# Hi Chris and Tim,

As the group leader of the LBNL ATLAS group, I think we have a number of young physicists who could play valuable roles in the Snowmass 2021 process.

## Staff members:

1) Simone Pagan Griso, who has been Upgrade Physics Convenor in ATLAS for more than two years, and as such, he played a major role in the CERN Yellow Reports on HL-LHC and beyond for the EuroStrategy process. I would like to nominate him either as one of the overall Energy Frontier convenors, or as a topical convenor in SUSY, or BSM, or LLP. He has an outstanding grasp of the energy frontier physics program.

2) Heather Gray, who is a young faculty member at UC Berkeley, who has spent many years working on Higgs physics in ATLAS, as well as tracking, and has contributed to many CERN-based energy frontier studies in the context of FCC(hh). I would like to nominate her as a topical convenor in the Higgs area.

3) Haichen Wang, who is a young faculty member at UC Berkeley, who has spent many years working on Higgs physics in ATLAS, and has played leading roles in H->gg and ttH analyses. I would like to nominate him as a topical convenor in the Higgs area.

4) Elisabetta Pianori, who is a permanent staff member at LBNL, who has spent many years working on Higgs physics in ATLAS, and is now wokring on the innermost Pixel layer of the upgraded ATLAS tracker. I would like to nominate him as a topical convenor in the Higgs area.

5) Zach Marshall who is a young staff member at LBNL, who has spent many years working on Higgs physics in ATLAS, and is an expert in the areas of simulation and computing as well. I would like to nominate him as a topical convenor in the SUSY area.

6) Timon Heim who is a young staff member at LBNL, and is an expert in hardware and firmware in the DAQ area, as well as Pixel electronics. He is playing a major role in the new Pixel tracker for the ATLAS upgrade. I would like to nominate him as a topical convenor in the Instrumentation Frontier area on either Trigger/DAQ or Tracker electronics and design.

# Postdocs:

1) Aleksandra Dimitrievska is a very impressive postdoc who did her thesis and played a leading role in the ATLAS 7 TeV W Mass analysis, and continues to work on electroweak physics in ATLAS while contributing to the tracker upgrade of ATLAS. I would like to nominate her as a topical convenor in the Electroweak area.

2) Karol Krizka is another very impressive postdoc who has been working on boosted Higgs decays to bb to measure the high-PT tail of the Higgs PT distribution. He is also playing a key role in the tracker upgrade for ATLAS. I would like to nominate him as a topical convenor in the Higgs area.

I believe that all of these talented young physicists could contribute greatly to the Snowmass

2021 organiztion which you are building...

Best regards,

Kevin Einsweiler

\_\_\_\_\_

Kevin Einsweiler

--

LBNL Physics Division, 50B 6243 CERN EP Division One Cyclotron Road Berkeley, CA 94720 USA

Bat 40 3-C02 Esplanade des Particules 1 1217 Meyrin, Switzerland

EMail: Einsweiler@lbl.gov or Kevin.Einsweiler@cern.ch

LBNL Office: +1 510 486 5755 US Cell: +1 510 640 2687 CERN Office: +41 22 767 2903 CERN Cell: +41 75 411 3484 (16-3484 at CERN)

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### Dear Kevin

Thanks for these nominations, which we will pass on to the next stage of the process. Please note that Chris and I are not empowered to accept nominations for the Instrumentation Frontier.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 9, 2019, at 7:49 AM, Kevin Einsweiler <<u>k einsweiler@lbl.gov</u>> wrote:

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Kevin Einsweiler

LBNL Physics Division, 50B 6243 One Cyclotron Road Berkeley, CA 94720 USA

CERN EP Division Bat 40 3-C02 Esplanade des Particules 1 1217 Meyrin, Switzerland

EMail: Einsweiler@lbl.gov or Kevin.Einsweiler@cern.ch

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LBNL Office: +1 510 486 5755 US Cell: +1 510 640 2687 CERN Office: +41 22 767 2903 CERN Cell: +41 75 411 3484 (16-3484 at CERN)

\_\_\_\_\_

### Dear Tim,

Thanks for the quick response - I will submit that nomination under the appropriate frontier - I do understand, but of course the instrumentation for the energy frontier is much different than that for other frontiers...

