



Geneviève and India: A Quarter-Century of Scientific Partnership

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Institute of Physics (IOP), Bhubaneswar

Geneviève Fest, LAPTh Annecy

January 26th, 2026



When we talk about international collaborations, we often count papers, projects, or grants.

But what often matters more is harder to quantify: continuity, trust, and long-term engagement — year after year, generation after generation..

For more than 25 years, Geneviève has had a very deep and enduring association with India.

Today, I would like to speak not about milestones or metrics, but about Geneviève Bélanger's association with the Indian particle physics community.

This long association was never abstract. It was built through people — colleagues, students, and postdocs — across institutions and generations. The next slide gives a sense of the breadth of Geneviève's collaborations with the Indian community

25+ years long association with high-energy physicists from India

Vibrant collaboration with faculties, students and postdocs from IISc (Bengaluru); TIFR (Mumbai), IOP (Bhubaneswar), HRI (Allahabad), and other institutes. A particularly remarkable collaboration has been with Rohini M. Godbole with more than twenty publications, bi-lateral Indo-French projects and mentorship.

- Prof. Rohini M. Godbole
 - Prof. Ritesh K. Singh**
 - Prof. K. Sridhar
 - Prof. Biswarup Mukhopadhyay
 - Prof. Sreerup Raychaudhuri
 - Prof. Monoranjan Guchait
 - Prof. Saurabh Rindani
 - Prof. Pankaj Agrawal
 - Dr. Jacky Kumar
 - Dr. Suchita Kulkarni
 - Prof. Manimala Mitra
 - Prof. Biplob Bhattacharjee
 - Dr. Shankha Banerjee*
 - Dr. Rahool K. Barman
 - Dr. Rhitaja Sengupta
 - Prof. Sanjoy Biswas
 - Dr. Nishita Desai
 - Dr. Dipan Sengupta~
 - Prof. Diptimoy Ghosh
 - Dr. Charanjit Khosa
 - Dr. Sreemanti Chakraborti**
 - Dr. Rojalin Padhan
 - Dr. Abhishek Roy
 - Dr. Juhi Dutta
 - Dr. Avirup Ghosh
 - Dr. Sujay Shil
 - Dr. Sarif Khan
 - Dr. Disha Bhatia
 - Dr. Gaurav Mendiratta
- Also, Dr. Rishav Roshan, Mr. Subham Saha and Dr. Dipankar Pradhan in ongoing collaboration

Geneviève's participation in the CEFIPRA network.



Indo-French Centre for the Promotion of Advanced Research (CEFIPRA/IFCPAR) provided a structured framework for sustained collaboration.

Geneviève was PI and participants in many Indo-French bi-lateral projects

*Beyond Standard Model Physics
with Neutrino and Dark Matter
at*

*Energy, Intensity and Cosmic Frontiers
(6304-2)*

PIs: Geneviève Bélanger and Manimala Mitra: 2020-2024

- CEFIPRA project with PI (G. Bélanger and R. M. Godbole)

Participant (Co-PI)

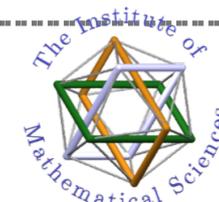
- CEFIPRA : Collider physics (PI: P. Aurenche/R.Basu) 1999-2001

PI

- CEFIPRA : SUSY, Higgs and CP: colliders and astrophysics (PI: A. Djouadi R.Godbole)2003-2006

- CNRS LIA-THEP (Theoretical High EnergyPhysics)(PI: F. Boudjema/S.Vempati) 2016- 2019

- INFRE-HEPNET (Indo-French Network on High Energy Physics. (PI: F. Boudjema/S.Vempati) 2016-2019



- Introduction to the CEFIPRA Project (6304-2): **the bi-lateral project started in December, 2020 and completed on 30th May, 2024**

- **Principal Investigators:**

Prof. Geneviève Bélanger (PI from France), LAPTh, Annecy, France

Dr. Manimala Mitra (PI from India), IOP, Bhubaneswar, India

- **Co-PIs of the project:**

Prof. Rohini M. Godbole (CHEP, IISc, Bengaluru, India)

Prof. Sabine Kraml, (LPSC, Grenoble, France)

Dr. Cedric Delaunay, (LAPTh, Annecy, France)

Students and Postdocs benefitted immensely from this project

Dr. Rojalin Padhan (Former Ph.D Student at IOP (2017-2023), at present postdoc at Chung-Ang University, Seoul, South Korea) and Dr. Abhishek Roy (Former Ph.D Student at IOP (2018-2024), at present postdoc at CQeST, Seoul) visited LAPTh, Annecy and we have few joint publications with Genevieve and other participants in the CEFIPRA project.

Joint Publications with Indian Researchers

CP violation in $K^+ \rightarrow \pi^+ \text{lepton anti-lepton}$ decays

Pankaj Agrawal (TRIUMF), John N. Ng (TRIUMF), G. Belanger (Montreal U.), C.Q. Geng (Montreal U.)
1990)

Published in: *Phys.Rev.Lett.* 67 (1991) 537-540

Early works: 1990s

A Study of T violation in $K^+ \rightarrow \pi^+ \mu^+ \mu^-$ decays

Pankaj Agrawal (TRIUMF), John N. Ng (TRIUMF), G. Belanger (Montreal U.), C.Q. Geng (Montreal U.)
1991)

Published in: *Phys.Rev.D* 45 (1992) 2383-2396

Extensive research works on SUSY Higgs, light neutralino and chargino in MSSM, invisible Higgs decay, dark matter constraints in collaboration with faculty and students from IISc and HRI.

