

CURRICULUM VITAE
BENSAMOUN Sabine Fanny, PhD

General Information

Université de Technologie de Compiègne (UTC)
Laboratoire : Biomécanique et Bioingénierie - UMR CNRS 7338
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Date of Birth: 10 July 1976, Paris 13^{ème} France

Academic Rank and Position

2019 : Research Director CNRS (section 9/54) (or full professor) at the University of Technology of Compiègne
2016-now : Research Collaborator at the Mayo Clinic, (Rochester, MN, USA)
2010 : Researcher CNRS (level : CR1, section 9/28) (or Associate professor) at the University of Technology of Compiègne
2006-2009 : Research collaborator at the Mayo Clinic, (Rochester, MN, USA)
2006 : Researcher CNRS (level : CR2, section 9/28) (or Associate professor) at the University of Technology of Compiègne (UTC)
2004-2006 : Research Fellow at the Mayo Clinic College of Medicine - Rochester, MN, USA Orthopedic Biomechanics Laboratory (Supervisor: Dr An Kai-Nan, Ph.D) and Magnetic Resonance Elastography department (Supervisor: Dr Richard Ehman, MD, Ph.D).

Education

2010 : HDR diploma (i.e accreditation to supervise research)
2003 : Thesis in Biomechanics at UTC, France
“Determination of the mechanical and morphological properties of musculoskeletal tissue”
2000 : Postgraduate degree in Biomechanics at the University of Technology of Compiègne (UTC), France

Administrative and scientific responsibilities

2021-2026 : Appointed member of the National Committee for Scientific Research (section 9)
2021-2025 : Member of the board of directors at the University of Technology of Compiègne
2018-2020 : Co-direction of the team C2MUST « Characterization and personalized Modelisation of the MUsculo-SqueleTal System » (40 persons including 19 permanents) at the Biomechanics and Bioengineering (BMBI, UMR CNRS 7338) Laboratory, UTC.
2018-now : Member of the steering committee of Institute Faire Faces (IFF)
2014-2018 : Member, board of ERER-Pic « espace de réflexion éthique régional Picardie »
2015-2017 : Director of the team C3M « Multi-scales Characterization and Mechanical Modelisation » (32 persons including 10 permanents)
2012-now : Principal Investigator of the key research provided by the company General Electric for the MRI machine, located at the Polyclinic Saint Côme, to perform Magnetic Resonance Elastography researches.
2012-2015 : Co-director of the team C3M « Multi-scales Characterization and Mechanical Modelisation » Biomechanics and Bioengineering (BMBI), UMR CNRS 7338, UTC.

2012-2015 : Co-director of the theme “Accounting for uncertainties in numerical modeling” for the labex MS2T “Control of Technological Systems-of-Systems”.

2007-2009 : Member, board of directors at the University of Technology of Compiègne.

Awards

2017-2020 : Scientific Excellent Prize (PES) attributed by the CNRS

2011-2014 : Scientific Excellent Prize (PES) attributed by the CNRS

2010 : Young Investigator «silver» 6th World Congress of Biomechanics, Singapore

2008 : Coverage for Bone Journal (Hawse JR et al. 2008)

2006 : Prize of the French-Speaking Society of Biomechanics

2005 : Finalist at the French-Speaking Society of Biomechanics

Editorial board member

2022-now: Clinical Studies in Gastroenterology and Hepatology

2021-now : State of the art in Bioengineering

2020-now : Orthopedics Surgery and Rehabilitation Journal

2020-now : International Journal of Orthopedics and Rehabilitation

2020-now : Life

2019-now : Bioengineering International

2019-now : Biomed Research and Health Advances

2015-now : Journal of Medical and Biological Engineering (JMBE)

2008-now : Journal of Musculoskeletal Research (JMR)

2015-2018: Applied Bionics and Biomechanics

2014-2016 : World Journal of Radiology (WJR)

Scientific missions

➤ International

2022 : Organization of the session “Mechanics Of Passive Muscle and Connective Tissue 1 (Track : Musculoskeletal 1: Bone and Soft Tissue)”, 9th World Congress of Biomechanics, Taipei, Taiwan.