Kevin

On Sat, Nov 9, 2019 at 8:35 AM Timothy Maurice Paul Tait <<u>ttait@uci.edu</u>> wrote: Dear Kevin

Thanks for these nominations, which we will pass on to the next stage of the process. Please note that Chris and I are not empowered to accept nominations for the Instrumentation Frontier.

Best wishes Tim

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Hi Christopher and Tim,

I'm writing to nominate Dr. Matt LeBlanc, a postdoctoral researcher at the University of Arizona, as a subgroup convener for the Energy Frontier QCD group of the "Physics Drivers" sector of the Snowmass 2021 process.

Matt is a leading jet expert in the ATLAS collaboration. He is currently serving as the coconvener of both the jet calibration and resolution subgroup and the Jet definitions and Monte Carlo calibration subgroup inside ATLAS, as well as a contributing author to many ATLAS publications on hadronic physics. In addition, Matt has also been leading recent work into differential cross-section measurements of jet substructure (c.f. recent talk at DPF 2019).

Please let me know if you have any questions or if I can provide you with additional information related to the nomination.

Best, Matthew

--

Matthew Feickert University of Illinois at Urbana-Champaign



# Hi Matthew

Thank you for this nomination. We will be sure to pass it along to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 10, 2019, at 5:01 AM, Matthew Feickert <<u>matthew.feickert@cern.ch</u>> wrote:

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Please let me know if you have any questions or if I can provide you with additional information related to the nomination.

Best, Matthew

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Matthew Feickert University of Illinois at Urbana-Champaign



### Hi Simon

I'm sure the DPF executive committee can navigate your institution, so I wouldn't worry about that for now. However: which topic are you looking to volunteer for? Also: Stefano is collecting names for the cosmic frontier, and I am for the energy frontier...

Best wishes Tim

-----

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 8, 2019, at 5:42 PM, Simon Knapen <<u>knapen@ias.edu</u>> wrote:

Hi Tim, hi Stefano,

I heard you are collecting nominations for conveners for the snowmass process for next year. I would be interested.

There is one caveat though, as I may be moving to Geneva in the Spring, and presumably you want people who are based in the US. This has not yet been decided however.

Best regards,

Simon

#### Hi Tim,

I would be interested in things like dark matter direct detection, (accelerator) searches for light hidden sectors and exotic searches at the LHC.

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Simon

On 11/8/19 8:04 PM, Timothy Maurice Paul Tait wrote: Hi Simon

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Thank you for volunteering. We will be sure to pass it along to the DPF executive committee for the next stage of the selection process.

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Best regards,

Simon

Subject: nomination of Pavel Nadolsky for a topical group leader in the Energy Frontier

Date: November 10, 2019 at 10:28 AM

To: chill@physics.osu.edu, tmptait@gmail.com

Hi Chris, Tim. I would like to nominate Pavel Nadolsky to be a topical group leader in the Energy Frontier, covering QCD

and EW physics. As you know, Pavel is currently the theory spokesman for the CTEQ collaboration and perhaps the key

member of the CTEQ PDF fitting group. He has shown great leadership in his role as spokesman and has gone out of his way to promote

younger physicists, for example through his guidance of the Wu Ki Tung fellowship committee (which now has a \$5K award). He has a very

high profile in the world QCD community. He is an expert on both fixed order and resummed calculations and his involvement

with PDF fitting means that he has an excellent understanding of experimental physics, especially the source of systematic errors

and what experimenters are trying to do to reduce them. I think this expertise fits in well with what you, and the steering committee, would like

to have for this position. Besides, he got his Ph.D from MSU, known for its production of excellent theorists.

Is this enough, or should I make it more formal?

regards, Joey



# Hi Joey

Thank you for this nomination. We will be sure to pass it along to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 10, 2019, at 10:28 AM, Huston, Joey <<u>huston@msu.edu</u>> wrote:

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# Dear Tim and Chris,

I am excited about getting involved with the Snowmass process and would be happy to serve as a convener for a topic or subtopic at the energy frontier. My background is in QCD measurements and BSM searches. In particular, I think some key items are missing from the twiki (\*) including:

- (1) Model independent searches (under BSM)
- (2) Monte Carlo Development (under QCD)
- (3) Emergent quantum pheno (under QCD)

While it is important that we continue our modeldependent searches (for SUSY, etc.), I see a need for a growing effort in model independent searches. The traditional model independent searches from ATLAS and CMS ("general search" and "MUSIC", respectively) are not sufficient, as they are strongly based on simulation. There is a growing effort to design and implement model independent (including background model independent!) methods based on modern machine learning and I think this is critical for the future This actually serves as the basis of of our field. the community challenge LHC Olympics 2020: https://indico.cern.ch/event/809820/page/16782lhcolympics2020.