SUSY Higgs at the LHC: Effects of light charginos and neutralinos

G. Belanger (Annecy, LAPTH), F. Boudjema (Annecy, LAPTH), F. Donato (Annecy, LAPTH), R. Godbole (Bangalore, Indian Inst. Sci.), S. Rosier-Lees (Annecy, LAPP) (Jan, 2000)

Published in: *Nucl.Phys.B* 581 (2000) 3-33 • e-Print: hep-ph/0002039 [hep-ph]

Early works: 2000-2009

The MSSM invisible Higgs in the light of dark matter and g-2

G. Belanger (Annecy, LAPTH), F. Boudjema (Annecy, LAPTH), A. Cottrant (Annecy, LAPTH), R.M. Godbole (Bangalore, Indian Inst. Sci.), A. Semenov (Annecy, LAPTH) (Jun, 2001)

Published in: *Phys.Lett.B* 519 (2001) 93-102 • e-Print: hep-ph/0106275 [hep-ph]

Constraining the MSSM with universal gaugino masses and implication for searches at the LHC

G. Belanger (Annecy, LAPTH), F. Boudjema (Annecy, LAPTH), A. Pukhov (SINP, Moscow), R.K. Singh (Annecy, LAPTH and Wurzburg U.) (Jun, 2009)

Published in: *JHEP* 11 (2009) 026 • e-Print: [0906.5048](http://arXiv.org/abs/0906.5048) [hep-ph]

In between: 2011-2020 and beyond

LHC constraints on light neutralino dark matter in the MSSM #1

Geneviève Bélanger (Annecy, LAPTH), Guillaume Drieu La Rochelle (Lyon U. and Lyon, IPN), Béranger Dumont (LPSC, Grenoble), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Sabine Kraml (LPSC, Grenoble) et al. (Aug 16, 2013)

Published in: *Phys.Lett.B* 726 (2013) 773-780 • e-Print: [1308.3735](#) [hep-ph]

Invisible decay of the Higgs boson in the context of a thermal and nonthermal relic in MSSM

Rahool Kumar Barman (Bangalore, Indian Inst. Sci.), Genevieve Belanger (Annecy, LAPTH), Biplob Bhattacharjee (Bangalore, Indian Inst. Sci.), Rohini Godbole (Bangalore, Indian Inst. Sci.), Gaurav Mendiratta (Bangalore, Indian Inst. Sci. and Salk Inst. Biol. Studies) et al. (Mar 10, 2017)

Published in: *Phys.Rev.D* 95 (2017) 9, 095018 • e-Print: [1703.03838](#) [hep-ph]

Is Light Neutralino Thermal Dark Matter in the Phenomenological Minimal Supersymmetric Standard Model Ruled Out?

Rahool Kumar Barman (Oklahoma State U.), Geneviève Bélanger (Annecy, LAPTH), Biplob Bhattacharjee (Bangalore, Indian Inst. Sci.), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Rhitaja Sengupta (Bangalore, Indian Inst. Sci.) (Jul 13, 2022)

Published in: *Phys.Rev.Lett.* 131 (2023) 1, 011802 • e-Print: [2207.06238](#) [hep-ph]

Light Neutralino Dark Matter in the MSSM and Its Implication for LHC Searches for Staus

Genevieve Belanger (Annecy, LAPTH), Sanjoy Biswas (Rome U. and INFN, Rome), Celine Boehm (Durham U., IPPP and Annecy, LAPTH), Biswarup Mukhopadhyaya (Harish-Chandra Res. Inst.) (Jun, 2012)

Published in: *JHEP* 12 (2012) 076 • e-Print: [1206.5404](#) [hep-ph]

Geneviève has done extensive research works on various other susy topics, including sneutrino dark matter, flavour violating scalar tops, light stop in MSSM with Indian physicists

Signatures of sneutrino dark matter in an extension of the CMSSM

Shankha Banerjee (Annecy, LAPTH), Geneviève Bélanger (Annecy, LAPTH), Biswarup Mukhopadhyaya (Harish-Chandra Res. Inst.), Pasquale D. Serpico (Annecy, LAPTH) (Mar 29, 2016)
Published in: *JHEP* 07 (2016) 095 • e-Print: [1603.08834](#) [hep-ph]

Long-lived stau, sneutrino dark matter and right-slepton spectrum

Shankha Banerjee (Durham U., IPPP), Geneviève Bélanger (Annecy, LAPTH), Avirup Ghosh (Harish-Chandra Res. Inst.), Biswarup Mukhopadhyaya (Harish-Chandra Res. Inst.) (Jun 12, 2018)
Published in: *JHEP* 09 (2018) 143 • e-Print: [1806.04488](#) [hep-ph]

SUSY Higgs at the LHC: Large stop mixing effects and associated production

G. Belanger (Annecy, LAPTH), F. Boudjema (Annecy, LAPTH), K. Sridhar (Tata Inst.) (Apr, 1999)
Published in: *Nucl.Phys.B* 568 (2000) 3-39, *Nucl.Phys.B* 576 (2000) 660-660 (erratum) • e-Print: [hep-ph/9904348](#) [hep-ph]

Probing the flavor violating scalar top quark signal at the LHC

Genevieve Belanger (Annecy, LAPTH), Diptimoy Ghosh (INFN, Rome), Rohini Godbole (Bangalore, Indian Inst. Sci.), Monoranjan Guchait (Tata Inst.), Dipan Sengupta (Tata Inst.) (Aug 29, 2013)
Published in: *Phys.Rev.D* 89 (2014) 015003 • e-Print: [1308.6484](#) [hep-ph]

Light stop in the MSSM after LHC Run 1

Genevieve Belanger (Annecy, LAPTH), Diptimoy Ghosh (INFN, Rome and Weizmann Inst.), Rohini Godbole (Bangalore, Indian Inst. Sci.), Suchita Kulkarni (LPSC, Grenoble and Vienna, OAW) (Jun 1, 2015)
Published in: *JHEP* 09 (2015) 214 • e-Print: [1506.00665](#) [hep-ph]

Illuminating scalar dark matter co-scattering in EFT with monophoton signatures

Geneviève Bélanger (Annecy, LAPTH), Manimala Mitra (Bhubaneswar, Inst. Phys. and HBNI, Mumbai),
Rojalin Padhan (Chung-Ang U.), Abhishek Roy (CQUeST, Seoul and Sogang U.) (Aug 8, 2025)

Published in: *JHEP* 01 (2026) 007 • e-Print: [2508.06040](#) [hep-ph]

Revisiting the decoupling limit of the Georgi-Machacek model with a scalar singlet #3

Geneviève Bélanger (Annecy, LAPTH), Juhi Dutta (Oklahoma U.), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Sabine Kraml (LPSC, Grenoble), Manimala Mitra (Bhubaneswar, Inst. Phys. and HBNI, Mumbai) et al. (May 28, 2024)

Published in: *JHEP* 10 (2024) 058, *JHEP* 2410 (2024) 058 • e-Print: [2405.18332](#) [hep-ph]

WIMP and FIMP dark matter in singlet-triplet fermionic model #

Geneviève Bélanger (Annecy, LAPTH), Sandhya Choubey (Royal Inst. Tech., Stockholm and Stockholm U.)
Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Sarif Khan (Gottingen U.), Manimala Mitra (Bhubaneswar,
Inst. Phys. and HBNI, Mumbai) et al. (Aug 1, 2022)