2019 : Organization of the international conference « Biological and Functional Properties of Living Tissues », Compiègne, France

2018 : Organization of the session « Biomechanics of Soft Tissue by Elastography (MRI, US) » (Track: Imaging and Device Biomechanics), 8th World Congress Biomechanics, Ireland.

2014 : Organization of the session « Biomechanics of soft tissues characterized with magnetic resonance elastography » at the 7th World Congress of Biomechanics, Boston, Massachusetts.

2013 : Member of the organization committee, 1st international workshop Labex MS2T « Systems of Systems in Technology Foundations », Compiègne, France

2013 : Member of the scientific committee at « The fifth international conference on knowledge and systems engineering (KSE) », Hanoi, Vietnam. Chair of the session « Multi-Scales and Multi-physical Modeling and Characterization of Biomechanics Systems ».

2013 : Chair of the session: « Muscle Biomechanics III », 19th European Society Biomechanics, Patras, Grèce.

2007-2009 : Member of the scientific committee of the European Society of Biomechanics

➤ **National**

2021 : Chair of the session: « Musculoskeletal Biomechanics », 46th French Society of Biomechanics, Saint-Etienne, France.

2019 : Organization of the 1st Scientific Meeting « RencontreSanté », Compiègne, France

Funding obtained

➤ **As the project leader**

2021-2023 : FEDER funding under the European React'EU recovery plan to support projects related to post-COVID-19 Europe. « Establishment of threshold values for post-covid-19 pulmonary fibrosis with the magnetic resonance elastography technique (MRE) », 143 400€

2021-2022 : Subvention UTC - AMI International. « Role of KLF10 in the process of muscle aging », 10 000€

2020-2021: Subvention UTC-AMI COVID-19. « Quantification of post COVID-19 pulmonary fibrosis with magnetic resonance elastography », 10 000€

2019-2021: Programme Sorbonne Universités : Appel à Projets Emergence. « Deciphering the role of KLF10 in skeletal muscle metabolism », 68 744€

2019 : Soutien de la Direction à la Recherche de l'UTC pour le montage de projet EU ou International. « Towards new therapeutic approaches for neuromuscular and neurodegenerative diseases : Deciphering the role of TIEG1 in muscle and brain metabolism and mitochondrial biogenesis », 2 000€

2019 : Soutien du CNRS (INSIS) pour un IR BAP A (3 mois de salaire)

2018-2019 : Fonds Régional d'Aide aux Porteurs de Projets Européens, 3 jours de consulting.

2017-2020 : Projet de recherche thématique et structurant - Picardie. « Quantification des tissus cervico-faciaux (muscle, fibrose) avec la technique d'élastographie par résonance magnétique (ERM) », 201 700€

2017-2019 : Laboratory of Excellence LABEX MS2T (Maîtrise de Systèmes de Systèmes Technologiques). « Characterization of the musculoskeletal system through the analysis of muscle-tendon interaction », 100 000€

2017-2018 : Contrat industriel avec la société Echosens. « Evaluation de lésions hépatiques par Fibroscan / IRM-ERM », 75 520€

2017 : CPER. Achat d'un échographe avec module d'élastographie. 110 000€

2015-2018 : Projet Blanc Europeen / International RDI (Recherche-Développement-Innovation). « Caractérisation multi-échelles du tissu musculaire chez la souris TIEG1 », 194 000€

2015-2017 : Contrat industriel avec la société Echosens. « Evaluation de lésions hépatiques par Fibroscan / IRM-ERM », 193 240€

2015-2016 : Programme Sorbonne Universités : Appel à Projets IUIS (Institut Universitaire d'Ingénierie pour la Santé). « Development of a diagnostic and follow-up non-invasive tool to characterize the muscle stiffness of the Duchenne muscular dystrophy patients », 43 000€

2014 : Subvention General Electric pour acheter un module d'élastographie IRM pour caractériser les propriétés mécaniques des tissus mous (foie, muscle, etc ...). 60 000€

2008-2012 : Subvention par la Région Picardie: section mécanique. « Application of the MRE technique to the liver and muscle tissues », 40 000€