For (2), MC development is critical to the success of our field and it is largely under-appreciated. The US used to have a much strong program in this area, but now we only have a limited program. While it is important to provide support for the collaborations, a much bigger need is an effort to improve the accuracy of generators by incorporating information from experimental measurements and the latest in QCD calculations. There has been a rich connection between this work and the jet substructure community, leading to many fruitful advances from collaboration between theorists and experimentalists. This was partially covered in the talk I gave recently as the jet co-convener at Les Houches: https://phystev.cnrs.fr/wiki/\_media/2019:jetsleshouche s2019\_summary\_nachman.pdf.

The idea of (3) is to use the energy frontier to study the emergent quantum properties of the strong force in its own right. Often this work is labeled as "nuclear physics" and grouped in with heavy ions, but I would distinguish "collective effects" which sort of belongs to heavy ions and "vacuum effects". Maybe the "heavy ion" bullet could be relabeled to collective effects in small and large systems. Otherwise, collective effects could be added to the list of things I'm thinking about for "precision jet substructure and beyond". I've lead a serious of recent measurements in this area in ATLAS and there is a very active community around the BOOST workshop series researching in this area, combining insight from theorists and experimentalists.

Please let me know if you would like any further information. I could send publication lists, talks, etc. as is useful. Thank you for your consideration!

Sincerely, Ben

(\*) https://snowmass-wiki.fnal.gov/wiki/Energy



# Hi Ben

Thank you for these nominations and suggestions. We will be sure to pass it along to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 10, 2019, at 11:07 AM, Benjamin Nachman
<bpnachman@lbl.gov> wrote:

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Dear Chris and Tim,

Attached please find my nomination of Prof. Meenaskshi Narain (Brown) as a convener of the "Energy Frontier" group for Snowmass2021.

Best Regards,

Sekhar

R. Sekhar Chivukula

Distinguished Professor of Physics UC San Diego <u>sekhar@ucsd.edu</u> (858)-246-3046 Pronunciation of Name: <u>https://goo.gl/wXEVMV</u> he/him/his

Department of Physics Mayer Hall Addition, Room 5601 9500 Gilman Drive, #0319 La Jolla, CA 92093-0319

### UNIVERSITY OF CALIFORNIA, SAN DIEGO

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9500 GILMAN DRIVE #0319 LA JOLLA, CALIFORNIA 92093-0319

UCSD

DEPARTMENT OF PHYSICS (858)-246-3056 seikhar@ucsd.edu

November 10, 2019

Dear Colleagues,

I am writing to nominate **Prof. Meenakshi Narain** (Brown University) to serve as a convener of the "Energy Frontier" group of the upcoming Snowmass2021 community planning process. Prof. Narain has outstanding qualifications to serve in this role and is an exemplary contributor to the high-energy physics community. She is a member of the CMS collaboration and chairs the US CMS Collaboration Board, serves as a regional representative from the U.S. in the Management Board of the CMS Experiment, serves as a member of HEPAP, and served as the coordinator of the LHC Physics Center at Fermilab (from 2013-16). In addition to the

numerous roles noted above, she was a founding co-chair of both the CMS Diversity Office and the USCMS Diversity and Inclusion Committee.

Prof. Narain's leadership in Energy Frontier Physics is particularly notable. She served as a co-convener of the "physics and performance studies" group preparing for the CMS High Luminosity LHC (HL-LHC) program, leading a study which covered all aspects of the program and resulted in a large number (of order 40) sensitivity projections which became part of the CERN "Yellow Report" for HL-LHC physics. She also contributed to the "Future Colliders" section of the APS/DPF whitepaper submitted to the European Strategy group in 2018. Previously, she was a co-convener of the "New Particles" subgroup of the "Path Beyond the Standard Model" group in the High Energy Frontier for Snowmass 2013. As part of this previous Snowmass process, she also led the LPC-based "SM backgrounds" group which played an essential role in understand the reach of 14, 33, and 100 TeV pp colliders.