Published in: *JHEP* 11 (2022) 133 • e-Print: [2208.00849](#) [hep-ph]

Right handed neutrinos, TeV scale BSM neutral Higgs boson, and FIMP dark matter in an EFT framework #

Geneviève Bélanger (Annecy, LAPTH), Sarif Khan (Gottingen U.), Rojalin Padhan (Bhubaneswar, Inst. Phys. and Bhabha Atomic Res. Ctr.), Manimala Mitra (Bhubaneswar, Inst. Phys. and Bhabha Atomic Res. Ctr.),
Sujay Shil (Bhubaneswar, Inst. Phys. and Bhabha Atomic Res. Ctr.) (Apr 9, 2021)

Published in: *Phys.Rev.D* 104 (2021) 5, 055047 • e-Print: [2104.04373](#) [hep-ph]

Other topics: research collaboration on CP nature of mediator, LHC friendly Freeze-in models and multi-pseudoscalar mediated dark matter models

Probing CP nature of a mediator in associated production of dark matter with single top quark

Genevieve Belanger (Annecy, LAPTH), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Charanjit K. Khosa (Sussex U.), Saurabh D. Rindani (Ahmedabad, Phys. Res. Lab) (Nov 27, 2018)

Contribution to: TOP2018 • e-Print: [1811.11048](#) [hep-ph]

LHC-friendly minimal freeze-in models

#

G. Bélanger (Annecy, LAPTH), N. Desai (U. Montpellier, L2C and U. Montpellier 2, LUPM), A. Goudelis (Paris, LPTHE and ILP, Paris), J. Harz (Munich, Tech. U.), A. Lessa (ABC Federal U.) et al. (Nov 13, 2018)

Published in: *JHEP* 02 (2019) 186 • e-Print: [1811.05478](#) [hep-ph]

Phenomenological analysis of multi-pseudoscalar mediated dark matter models

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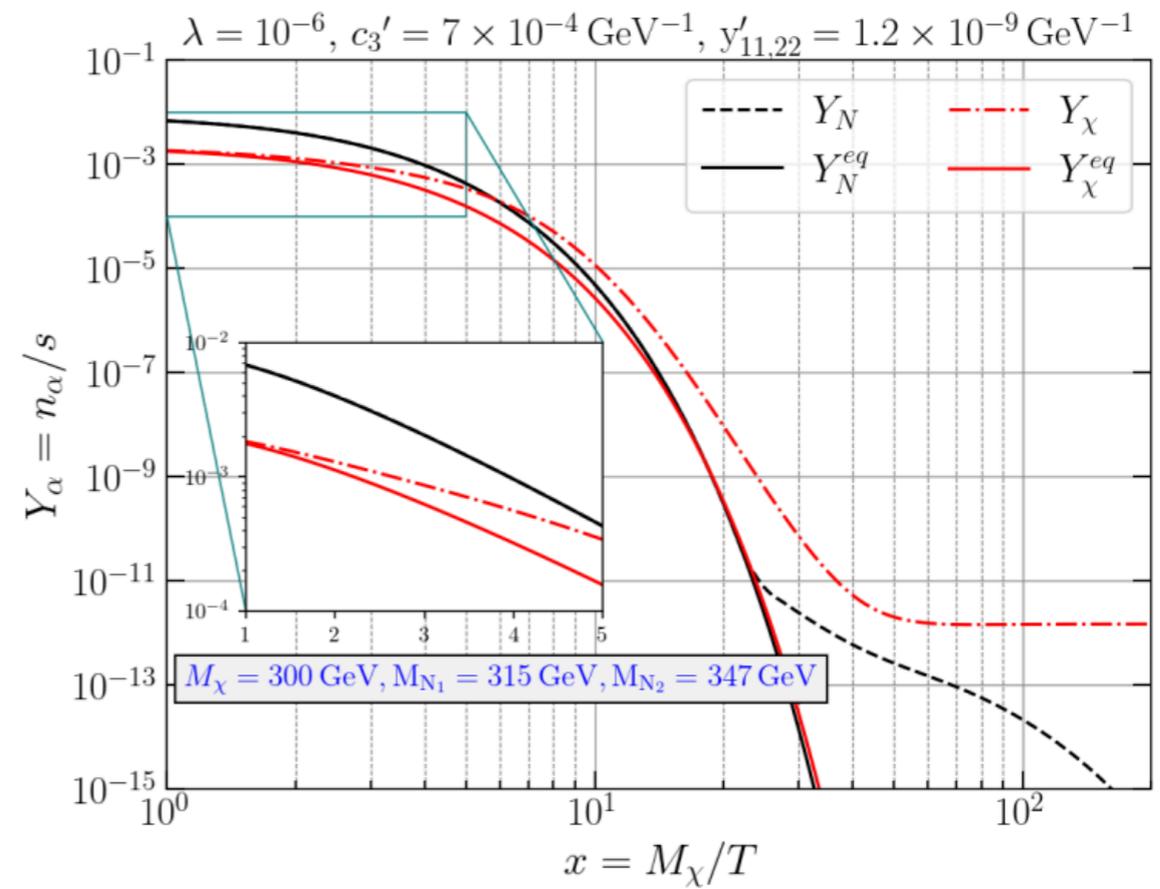
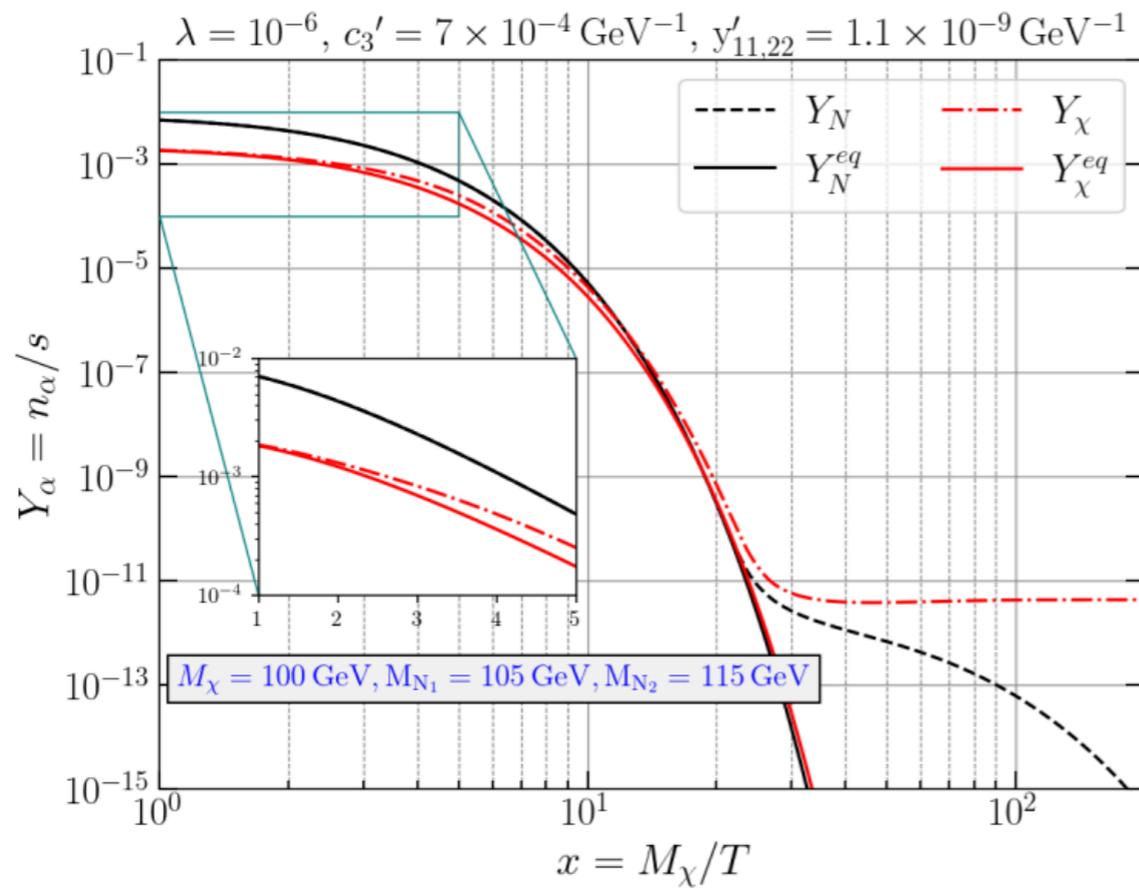
Shankha Banerjee (CERN), Geneviève Bélanger (Annecy, LAPTH), Disha Bhatia (IMSc, Chennai), Benjamin Fuks (Paris, LPTHE), Sreerup Raychaudhuri (Tata Inst.) (Oct 28, 2021)

