*2014-present (1)
• The FASEB Journal	*2015-present (3)
• Journal of Cachexia, Sarcopenia and Muscle	*2015-present (25)
• Scientific Reports	*2016-present (2)
• Biochemistry and Biophysics Reports	*2016-present (1)
• Clinical and Experimental Pharmacology and Physiology	*2016-present (1)
• British Journal of Cancer	*2017-present (1)
• Mitochondrion	*2017-present (1)
• Oncotarget	*2017-present (4)
• PLoS One	*2017-present (4)
• Biomedicine & Pharmacotherapy	*2017-present (1)
• Disease Models & Mechanisms	*2018-present (1)
• Annals of Translational Medicine	*2018-present (1)
• Bone	*2018-present (2)
• Carcinogenesis	*2018-present (1)
• Trends in Cancer	*2019-present (1)
• Cancers (Basel)	*2019-present (4)
• Medicine & Science in Sports & Exercise	*2019-present (2)
• Current Osteoporosis Reports	*2019-present (4)
• Journal of Bone and Mineral Metabolism	*2020-present (1)
• Journal of Applied Physiology	*2020-present (1)
• Frontiers in Immunology	*2020-present (1)
• JCSM Rapid Communications	*2020-present (1)

- Frontiers in Physiology *2020-present (1)
- BMC Musculoskeletal Disorders *2020-present (1)
- Nature Communications *2020-present (1)

Editorial Boards:

- JCSM Rapid Communications** *04/2017 – present
Section Editor
Journal of Cachexia, Sarcopenia and Muscle - Rapid Communications
Society on Cachexia, Sarcopenia and Wasting Disorders (SCWD)
- Current Osteoporosis Reports** *07/2019 – present
Section Editor – Muscle and Bone
Springer US
- Journal of Cachexia Sarcopenia and Muscle (JCSM)** *09/2019 – present
Associate Editor
Wiley-Blackwell

PUBLICATIONS:

RESEARCH

Peer-Reviewed Articles (pre-Assistant Professor rank):

1. Costelli P, Muscaritoli M, Bossola M, Penna F, Reffo P, **Bonetto A**, Busquets S, Bonelli G, Lopez-Soriano FJ, Doglietto GB, Argilés JM, Baccino FM, Rossi Fanelli F. IGF-1 is down-regulated in experimental cancer cachexia. *Am J Physiol Regul Integr Comp Physiol*, 291: 674-83 (2006)
2. Costelli P, Muscaritoli M, **Bonetto A**, Penna F, Reffo P, Bossola M, Bonelli G, Doglietto GB, Baccino FM, Rossi Fanelli F. Muscle myostatin signaling is enhanced in experimental cancer cachexia. *Eur J Clin Invest*, 38(7): 531-8 (2008)
3. Rossi S, Stoppani E, Martinet W, **Bonetto A**, Costelli P, Giuliani R, Colombo F, Preti A, Marchesini S, Fanzani A. The cytosolic sialidase Neu2 is degraded by autophagy during myoblast atrophy. *Biochim Biophys Acta*, 1790: 817-828 (2009)
4. [§]**Bonetto A**, [§]Penna F, Minero VG, Reffo P, Bonelli G, Baccino FM, Costelli P. Deacetylase inhibitors modulate the myostatin/follistatin axis without improving cachexia in tumor-bearing mice. *Curr Cancer Drug Targets*, 9(5):608-616, [§]co-authorship (2009)
5. [§]Penna F, [§]**Bonetto A**, Muscaritoli M, Costamagna D, Minero VG, Bonelli G, Fanelli FR, Baccino FM, Costelli P. Muscle atrophy in experimental cancer cachexia: Is the IGF-1 signaling pathway involved? *Int J Cancer* 2009, 127(7):1706-17, [§]co-authorship (2010)
6. Gazzero E, Assereto S, **Bonetto A**, Sotgia F, Scarfi S, Pistorio A, Bonuccelli G, Cilli M, Bruno C, Zara F, Lisanti MP, Minetti C. Therapeutic potential of proteasome inhibition in Duchenne and Becker Muscular Dystrophies. *Am J Pathol*, 176(4):1863-77 (2010)
7. **Bonetto A**, Penna F, Minero VG, Reffo P, Costamagna D, Bonelli G, Baccino FM, Costelli P. Glutamine prevents myostatin hyperexpression and protein hypercatabolism induced in C2C12 myotubes by tumor necrosis factor-alpha. *Amino Acids* 40(2):585-94 (2010)
8. [§]Aversa Z, [§]**Bonetto A**, Costelli P, Minero VG, Penna F, Baccino FM, Lucia S, Rossi Fanelli F, Muscaritoli M. β -hydroxy- β -methylbutyrate (HMB) attenuates muscle and body weight loss in experimental cancer cachexia. *Int J Oncol*, 38(3):713-20, [§]co-authorship (2011)
9. [§]**Bonetto A**, [§]Aydogdu T, Kunzevitzky N, Guttridge DC, Khuri S, Koniaris LG, Zimmers TA. STAT3 activation in skeletal muscle links muscle wasting and the acute phase response in cancer cachexia. *PLoS One*, 6(7):e22538, [§]co-authorship (2011)