Finally, in addition to the qualifications outlined above, I would highlight a personal observation based on my collaborations and interactions with her: Meenakshi Narain gets things done and gets them done well. Snowmass2021 is crucial to the future of U.S. high-energy physics in general, and for U.S. participation in energy-frontier physics in particular. I can think of no better individual to serve as a co-convener of this important effort than Prof. Narain.

Best Regards,

RILL Cell

R. Sekhar Chivukula Distinguished Professor UC San Diego Department of Physics

From: Tim Tait ttait@uci.edu
Subject: Re: Snowmass Convener Nomination
Date: November 11, 2019 at 11:00 AM
To: R Sekhar Chivukula rschivukula@physics.ucsd.edu
Cc: Chris Hill chill@physics.osu.edu



#### Hi Sekhar

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 10, 2019, at 12:43 PM, R Sekhar Chivukula <<u>rschivukula@physics.ucsd.edu</u>> wrote:

Dear Chris and Tim,

Attached please find my nomination of Prof. Meenaskshi Narain (Brown) as a convener of the "Energy Frontier" group for Snowmass2021.

Best Regards,

Sekhar

R. Sekhar Chivukula Distinguished Professor of Physics UC San Diego <u>sekhar@ucsd.edu</u> (858)-246-3046 Pronunciation of Name: <u>https://goo.gl/wXEVMV</u> he/him/his

Department of Physics Mayer Hall Addition, Room 5601 9500 Gilman Drive, #0319 La Jolla, CA 92093-0319

-----

<narain-snowmass.pdf>



Hi Tao

Thanks, she did send it to us!

Best wishes

Tim

On Nov 9, 2019, at 4:17 AM, Han, Tao <<u>than@pitt.edu</u>> wrote:

Hi Chris and Tim, I am passing on a nomination, if you have not received the same. This has my endorsement as well. Thank you! Tao

Begin forwarded message:

From: "PASCOLI, SILVIA" <<u>silvia.pascoli@durham.ac.uk</u>> Subject: Snow mass convener nomination Date: November 9, 2019 at 4:58:08 AM EST To: "Han, Tao" <<u>than@pitt.edu</u>>

Dear Tao,

I would like to nominate Prof. Meenakshi Narain as convener of the "Energy Frontier" group of the upcoming DPF Snowmass Community planning process.

**Best regards** 

Silvia

Tao HanPhone: (412) 624-2763PITT PACC (<a href="http://www.pittpacc.pitt.edu">http://www.pittpacc.pitt.edu</a>)Dept. of Physics & AstronomyFax: (412) 648-9939Univ. of PittsburghOffice: 420B Allen Hall3941 O'Hara Street,Pittsburgh, PA 15260

From: Han, Tao than@pitt.edu
Subject: Re: Snow mass convener nomination
Date: November 10, 2019 at 3:53 PM
To: Hill, Christopher chill@physics.osu.edu, Tim Tait tmptait@gmail.com

Dear Tim and Chris, One more thought: I'd like to nominate Sekhar of frontier. Sekhar is an accomplished theorist, with great of leadership. If not selected for the energy frontier, I would like BSM physics working group. Thank you! Tao		
On Nov 9, 2019, at 7:17 AM, Han, Tao < <u>than</u>	<u> ⊉pitt.edu</u> > wrote:	
Hi Chris and Tim, I am passing on a nomination, if you have not This has my endorsement as well. Thank you! Tao	received the same.	
Begin forwarded message:		
From: "PASCOLI, SILVIA" < <u>silvia.pascoli@</u> Subject: Snow mass convener nominat Date: November 9, 2019 at 4:58:08 AM E To: "Han, Tao" < <u>than@pitt.edu</u> >	ion	
Dear Tao,		
I would like to nominate Prof. Meenakshi Narain as convener of the "Energy Frontier" group of the upcoming DPF Snowmass Community planning process.		
Best regards		
Silvia		
Tao Han Phone: (41) PITT PACC ( <u>http://www.pittpacc.pitt.edu</u> ) Dept. of Physics & Astronomy Fax: (412) Univ. of Pittsburgh Office: 4200 3941 O'Hara Street, Pittsburgh	3 Allen Hall , PA 15260	

Tao Han PITT PACC ( <u>http://www.pittpacc</u>	Phone: (412) 624-2763 c.pitt.edu)
Dept. of Physics & Astronomy	Fax: (412) 648-9939
Univ. of Pittsburgh	Office: 420B Allen Hall
3941 O'Hara Street,	Pittsburgh, PA 15260
, 	<u> </u>