Published in: *JHEP* 07 (2022) 111 • e-Print: [2110.15391](#) [hep-ph]

My association with Geneviève

- I started discussing with Geneviève from 2018, 2019. Visited LAPTh, Annecy in 2019, September 2023, June 2024, February 2025. Geneviève visited Institute of Physics (IOP), Bhubaneswar few times in between 2019-2024. In 2024, along the same time, Rohini was also visiting LAPTh and during this visit, we completed the work *Revisiting the decoupling limit of the Georgi-Machacek model with a scalar singlet*, JHEP 10 (2024) 058, G. Belanger, J. Dutta, R. M. Godbole, S. Kraml, M. Mitra, R. Padhan and A. Roy, a collaboration that evolved over nearly two years.
- I had the privilege of serving as the Indian PI of the CEFIPRA project (2020–2024), with Geneviève as the French PI. The project led to several joint publications involving Indian faculty, students, postdocs, and French collaborators.
- Geneviève's guidance, physics intuition, and clarity of thought were central to the success of this project.
- In-fact, I began working seriously on dark matter around 2019, and Geneviève played a pivotal role in guiding and motivating me to pursue research in this direction.

Geneviève has been a constant source of inspiration for me, my students, and postdocs. Every discussion with her is a learning experience, and I deeply enjoy our scientific exchanges. We are continuing to collaborate and hope to do so for many more years.

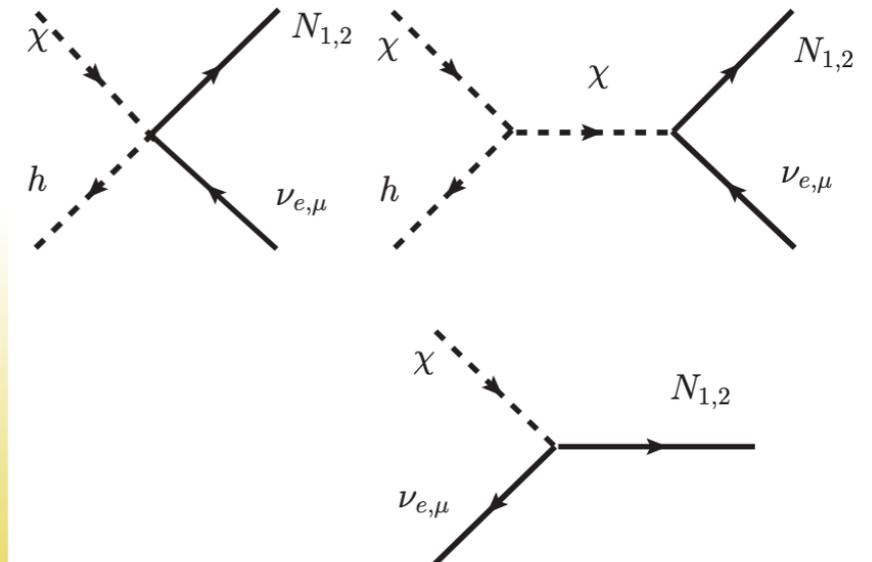


**Illuminating scalar dark matter co-scattering in EFT with monophoton signatures,
G. Bélanger, M. Mitra, R. Padhan, A. Roy, JHEP 01 (2026) 007**

- Investigated co-scattering mechanism for dark matter production in an EFT framework

$$\frac{y}{\Lambda} \bar{L} \tilde{\Phi} N \chi$$

$$\frac{c_3}{\Lambda} \bar{N}^c \sigma_{\mu\nu} N B^{\mu\nu}$$



- χ is dark matter and together with right handed neutrino $N_{1,2}$ form dark sector constituents

- LHC constraint from mono-photon search

Message from Prof. Biswarup Mukhopadhyaya (former HRI and IISER Kolkata)

I pay my personal tribute to Geneviève, and wish her all the best....

1. Geneviève Bélanger, Sanjoy Biswas, Celibe Boehm and Biswarup Mukhopadhyaya, JHEP 12 (2012) 076: This work explored aspects of light neutralinos whose candidature as dark matter candidates would require their annihilation into light stau-pairs. The study involved analysis of the relic density, and ended up predicting same-sign ditau and tritau signals at the LHC.

