

Suvham Barua

Curriculum Vitae

Molecular Biotechnology Center,
Dipartimento di Biotecnologie Molecolari e Scienza dell Salute,
Università degli Studi di Torino, Torino.

Department of Translational Medicine,
Università del Piemonte Orientale, Novara.

Work Experience:

- **Research fellow:**

Working in the lab of Prof. Andrea Graziani, Department of Translation Medicine, Università del Piemonte Orientale, Novara, Piemonte, Italy. (**May 2024-present**)

- **PhD. Scholar:**

Molecular Biotechnology Center, Department of molecular biotechnology and health science. University of Turin, Turin, Piemonte, Italy (**Nov 2019 – Jan 2024**) (PhD thesis submitted in September 2024, currently awaiting the scheduled date for the defense) under the supervision of Prof. Andrea Graziani.

- **Research trainee:** (Biotech industrial training programme conducted by Biotec consortium of India limited)

Dabur Research Foundation, Ghaziabad, India (**Nov 2018 – May 2019**).

Training in how to conduct pre-clinical studies.

Hands-on experience in animal handling, culturing eukaryotic tissues, and harvesting and culturing organs and tissues, and administered drugs through various dosing methods.

Education:

- **PhD. Candidate in Biomedical science and oncology**, Molecular Biotechnology center “Guido Tarone”, Università degli studi di Torino, Torino, Italy (**Nov 2019 – Jan2024**). (currently awaiting the scheduled date for the defense)

- **Master of Science in Biotechnology**, Jamia Hamdard University, New Delhi, India (**Jul 2016 – Jun 2018**). (graduated with first division, degree attached)

- **Bachelor of Science (Hons.) in Botany**, University of Delhi, New Delhi, India (**Jul 2013 – Jun 2016**) (graduated with first division, degree attached)

Projects:

PhD thesis Project (submitted on Sept. 2024)

- Delayed skeletal muscle regeneration in an accelerated ageing mouse model. (Manuscript preparation for article publication).

Other Project

- Renal cell carcinoma in kidney specific Tsc1 knocked out mice cause cachexia in the skeletal muscle.” (Manuscript preparation).
- Role of mRNA splicing regulation in cancer cachexia, funded by the European Union – Next GenerationEU.

<https://unifind.unito.it/resource/project/GRAA%5FPRIN%5F2022%5F23%5F01>.

Under the supervision of **Prof. Andrea Graziani**

Department of Molecular Biotechnology and health science, Molecular Biotechnology Center, Università degli studi di Torino.

Department of Translational Medicine, Università del Piemonte Orientale, Novara, Italy.

(Ongoing).

Publications:

Article publication:

- **Impaired cAMP/CREB1 signalling drives mitochondrial dysfunction in skeletal muscle during cancer cachexia.** (manuscript submitted to journal **Nature metabolism** on **June 2024, UNDER REVISION**)

Elia Angelino, Lorenza Bodo, Roberta Sartori, Nicolò Formaggio, Andrea Lauria, Valeria Malacarne, Suvham Barua, Simone Reano, Alessandra Murabito, Monica Nicolau, Fabiana Ferrero, Camilla Pezzini, Giulia Rossino, Francesco Favero, Nicoletta Filigheddu, Alessio Menga, Davide Corà, Vittorio Sartorelli, Alessandra Ghigo, Paolo E, Porporato, Daniela Talarico, Valentina Proserpio, Salvatore Oliviero, Marco Sandri, Giuseppina Caretti, Andrea Graziani.

Abstract publication: (the abstracts are published in the conference meeting report).