2008-2010 : Association Française contre les Myopathies. « Non invasive assessment of the muscle stiffness with the MR elastography technique: Duchenne myopathy », 132 000€

2008-2010 : CNRS : Contrat France / USA. 18 000€

2008-2009 : CNRS: projet exploratoire. « Analysis of the biochemical and morphological properties of TIEG1-KO osteocytes », 15 000€

2008-2009 : Contrats Projets Etat-Région (CPER, axe santé). 42 000€

2007-2009 : Fondation motrice. « Non invasive characterization of the muscle stiffness for the CP patients using the MRE technique », 12 000€

2007-2008 : Abondement Carnot. « Development of a mechanical device to stretch biological tissues », 15 000€

2007-2008 : Subvention par la Région Picardie: section transfert de technologie. « Equipment for the magnetic resonance elastography technique », 83 000€

2007 : Université de Technologie de Compiègne: Axes Prospectifs. « Development of the magnetic resonance elastography technique », 30 000€

2007 : European Synchrotron Radiation Facility (ESRF). « Diffraction studies to investigate the collagenous architecture of TIEG1 null mice tendon », 48h d'utilisation.

➤ As the project partner

2021-2022: HealthTech 2021 - Science et Technologie de l'information pour la santé. « Modèle multi-échelle par imagerie médicale et influence du gène KLF10 sur le comportement biomécanique du muscle squelettique ». PI : S Chatelin (ICube), 15 000€

2019 : Mayo Clinic Metabolomics Resource Core (MCMRC). « Role of TIEG1 in regulating skeletal muscle metabolism ». PI : J Hawse (Mayo Clinic, USA), 35 040\$

2017-2019 : France Life Imaging (FLi). « Conditions de validité de l'élastographie par ultrasons et par résonance magnétique - Calibration multicentrique ». PI : X Maître (IR4M), 25 000€

2015-2016 : Programme Convergence de Sorbonne Universités : Appel à Projets Cycles de la Vie. « Mechanobiology in *LMNA*-mutated muscle precursors ». PI : C Coirault (Institut de Myologie), 88 608€

Expertise

HCERES (High Council Evaluation of Research and Superior Education)

ANR (National Research Agency) : scientific member of the evaluation committee "Défi 4 - Vie, Santé et Bien-être"

Reviewers for Scientific Reports, Journal of Biomechanics, Bone, PlosOne, ...

Expert for selection committees (sections CNU 60, 74)

Expert for French Ministry of Education: ITRF BAP C

Expertise of abstracts submitted to the French and World Congress of Biomechanics

Expert for international grants (NSERC: Natural Sciences and Engineering Research Council of Canada, Mayo Clinic Foundation (USA), ...) and European grants.

Members of scientific societies

2020-now : GDR 2088 BIOMIM

2017-now : French Society Magnetic Resonance Biology and Medicine (SFRMBM)

2014-now : GDR 3570 MECABIO « Mechanics of materials and Biological Fluids »

2006-now : European Society of Biomechanics (ESB)

2002-now : French-Speaking Society of Biomechanics (SFB)

2018-2020 : FHU SURFACE « Head and Neck Regeneration Surgery: morphology & function »

2014-2019 : IEEE Engineering in Medicine and Biology Society (EMBS)

2010-2019 : French Society of Biological and Medical Engineering (SFGBM)

2004-2016 : International Society of Magnetic Resonance in Medicine (ISMRM)

2004-2014 : American Society for Bone and Mineral Research (ASBMR)

Member of juries

3 HDR (i.e authorization to supervise research): rapportor (3)

16 National thesis: rapportor (13) - examiner (2)

1 International thesis: rapportor (1)

Supervisory Responsibility

12 Masters Research

7 Thesis : 3 best thesis awarded by Guy Deniélou Thesis Award at UTC in 2011, 2012 and 2013.

11 Research Fellows

Publications

***h* Index = 21**

52 Articles (Rank A)

1 Invited review

6 Short articles (IEEE)

International congress: 43 oral presentations - 25 posters

National congress: 25 oral presentations - 11 posters

15 International invited conferences / 10 national invited conferences

4 Chapters