2. Shankha Banerjee, Geneviève Bélanger, Biswarup Mukhopadhyaya and Pasquale D. Serpico JHEP 07 (2016) 095: This study involved a minimal extension of the MSSM with right chiral neutrinos and sneutrinos, where the latter serve as superWIMP-type dark matter candidates, in the presence of a stau as the next-to lightest supersymmetric particle, and help the fulfilment of relic density requirement via freeze-in. We reached the rather striking conclusion that this possibility resuscitates the supergravity-based CMSSM scenario which is strongly disfavoured in the MSSM context.

3. Shankha Banerjee, Geneviève Bélanger, Avirup Ghosh and Biswarup Mukhopadhyaya, JHEP 09 (2018) 143: The situation mentioned in the previous work was further studied here with emphasis on the corresponding slepton spectra, and collider signals of the long-lived staus leading to charged tracks at LHC detectors.

Manoranjan Guchait

Flavour violating scalar top

$$\begin{aligned} \tilde{t}_1 &\rightarrow c\chi_1^0 \\ &\rightarrow bff'\chi_1^0. \end{aligned}$$

Final states are sensitive to the mass difference

$$pp \rightarrow \tilde{t}_1\tilde{t}_1^* \rightarrow c\bar{c} + 2\chi_1^0 \rightarrow 2\text{jets} + \cancel{p}_T,$$

$$pp \rightarrow \tilde{t}_1\tilde{t}_1^* \rightarrow b\bar{b} + 2\chi_1^0 + 2ff'.$$

Sensitive to Dark Matter Co-annihilation process

In this analysis, Genevive's inputs significantly improved the quality and impact of the paper.

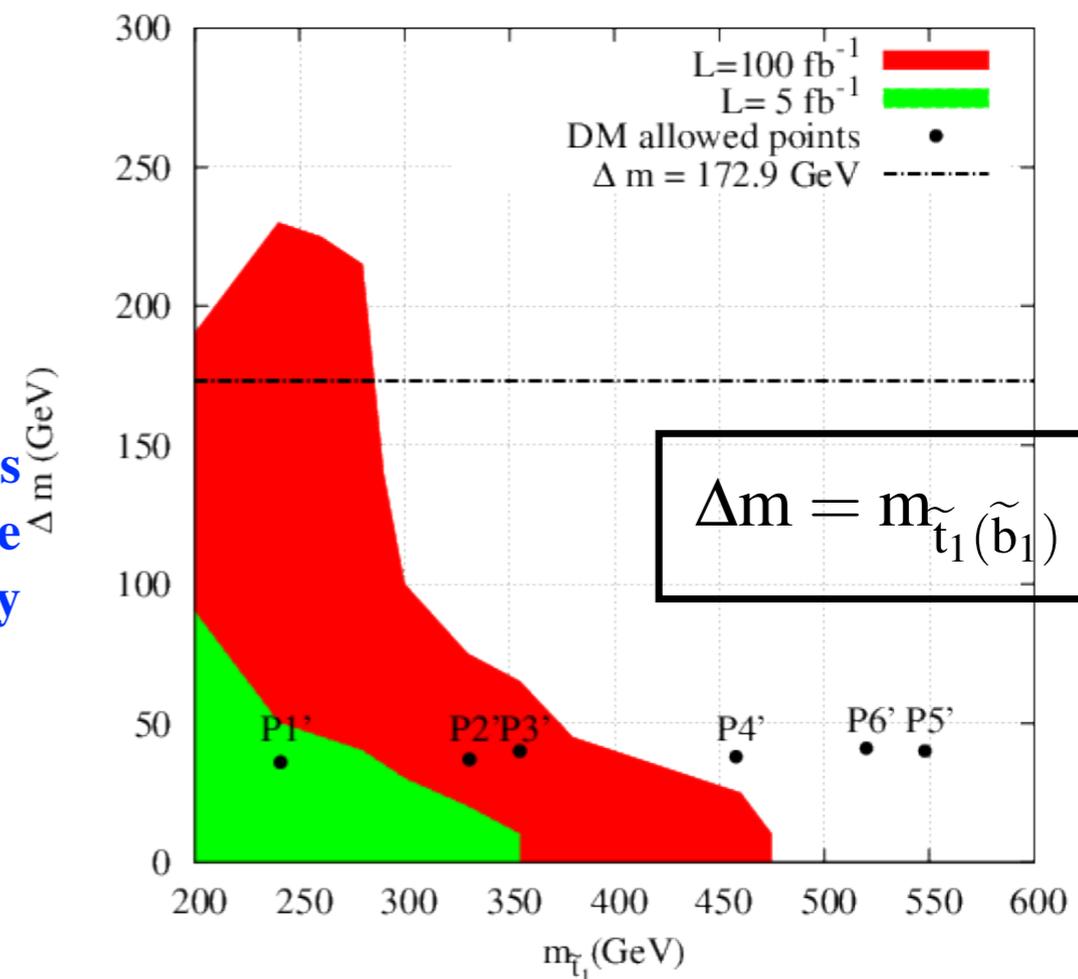
I enjoyed collaboration, discussion with her in Les Houches, at LAPTH... She visited us whenever we called for lectures/talks on DM....She is very very friendly....always with smiling face...

I believe she will enjoy her next chapter of life.

All the best to her and happy new beginnings..

**G. Belanger, D. Ghosh, R.M.Godbole,
M. Guchait, D. Sengupta
1308.6484, PRD 2014**

**CMSSM and PMSSM parameters
are constrained**



Message from Dr. Rahool K. Barman (Tokyo Univ, IPMU)

- I feel fortunate to have worked with Genevieve since my early PhD days (2016). Through our collaboration, I learnt a great deal about SUSY models and dark matter phenomenology. Beyond the physics, I learnt from Genevieve how to develop and present ideas with clarity and concision – something that has played a crucial role in my everyday work.