Hi Tao,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 10, 2019, at 3:52 PM, Han, Tao <<u>than@pitt.edu</u>> wrote:

Dear Tim and Chris, One more thought: I'd like to nominate Sekhar Chivukula as the theory convener for the energy frontier. Sekhar is an accomplished theorist, with great experiences in community and administration leadership. If not selected for the energy frontier, I would like to consider him for a group convener for the BSM physics working group. Thank you! Tao On Nov 9, 2019, at 7:17 AM, Han, Tao <<u>than@pitt.edu</u>> wrote: Hi Chris and Tim, I am passing on a nomination, if you have not received the same. This has my endorsement as well. Thank you! Tao

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From: "PASCOLI, SILVIA" <<u>silvia.pascoli@durham.ac.uk</u>> Subject: Snow mass convener nomination Date: November 9, 2019 at 4:58:08 AM EST To: "Han, Tao" <<u>than@pitt.edu</u>>

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Tao HanPhone: (412) 624-2763PITT PACC (http://www.pittpacc.pitt.edu)Dept. of Physics & AstronomyUniv. of Pittsburgh3941 O'Hara Street,Pittsburgh, PA 15260Tao HanPhone: (412) 624-2763PITT PACC (http://www.pittpacc.pitt.edu)Dept. of Physics & AstronomyPax:(412) 624-2763PITT PACC (http://www.pittpacc.pitt.edu)Dept. of Physics & AstronomyFax:(412) 648-9939Univ. of PittsburghOffice: 420B Allen Hall3941 O'Hara Street,Pittsburgh, PA 15260

Dear Energy Frontier contacts,

I would like to nominate myself for co-convener of the subtopic: "BSM: SUSY and MET".

I am an assistant professor at the University of Minnesota and have been a member of the CMS collaboration since 2010.

Since I first joined CMS, I have been working on a variety of SUSY searches. As an example, I have lead the early Run 2 top squark search in the hadronic final state, using top quark tagging and large MET, and was the editor of the publication as well.

More recently, I have initiated a search for top squarks in final states without large MET, e.g. from RPV or Stealth SUSY, in order to further close gaps in our search coverage.

I am very excited about joining the Snowmass process, to help decide where our field will be headed in the future. I have leadership experience both in physics analysis, and in detector upgrades, leading teams of up to 40 people.

Best regards, Nadja Strobbe



## Hi Nadja,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes

Tim

On Nov 11, 2019, at 1:27 AM, Nadja Strobbe
<nstrobbe@umn.edu> wrote:

Dear Energy Frontier contacts,

I would like to nominate myself for co-convener of the subtopic: "BSM: SUSY and MET".

I am an assistant professor at the University of Minnesota and have been a member of the CMS collaboration since 2010.

Since I first joined CMS, I have been working on a variety of SUSY searches. As an example, I have lead the early Run 2 top squark search in the hadronic final state, using top quark tagging and large MET, and was the editor of the publication as well. More recently, I have initiated a search for top squarks in final states without large MET, e.g. from RPV or Stealth SUSY, in order to further close gaps in our search coverage.

I am very excited about joining the Snowmass process, to help decide where our field will be headed in the future. I have leadership experience both in physics analysis, and in detector upgrades, leading teams of up to 40 people. Best regards, Nadja Strobbe

## Hi Chris and Tim,

Here I am writing again, and this time I am finally reading the instructions and put the right subject header in (or something like it).

I write in support of Meenakshi Narain, who has expressed interest in the leadership of the Energy Frontier. Meenakshi is tireless! She has experience with riding herd on large groups of physicists and will surely be capable of organizing this piece of the Snowmass study. Meenakshi led a group within Energy Frontier for the 2013 Snowmass, so she knows her way around. She has worked across many areas of collider physics and has plenty of knowledge that she would bring to the job.

One question one could (or should) ask is about her other commitments...she is US CMS Collaboration Board chair (doing a good job of that too) and I think she wants to run for another term. Apparently she thinks she can hold down both of these at once, but it would be worth asking her directly about. Still, she's a good candidate for this position. Thanks, best wishes.

Ken



Hi Ken,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 11, 2019, at 9:01 AM, Ken Bloom <<u>kenbloom@unl.edu</u>> wrote:

Hi Chris and Tim,

Here I am writing again, and this time I am finally reading the instructions and put the right subject header in (or something like it).