10. Aversa Z, **Bonetto A**, Penna F, Costelli P, Di Rienzo G, Lacitignola A, Baccino FM, Ziparo V, Mercantini P, Rossi Fanelli F, Muscaritoli M. Changes in Myostatin Signaling in Non-Weight-Losing Cancer Patients. *Ann Surg Oncol*, 19(4): 1350-6 (2012)
11. Pedroso FE, Spaulding PB, Cheung MC, Yang R, Gutierrez JC, **Bonetto A**, Zhan R, Chan HL, Namias N, Koniaris LG, Zimmers TA. Inflammation, organomegaly and muscle wasting despite hyperphagia in a mouse model of burn cachexia. *J Cachexia Sarcopenia and Muscle*, 3(3): 199-211 (2012)
12. **Bonetto A**, Aydogdu T, Jin X, Zhang Z, Zhan R, Puzis L, Koniaris LG, Zimmers TA. JAK/STAT3 pathway inhibition blocks skeletal muscle wasting downstream of IL-6 and in experimental cancer cachexia. *Am J Phys Endo Metab*, 303(3): E410-21 (2012)

Peer-Reviewed Scholarship (Original Research) at rank of Assistant Professor, IUSM:

13. **Bonetto A**, Penna F, Aversa Z, Mercantini P, Baccino FM, Costelli P, Ziparo V, Lucia S, Rossi Fanelli F, Muscaritoli M. Early changes of muscle IGF-1 and myostatin gene expression in gastric cancer patients. *Muscle Nerve*, 48(3): 387-92 (2013)*
14. Merli M, Giusto M, Molfino A, **Bonetto A**, Rossi M, Ginanni Corradini S, Baccino FM, Rossi Fanelli F, Costelli P, Muscaritoli M. MuRF-1 and p-GSK3 β expression in muscle atrophy of liver cirrhosis. *Liver Int*, 33(5): 714-21 (2013)*
15. **Bonetto A**, Andersson DC, Waning DL. Assessment of muscle mass and strength in mice. *Bonekey Rep*, 4:732 (2015)*
16. [§]Penna F, [§]**Bonetto A**, Aversa Z, Minero VG, Rossi Fanelli F, Costelli P, Muscaritoli M. Effect of the specific proteasome inhibitor bortezomib on cancer-related muscle wasting. *J Cachexia Sarcopenia Muscle*, 7(3):345-54, [§]co-authorship (2016)*
17. Barreto R[†], Waning DL, Gao H, Liu. Y, Zimmers TA, **Bonetto A**. Chemotherapy-related cachexia is associated with mitochondrial depletion and the activation of ERK1/2 and p38 MAPKs. *Oncotarget*, 12;7(28):43442-43460 (2016)^{†*}
18. **Bonetto A**, Rupert JE, Barreto R[†], Zimmers TA. The Colon-26 carcinoma tumor-bearing mouse as a model for the study of cancer cachexia. *J Vis Exp* (117), e54893 (2016)^{†*}
19. Barreto R[†], Mandili G, Witzmann FA, Novelli F, Zimmers TA, **Bonetto A**. Cancer and chemotherapy contribute to muscle loss by activating common signaling pathways. *Front Physiol* 7:472 (2016)^{†*}
20. **Bonetto A**, Kays JK, Parker VA[†], Matthews RR[†], Barreto R[†], Puppa MJ, Kang KS, Carson JA, Guise TA, Mohammad KS, Robling AG, Couch ME, Koniaris LG, Zimmers TA. Differential bone loss in mouse models of colon cancer cachexia. *Front Physiol* 7:679 (2017)^{†*}
21. Mota R, Rodríguez JE, **Bonetto A**, O'Connell T, Parry TL, Lockyer P, McCudden CR, Asher S, Couch M, Willis MS. Post-Translationally Modified Muscle-Specific Ubiquitin Ligases as Circulating Biomarkers in Experimental Cancer Cachexia. *Am J Cancer Res* 7(9):1948-1958 (2017)*
22. Barreto R[†], Kitase Y, Matsumoto T, Pin F[†], Colston KC[†], Couch KE[†], O'Connell TM, Couch ME, Bonewald FE, **Bonetto A**. ACVR2B/Fc counteracts chemotherapy-induced loss of muscle and bone mass. *Sci Rep* 7(1):14470 (2017)^{†*}
23. Pin F[†], Barreto R[†], Kitase K, Mitra S, Erne CE[†], Novinger LJ[†], Zimmers TA, Couch ME, Bonewald LF, **Bonetto A**. Growth of ovarian cancer xenografts causes loss of muscle and bone mass: a new model for the study of cancer cachexia. *J Cachexia Sarcopenia Muscle*, 9(4):685-700 (2018)^{†*}
24. Pin F[†], Barreto R[†], Couch ME, **Bonetto A***, O'Connell TM*. Cachexia induced by cancer and chemotherapy yield distinct metabolic perturbations. *co-corresponding authors. *J Cachexia Sarcopenia Muscle*, 10(1):140-154 (2019)^{†*}
25. Pin F[†], Novinger LJ[†], Huot JR[†], Harris RA, Couch ME, O'Connell TM, **Bonetto A**. PDK4 drives metabolic alterations and muscle atrophy in cancer cachexia. *FASEB J*, 33(6):7778-7790 (2019)^{†*}