Light neutralino dark matter in the MSSM and NMSSM

Invisible decay of the Higgs boson in the context of a thermal and nonthermal relic in MSSM #5

Rahool Kumar Barman (Bangalore, Indian Inst. Sci.), Genevieve Belanger (Annecy, LAPTH), Biplob Bhattacharjee (Bangalore, Indian Inst. Sci.), Rohini Godbole (Bangalore, Indian Inst. Sci.), Gaurav Mendiratta (Bangalore, Indian Inst. Sci. and Salk Inst. Biol. Studies) et al. (Mar 10, 2017)

Published in: *Phys.Rev.D* 95 (2017) 9, 095018 • e-Print: [1703.03838](#) [hep-ph]

Status of low mass LSP in SUSY #3

Rahool Kumar Barman (IACS, Kolkata), Genevieve Belanger (Annecy, LAPTH), Rohini M. Godbole (Bangalore, Indian Inst. Sci.) (Oct 22, 2020)

Published in: *Eur.Phys.J.ST* 229 (2020) 21, 3159-3185 • e-Print: [2010.11674](#) [hep-ph]

Current status of the light neutralino thermal dark matter in the phenomenological MSSM #1

Rahool Kumar Barman (Tokyo U., IPMU), Genevieve Bélanger (Annecy, LAPTH), Biplob Bhattacharjee (Bangalore, Indian Inst. Sci.), Rohini Godbole (Bangalore, Indian Inst. Sci.), Rhitaja Sengupta (U. Bonn, Phys. Inst., BCTP) (Feb 12, 2024)

Published in: *Phys.Rev.D* 111 (2025) 1, 015014 • e-Print: [2402.07991](#) [hep-ph]

Current bounds and future prospects of light neutralino dark matter in NMSSM #4

Rahool Kumar Barman (IACS, Kolkata and Bangalore, Indian Inst. Sci.), Genevieve Bélanger (Annecy, LAPTH), Biplob Bhattacharjee (Bangalore, Indian Inst. Sci.), Rohini Godbole (Bangalore, Indian Inst. Sci.), Dipan Sengupta (UC, San Diego) et al. (Jun 14, 2020)

Published in: *Phys.Rev.D* 103 (2021) 1, 015029 • e-Print: [2006.07854](#) [hep-ph]

Is Light Neutralino Thermal Dark Matter in the Phenomenological Minimal Supersymmetric Standard Model Ruled Out? #2

Rahool Kumar Barman (Oklahoma State U.), Geneviève Bélanger (Annecy, LAPTH), Biplob Bhattacharjee (Bangalore, Indian Inst. Sci.), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Rhitaja Sengupta (Bangalore, Indian Inst. Sci.) (Jul 13, 2022)

Published in: *Phys.Rev.Lett.* 131 (2023) 1, 011802 • e-Print: [2207.06238](#) [hep-ph]

Genevieve, congratulations on your fantastic achievements, and thank you for your mentorship and support.
Wishing you a wonderful retirement!

Message from Dr. Sarif Khan (CAU, Seoul)

Sarif khan: My interaction with Prof. Genevieve Belanger

- ❖ micrOMEGAs is one of the important tool among the DM community.
- ❖ My PhD thesis was on DM, so I have sent many email for help on mirOMEGAs to Prof Genevieve.
- ❖ I first met at the IMHEP 2019 January at IOP, Bhubaneswar, India.
- ❖ I got the opportunity to work on some aspects of dark matter with Prof Genevieve after IMHEP.



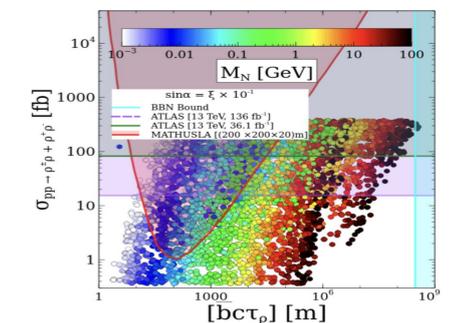
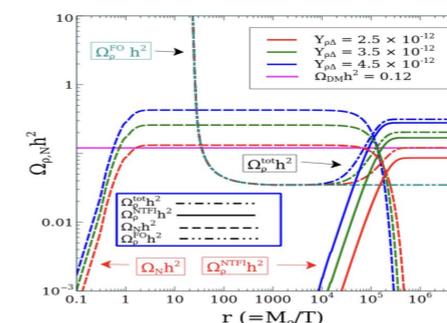
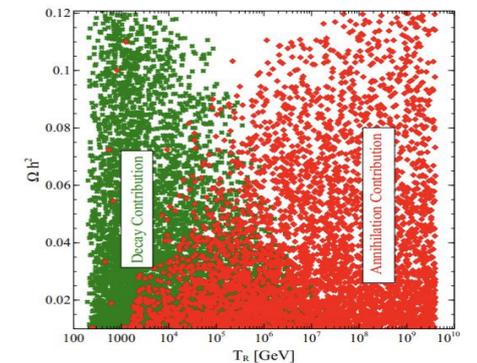
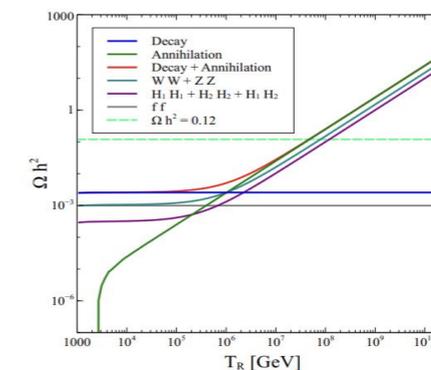
International Meeting on High Energy Physics - 2019
IOP, Bhubaneswar, India

Work done:

1. Right handed neutrinos, TeV scale BSM neutral Higgs boson, and FIMP dark matter in an EFT framework, G. Belanger, **S. Khan**, R. Padhan, M. Mitra and S. Shil, Phys. Rev. D 104, no.5, 055047 (2021).
2. WIMP and FIMP dark matter in singlet-triplet fermionic model, G. Belanger, S. Choubey, R. M. Godbole, **S. Khan**, M. Mitra and A. Roy, JHEP 11, 133 (2022).

Academic visit to Prof Genevieve:

LAPTH, Annecy, France, 03 October - 14 October, 2022



Message from Dr. Rhitaja Sengupta (Univ. Bonn, Germany)

An inspiration...

My visit to LAPTh Annecy in 2022

I just spent two and a half days there.

- In that short time, the things I learned and the work I accomplished made the experience unforgettable.
- It was a pleasure to work with her so closely.
- Apart from learning about specific topics, I was deeply inspired by her research style.

It's refreshing to see her enthusiasm on a new plot or result every time.

For a young researcher like me, she is truly an inspiration.

I wish you all the very best Geneviève for the next chapter in your life.

I hope we continue working together and I keep having more opportunities to learn from you.