- Sara Clerici, Suvham Barua, Michella Ferrara, Elia Angelino, Lorenza Bodo, Daniela Talarico, Alessandra Boletta and Andrea Graziani. **Kidney-specific Tsc1^{-/-} mice as renal cell carcinoma-induced cachexia model.** Journal of Cachexia, Sarcopenia and Muscle 2023; 14: 2359–2438 Published online 8 September 2023 in Wiley Online Library DOI: 10.1002/jcsm.13299.
- Elia Angelino, Lorenza Bodo, Roberta Sartori, Valeria Malacarne, Simone Reano, Suvham Barua, Alessandra Murabito, Fabiana Ferrero, Nicoletta Filigheddu, Alessandra Ghigo, Marco Sandri, Daniela Talarico and Andrea Graziani. **Pde4 targeting counteracts cancer cachexia-induced metabolic dysfunction and muscle wasting.** Journal of Cachexia, Sarcopenia and Muscle 2023; 14(S1): 3–59 Published online in Wiley Online Library DOI: 10.1002/jcsm.13325
- Suvham Barua, Elia Angelino, Lorenza Bodo, D. Talarico, and Andrea Graziani. **The PolgD257A “mutator” mice as model to investigate aging-associated defective skeletal muscle regeneration.** Eur J Transl Myol. 2021 Dec 28; 31(4): 10270. Published 2021 Nov 29. doi: 10.4081/ejtm.2021.10270
- Lorenza Bodo, Suvham Barua, A. Morabito, A. Ghigo, D. Talarico, A. Graziani, and Elia Angelino. **Pde4 targeting rescues tonic β -adrenergic signaling in cachectic C26-bearing mice.** Eur J Transl Myol. 2021 Dec 28; 31(4): 10270. Published 2021 Nov 29. doi: 10.4081/ejtm.2021.10270

Scientific skills and competence:

- **Molecular Biology:-** Isolation, purification & quantification of genomic DNA, Plasmid DNA, RNA, miRNA & protein; Restriction digestion & ligation; Retro-transcription; PCR (genotyping); qRT PCR; stem-loop RT PCR; SDS-PAGE, Agarose gel electrophoresis; Molecular cloning.
- **Tissue/Cell Culture & Microbiology:-** 3D Eukaryotic cell culture; Primary tissue culture (MuSC); Growth, preparation of competent & transformation of bacteria.
- **Immunological Technique:-** Immunohistochemistry; Immunofluorescence; SA- β Gal staining, Western blot; FACS; ELISA.
- **Instrument:-** Confocal microscopy; cryostat.
- **Animal Handling:-** Muscle functional test (Grip test); Muscle harvesting; Dosing Oral, IP, IV & Sub cut; Behavioural test; Transplant of MuSC.
- **Others:-** RNAi; FRET assays, Reporter gene Assays

Computational Skills:

Microsoft office (Excel, PowerPoint, Outlook & word} & Adobe illustrator & inkscape
ImagJ & Fuji and Leica microscopy software
Bioinformatic tools : BLAST, FASTA, Clustal W, Primer Bank

Area of interest and topics:

Muscle Biology, Ageing, Cancer Cachexia, Sarcopenia
Stem cell regenerative biology, Tumor metabolism.

Congress and achievements:

2024 – won a position “assegno di ricercar” at the university of Piemonte orientale. May 2024

2023 – **Poster Presented** in the 20th Interuniversity Institute of Myology in **Assisi, Perugia**.
Oct 2023.

2023 – **Poster Presented** in the 7th Cancer cachexia conference **Edinburgh, Scotland** Sep
2023.

2023 – **Poster Presented** in the 16th Society of Sarcopenia, cachexia and wasting disorder in
Stockholm, Sweden June 2023

2021 – Attendee in 33rd AICC annual conference: international meeting on cancer metabolism
in **Turin, Italy** Nov 2021.

2021 – **Short-talk** In the Interuniversity Institute of Myology in **Perugia, Italy**. 18th meeting
Oct 2021. (Virtual)

2019 – **Won PhD** grant from the **university of Turin** Nov 2019.

2018 – **Qualified National level exam** conducted by **Biotec consortium of India limited** in
India Nov 2018.

Languages:

English – All levels of education done in English.

Hindi – Mother tongue

Bangla – Mother tongue

Italian – A2 level

References:

Prof. Andrea Graziani (PhD)

Prof. Biochemistry

Molecular Biotechnology Center Department of Molecular Biotechnology & Health Sciences
University of Torino Medical School Via Nizza 52, 10123 Torino, Italy Email-
andrea.graziani@unito.it

Prof. Daniela DelliCastelli (PhD)

Associate prof. general and inorganic chemistry

Molecular Biotechnology Center Department of Molecular Biotechnology & Health Sciences.
Email- daniela.dellicastelli@unito.it

Elia Angelino (PhD RDTA)

Molecular Biotechnology Center

Department of Molecular Biotechnology & Health Sciences.

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