26. Huot JR[†], Essex AL[†], Gutierrez M[†], Barreto R[†], Wang M, Waning DL, Plotkin LI, **Bonetto A**. Chronic treatment with multi-kinase inhibitors causes differential toxicities on skeletal and cardiac muscles. *Cancers (Basel)*, 11(4):571. (2019)^{†*}
27. Davis HM, Essex AL[†], Valdez S, Deosthale PJ, Aref MW, Allen MR, **Bonetto A**, Plotkin LI. Short-term pharmacologic RAGE inhibition differentially affects bone and skeletal muscle in aging. *Bone*, 124:89-102 (2019)^{†*}
28. Pin F[†], **Bonetto A**, Bonewald LF, Gordon KL. Molecular Mechanisms Responsible for the Rescue Effects of Pamidronate on Muscle Cachexia in Pediatric Burn Patients. *Frontiers in Endocrinology (Lausanne)*, 10:543 (2019)^{†*}
29. O'Connell TM, Pin F[†], Couch ME, **Bonetto A**. Treatment with soluble activin receptor type IIB alters metabolic response in chemotherapy-induced cachexia. *Cancers (Basel)*, 11(9):1222 (2019)^{†*}
30. Mitra S, Tiwari K, Pandhiri T, Podicheti R, Pandhiri T, Rusch DB, **Bonetto A**, Zhang C, Mitra AK. Transcriptome profiling reveals matrisome alteration is a key feature of ovarian cancer progression. *Cancers (Basel)*, 11(10):1513 (2019)^{*}
31. Essex LA[†], Pin F[†], Huot JR[†], Bonewald LF, Plotkin LI, **Bonetto A**. Bisphosphonate treatment ameliorates chemotherapy-induced bone and muscle abnormalities in young mice. *Frontiers in Endocrinology (Lausanne)*, 10:809. (2019)^{†*}
32. Huot JR[†], Novinger LJ[†], Pin F[†], **Bonetto A**. HCT116 colorectal liver metastases exacerbate muscle wasting in a mouse model for the study of colorectal cancer cachexia. *Disease Models and Mechanisms*, 13(1):dmm043166 (2020)^{†*}
33. Alwani M, Jones AJ[†], Novinger LJ[†], Pittelkow E, **Bonetto A**, Sim MW, Moore MJ, Mantravadi AV. The impact of sarcopenia on postoperative outcomes of autologous free tissue transfer in head and neck reconstruction. *Journal of Reconstructive Microsurgery*, 36(5):369-378. (2020)^{*}
34. Wang L, Satoh T, Huot JR[†], Baust JJ, Hu J, Vanderpool RR, Considine RV, **Bonetto A**, Tan J, Bachman TN, Sebastiani A, Mora AL, Gladwin MT, Lai Y-C. Skeletal muscle LKB1/SIRT3-AMPK-GLUT4 activation by Treprostinil and Metformin Normalizes Hyperglycemia and Improves Cardiac Function in Pulmonary Hypertension Associated with Heart Failure with Preserved Ejection Fraction (PH-HFpEF). *Arteriosclerosis, Thrombosis, and Vascular Biology*, 40(6):1543-1558 (2020)^{*}
35. Huot JR[†], Novinger LJ[†], Pin F[†], Narasimhan A, Zimmers TA, O'Connell TM, **Bonetto A**. Formation of colorectal liver metastases induces musculoskeletal and metabolic abnormalities consistent with exacerbated cachexia. *JCI Insight*, 5(9):e136687 (2020)^{†*}
36. Huot JR[†], Pin F[†], Narasimhan A, Novinger LJ[†], Keith AS[†], Zimmers TA, Willis MS, **Bonetto A**. ACVR2B antagonism as a countermeasure to multi-organ perturbations in metastatic colorectal cancer cachexia. *J Cachexia Sarcopenia Muscle*, *in press* (2020)^{†*}
37. Jones AJ[†], Campiti VJ, Alwani MA, Novinger LJ, **Bonetto A**, Sim MW, Yesensky JA, Moore MG, Mantravadi AV. Skeletal muscle index's impact on discharge disposition after head and neck cancer free flap reconstruction. *Otolaryngology-Head and Neck Surgery*, *in press* (2020)^{†*}