Celebrating remarkable career of Prof. Geneviève Bélanger

Pioneer in Dark Matter Phenomenology

“Thank you for your guidance, wisdom, and collaboration. Working with you has been both a privilege and a pleasure. Your vision in building micrOMEGAs and your deep insight into dark matter physics have shaped how HEP community explores the Dark Sector. Beyond the science, your kindness and encouragement have made collaboration with you truly special. I wish you a future filled with continued-curiosity, peace, and new adventures.”



Rojalin Padhan CAU, Seoul

I am deeply grateful for your contributions to my research, your rigorous feedback and suggestions, and your continued support in my academic journey!!

Illuminating scalar dark matter co-scattering in EFT with monophoton signatures #1

Geneviève Bélanger (Annecy, LAPTH), Manimala Mitra (Bhubaneswar, Inst. Phys. and HBNI, Mumbai), Rojalin Padhan (Chung-Ang U.), Abhishek Roy (CQUeST, Seoul and Sogang U.) (Aug 8, 2025)

Published in: *JHEP* 01 (2026) 007 • e-Print: [2508.06040](#) [hep-ph]

[pdf](#) [DOI](#) [cite](#) [claim](#) [reference search](#) [2 citations](#)

Revisiting the decoupling limit of the Georgi-Machacek model with a scalar singlet #2

Geneviève Bélanger (Annecy, LAPTH), Juhi Dutta (Oklahoma U.), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Sabine Kraml (LPSC, Grenoble), Manimala Mitra (Bhubaneswar, Inst. Phys. and HBNI, Mumbai) et al. (May 28, 2024)

Published in: *JHEP* 10 (2024) 058, *JHEP* 2410 (2024) 058 • e-Print: [2405.18332](#) [hep-ph]

[pdf](#) [DOI](#) [cite](#) [claim](#) [reference search](#) [6 citations](#)

Right handed neutrinos, TeV scale BSM neutral Higgs boson, and FIMP dark matter in an EFT framework #3

Geneviève Bélanger (Annecy, LAPTH), Sarif Khan (Gottingen U.), Rojalin Padhan (Bhubaneswar, Inst. Phys. and Bhabha Atomic Res. Ctr.), Manimala Mitra (Bhubaneswar, Inst. Phys. and Bhabha Atomic Res. Ctr.), Sujay Shil (Bhubaneswar, Inst. Phys. and Bhabha Atomic Res. Ctr.) (Apr 9, 2021)

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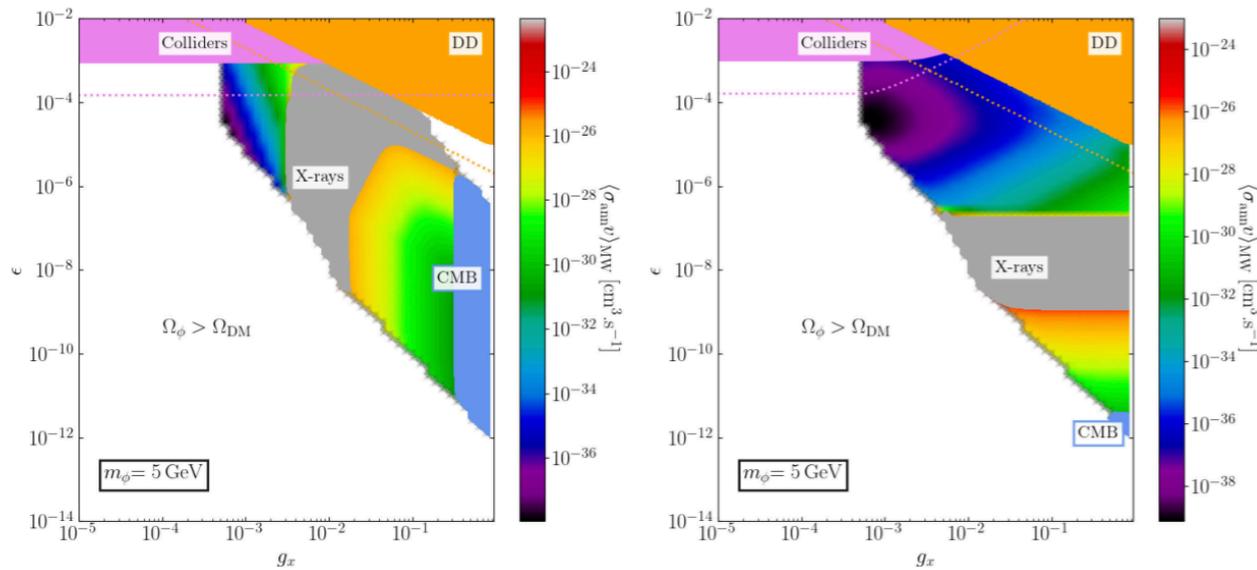
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Best wishes for many more years of active engagement in exploring Dark Matter

Message from Dr. Sreemanti Chakraborti (IPPP, Durham Univ, UK)

Further on...



Exploring the rich phenomenology

of sub-electroweak scale dark sectors

PHYSICAL REVIEW D **110**, 023039 (2024)

GeV-scale dark matter with *p*-wave Breit-Wigner enhanced annihilation

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Regular Article

Feebly interacting dark matter

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Message from Dr. Juhi Dutta (NTU, Taiwan)

"I first met Prof. Bélanger in person in Annecy during my visit to Grenoble in 2017 and have benefited greatly from her work on micrOMEGAs and her papers throughout my research. It has been a privilege to work with and learn from her. Her deep knowledge, enthusiasm, and cheerful spirit have left a mark on me and continue to inspire me!

Congratulations on your illustrious and inspiring research career. I wish you many more years of happiness, good health, and fulfillment in all your future endeavours!"

Message from Dr. Sujay Shil (U. Sao Paulo, Brazil)

"Congratulations to Geneviève on the amazing journey. I had the opportunity to collaborate with her and briefly visit her, and I greatly appreciated her professionalism and supportive approach. I sincerely thank her for her important contributions to research and mentoring, and I wish her all the very best for the years ahead".

Message from Dr. Abhishek Roy (CQUest, Seoul)

I can't thank you enough for your contributions to my research, your feedback, and your constant support throughout my academic pursuit.