Invited Reviews and Book Chapters (pre-Assistant Professor rank):

1. Costelli P, Muscaritoli M, Penna F, **Bonetto A**, Minero VG, Iannuzzi S, Aversa Z, Bonelli G, Baccino FM, Rossi Fanelli F. Nutritional support in cancer. *Curr Nutr Food Sci*, 3: 242-8 (2007)
2. Muscaritoli M, Costelli P, Aversa Z, **Bonetto A**, Baccino FM, Rossi Fanelli F. New strategies to overcome cancer cachexia: from molecular mechanisms to the 'Parallel Pathway'. *Asia Pac J Clin Nutr*, 17: 387-90 (2008)
3. [§]**Bonetto A**, [§]Penna F, Muscaritoli M, Minero VG, Rossi Fanelli F, Baccino FM, Costelli P. Are antioxidants useful for treating skeletal muscle atrophy? *Free Radic Biol Med*, 47(7):906-916, [§]co-authorship (2009)

- Gazzerro E, **Bonetto A**, Minetti C. Caveolinopathies translational implications of caveolin-3 in skeletal and cardiac muscle disorders. *Handb Clin Neurol*, 101:135-42 (2011)

Invited Reviews and Book Chapters published at rank of Assistant Professor, IUSM:

- Bonetto A**, Penna F, Bonelli G, Baccino FM, Costelli P. Modulation of the myostatin/follistatin axis by deacetylase inhibitors: improvement of TNF α -induced myotube atrophy but not of experimental cancer cachexia. *Adv Cancer Drug Targets*, 2: 274-295 (2014)*
- Penna F, **Bonetto A**, Baccino FM, Costelli P. Glutamine and myostatin expression in muscle wasting. *Glutamine in Clinical Nutrition, Nutrition and Health*, 39: 513-526 (2015)*
- Zimmers TA, Fishel ML, **Bonetto A**. STAT3 in the systemic inflammation of cancer cachexia. *Semin Cell Dev Biol*, 54:28-41 (2016)*
- Pin F[†], Couch ME, **Bonetto A**. Preservation of muscle mass as a strategy to reduce the toxic effects of cancer chemotherapy on body composition. *Curr Opin Support Palliat Car*, 12(4):420-426 (2018) ^{†*}
- Bonetto A**, Bonewald LF. Bone and muscle. In 'Basic and Applied Bone Biology' (Elsevier Inc.) (2019)*
- Plotkin LI, **Bonetto A**. Connexin-mediated signaling in bone. In 'Encyclopedia of Bone Biology' (Elsevier Inc.) (2020)*

Manuscripts in preparation/submitted:

- Huot JR[†], Pin F[†], **Bonetto A**. Therapy-induced toxicities associated with the onset of cachexia. *Submitted as invited chapter in 'Textbook of Systemic Effects of Advanced Cancer' (Springer Nature Switzerland AG)* (2020) ^{†*}
- Pin F[†], Jones AJ[†], Huot JR[†], Narasimhan A[†], Zimmers TA, Bonewald LF, **Bonetto A**. Effects of RANKL producing tumors on muscle and bone. *In preparation*.
- Pin F[†], Huot JR[†], Essex AL[†], Plotkin LI, Bonewald LF, **Bonetto A**. Cachexia induced by non-bone metastatic cancers is accompanied by bone, cartilage and bone marrow destruction. *In preparation*.
- Golzarri-Arroyo L, Pin F[†], Barreto R[†], Dickenson S, Couch ME, **Bonetto A**, O'Connell TM. Metabolic biomarkers for the early detection of cancer cachexia. *Submitted to JCSM Rapid Communications*.
- Kim H-G, Huot JR, Pin F, Guo B, Bonetto A, Nader GA. Reduced rDNA transcription diminishes skeletal muscle ribosomal capacity and protein synthesis in cancer cachexia. *Submitted to FASEB J*.