Illuminating scalar dark matter co-scattering in EFT with monophoton signatures #2

Geneviève Bélanger (Annecy, LAPTH), Manimala Mitra (Bhubaneswar, Inst. Phys. and HBNI, Mumbai), Rojalin Padhan (Chung-Ang U.), Abhishek Roy (CQUeST, Seoul and Sogang U.) (Aug 8, 2025)

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pdf DOI cite claim reference search 2 citations

Revisiting the decoupling limit of the Georgi-Machacek model with a scalar singlet #5

Geneviève Bélanger (Annecy, LAPTH), Juhi Dutta (Oklahoma U.), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Sabine Kraml (LPSC, Grenoble), Manimala Mitra (Bhubaneswar, Inst. Phys. and HBNI, Mumbai) et al. (May 28, 2024)

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pdf DOI cite claim reference search 6 citations

WIMP and FIMP dark matter in singlet-triplet fermionic model #7

Geneviève Bélanger (Annecy, LAPTH), Sandhya Choubey (Royal Inst. Tech., Stockholm and Stockholm U.), Rohini M. Godbole (Bangalore, Indian Inst. Sci.), Sarif Khan (Gottingen U.), Manimala Mitra (Bhubaneswar, Inst. Phys. and HBNI, Mumbai) et al. (Aug 1, 2022)

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Abhishek Roy,
CQUeST, Seoul

Working with you has been a privilege and a pleasure, and I look forward to learning from you and continuing our collaboration.

Une petite phrase, de grandes randonnées

I started hiking in Europe and slowly fell in love with the mountains. One of the key inspirations was what *Geneviève* had said. I hiked so many trails, and it all started from that one small comment. *A small inspiration that I never really told Geneviève about before.*

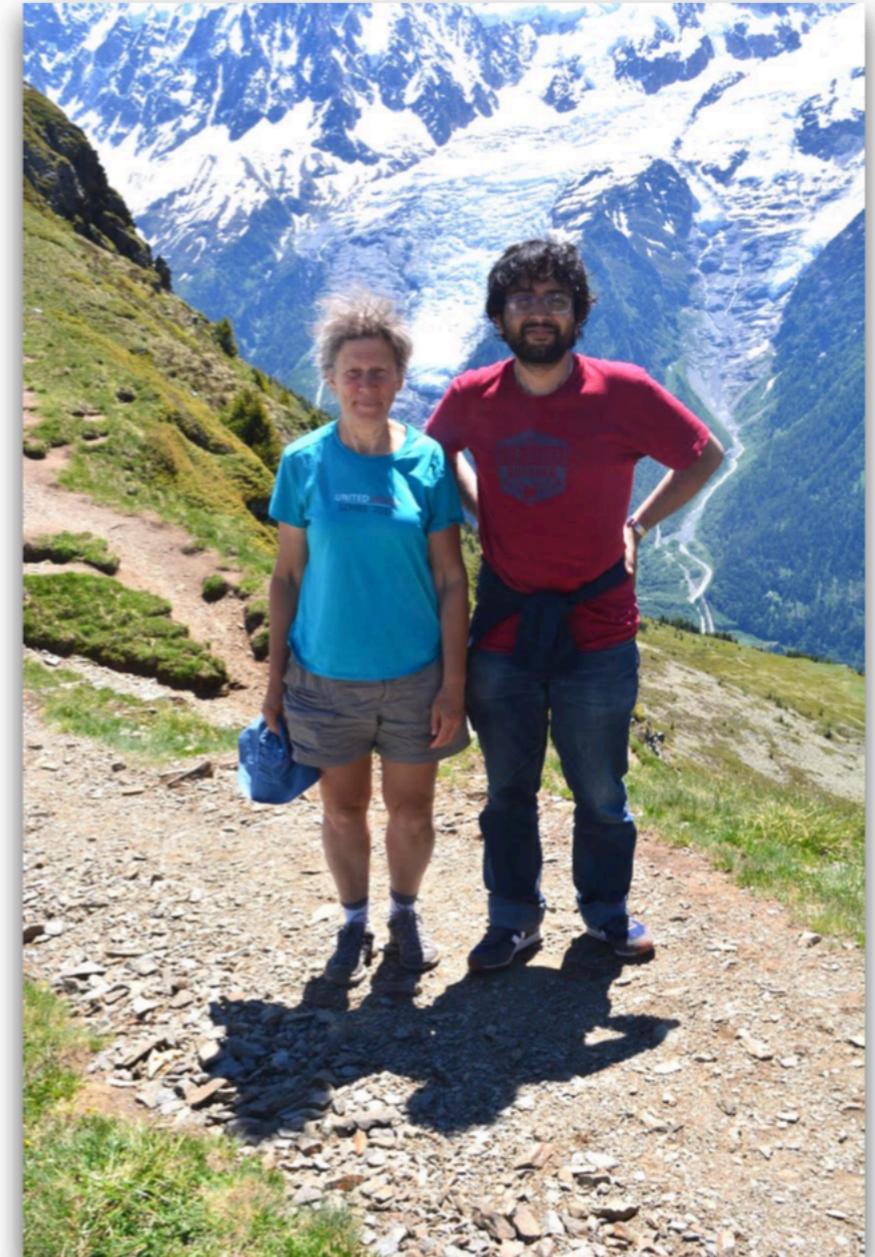
I began with a small hike in Semnoz. Then a much more challenging one in Schladming, Austria, with my LAPTh buddies. After that, it just kept going.

I miss hiking a lot since I left Europe. In my last five months there, when most of my friends had already left the region, I still went hiking almost every weekend, often alone.

Geneviève, you have not only inspired me to do good physics, but also to find peace in the mountains.

Here's a photo from a hike near Les Houches, with *Geneviève*, looking out for the novice hikers.

Oh, and I finally made it to *Geneviève's Wall of Fame!*



Working with Geneviève

- We had a very simple idea for dealing with less simplified dark matter models— to think like experimentalists and define Lagrangian depending on relevant topologies
- This gave us a nice handle on to preserve complementarity between Direct detection and LHC, and focus on the topologies which could be probed better. (JHEP **07**, 111 (2022))
- We are working on model independent limits for sub-GeV dark matter currently.

Thanks Geneviève for all the physics training, and for being so nice and kind — Disha Bhatia

An inspiration, and an amazing collaborator and a friend to me.



@ Geneviève

We thank you so much for your extraordinary association with the high-energy physics community in India. You have shaped the research directions and careers of many of us including students, postdoctoral researchers, and faculties as well. We hope this marks not an end, but a new beginning, and we very much look forward to your continued engagement with the community.



2019 IMHEP, IOP

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THANK YOU