Conference Proceedings (pre-Assistant Professor rank):

- Penna F, Reffo P, **Bonetto A**, Bossola M, Muscaritoli M, Bonelli G, Doglietto GB, Rossi Fanelli F, Costelli P, Baccino FM. Modulations of myostatin in cancer cachexia. *Conference Cachexia in Aging and Cancer*, Chicago, IL (2004)
- Reffo P, Penna F, **Bonetto A**, Pioppo V, Bonelli G, Baccino FM, Costelli P. Modulazione dell'espressione della miostatina in un modello sperimentale di cachexia neoplastica. XXVII Congresso Nazionale Società Italiana di Patologia, Modena, Italy (2005)
- Penna F, Reffo P, **Bonetto A**, Pioppo V, Bonelli G, Baccino FM, Costelli P. Alterazioni della segnalazione dipendente da IGF-1 nella cachexia neoplastica. XXVII Congresso Nazionale Società Italiana di Patologia, Modena, Italy (2005)
- Reffo P, Penna F, **Bonetto A**, Costelli P, Muscaritoli M, Bossola M, Bonelli G, Doglietto G, Rossi Fanelli F, Baccino FM. Modulations of myostatin expression by TNF α in C2C12 myotubes. *Clinical Nutrition 27th Congress of ESPEN*, Brussels, Belgium (2005)

5. Muscartoli M, **Bonetto A**, Reffo P, Costelli P, Bossola M, Bonelli G, Doglietto G, Rossi Fanelli F, Baccino FM. Muscle IGF-1 gene expression is downregulated in experimental cancer cachexia. Clinical Nutrition 27th Congress of ESPEN, Brussels, Belgium (2005)
6. Penna F, Reffo P, **Bonetto A**, Costelli P, Muscartoli M, Bossola M, Bonelli G, Doglietto G, Baccino FM, Rossi Fanelli F. Myostatin expression is upregulated in cancer cachexia. Clinical Nutrition 27th Congress of ESPEN, Brussels, Belgium (2005)
7. Aversa Z, Muscartoli M, Costelli P, Bossola M, Iannuzzi S, Sonni P, **Bonetto A**, Reffo P, Rossi Fanelli F. Pentossifillina e Formoterolo: effetto sull'espressione dell'isoforma muscolare di IGF-1 in un modello animale di cachessia neoplastica. XII Congresso Nazionale SINPE, Siena, Italy (2005)
8. Muscartoli M, Costelli P, Bossola M, Molfino A, Penna F, **Bonetto A**, Venuta F, Cascino A, Licitra V, Iannuzzi S, Aversa Z, Rossi Fanelli F. L'espressione genica della miostatina è aumentata dalla presenza di neoplasia. XII Congresso Nazionale SINPE, Siena, Italy (2005)
9. Muscartoli M, Sonni P, Costelli P, Bossola M, Bonetto A, Reffo P, Penna F, Aversa Z, Molfino A, Iannuzzi S, Licitra V, Cascino A, Rossi Fanelli F. Ruolo del TNF α sull'espressione della miostatina in colture cellulari C2C12. XII Congresso Nazionale SINPE, Siena, Italy (2005)
10. Penna F, Bonetto A, Reffo P, Costelli P, Muscartoli M, Bossola M, Iannuzzi S, Busquets S, Bonelli G, Doglietto GB, Argilés JM, Baccino FM, Rossi Fanelli F. Perturbations of the IGF-1 system in cancer cachexia. 3rd Cachexia Conference, Rome, Italy (2005)
11. Penna F, Reffo P, Bonetto A, Costelli P, Muscartoli M, Bossola M, Bonelli G, Doglietto GB, Rossi Fanelli F, Baccino FM. Myostatin pathway: from experimental cancer cachexia to cancer patients. 3rd Cachexia Conference, Rome, Italy (2005)
12. Reffo P, Mastracola R, **Bonetto A**, Penna F, Aragno M, Costelli P, Bonelli G, Boccuzzi G, Baccino FM. Effect of dehydroepiandrosterone in the prevention of cancer- and diabetes-induced cachexia. 3rd Cachexia Conference, Rome, Italy (2005)
13. **Bonetto A**, Penna F, Reffo P, Costelli P, Aragno M, Boccuzzi G, Bonelli G, Baccino FM. Modulations of the calcineurin/NF-AT pathway in diabetes-induced skeletal muscle atrophy. 3rd Cachexia Conference, Rome, Italy (2005)
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Please note: [†] as a mentor; * in rank

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