I write in support of Meenakshi Narain, who has expressed interest in the leadership of the Energy Frontier. Meenakshi is tireless! She has experience with riding herd on large groups of physicists and will surely be capable of organizing this piece of the Snowmass study. Meenakshi led a group within Energy Frontier for the 2013 Snowmass, so she knows her way around. She has worked across many areas of collider physics and has plenty of knowledge that she would bring to the job.

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Ken

Dear Christopher and Tim,

I have another nomination for you – this time a junior staff physicist who is an experimentalist with ATLAS, The individual I would like to nominate is Walter Hopkins (whopkins@anl.gov) who joined the ATLAS group as an Assistant Physicist in September 2018. I think he would be a great subgroup convener for BSM: SUSY and MET. Below I give some background on Walter (some of this is based on knowledge I have as his – now former – group leader).

Walter has been working on SUSY searches since he joined ATLAS as a postdoc at the University of Oregon in 2013. He has focused on searching for SUSY in the all-hadronic ttbar+MET channel (stopOL search) and has been the ATLAS analysis contact for this analysis since 2014. His work resulted on several publications that not only probed SUSY models but also other models that result in top-pair production plus large MET. Walter gave a nice talk at the workshop at Fermilab last year "Jets and Machine Learning in ATLAS"

https://indico.cern.ch/event/745718/contributions/3146637/attachments/1752848/284076 3/ML4JetsATLAS.pdf. And he is open to exploring the edges and Walter also collaborated with theorist at the University of Oregon on studying splinters of uncovered regions in SUSY searches involving top pairs ("Magnifying the ATLAS stealth stop splinter: impact of spin correlations and finite widths", JHEP 1807 (2018) 142.

More recently, Walter has been working to modernize a GPU version of Madgraph, an event generator that is used for both ATLAS and CMS signal samples, to prepare Madgraph for future High Performance Computers. Improvements in Madgraph could help probe a large range of SUSY parameters in effort to explore uncovered regions of experimental observable space. I also co-opted Walter into the A21 Early Science proposal of which I am PI – taking advantage both of Walter's Madgraph efforts as well as his knowledge of machine Learning/deep learning

For this activity it is important to also consider the organization skills and Walter has them – in ATLAS he has been an analysis contact, and has organized a workshop (internal to ATLAS) on machine learning.

Walter is at the right stage in his career to play a strong role in the next Snowmass process, and I think he would do well especially is teamed with a more senior physicist. I hope you will consider him to help define the future.

Thanks

-Jimmy

Jimmy Proudfoot Argonne Distinguished Fellow, Fellow of the American Physical Society Argonne National Laboratory High Energy Physics Division Tel: +1 630 252 4357



Hi Jimmy,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 11, 2019, at 9:54 AM, Proudfoot, James <<u>proudfoot@anl.gov</u>> wrote:

Dear Christopher and Tim,

I have another nomination for you – this time a junior staff physicist who is an experimentalist with ATLAS, The individual I would like to nominate is Walter Hopkins (<u>whopkins@anl.gov</u>) who joined the ATLAS group as an Assistant Physicist in September 2018. I think he would be a great subgroup convener for BSM: SUSY and MET. Below I give some background on Walter (some of this is based on knowledge I have as his – now former – group leader).

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Walter is at the right stage in his career to play a strong role in the next Snowmass process, and I think he would do well especially is teamed with a more senior physicist.

I hope you will consider him to help define the future.

Thanks

-Jimmy

Jimmy Proudfoot Argonne Distinguished Fellow, Fellow of the American Physical Society Argonne National Laboratory High Energy Physics Division Tel: +1 630 252 4357

## Dear Chris and Tim;

I would like to nominate John Alison <johnalison@cmu.edu> as convener for the Snowmass Energy Frontier. He would certainly be a great convener if paired with a senior colleague. However, and most importantly, I want to have his name be included for the list of topical group leaders. In particular, he is an expert in di-Higgs production, a topic that will be a landmark search and hopefully measurement for the HL-LHC but is completely missing from the list of Snowmass topics. John has been working on di-Higg searches as an Atlas postdoc with the University of Chicago and now as Assistant Professor with CMU on CMS. He currently serves a co-convern of the b-jet trigger group on CMS working to prepare for di-Higgs searches with b-jets in Run 3 and in particular the HL-LHC. Chris, I also would like to nominate you as well as Meenakshi Narain as

Energy Frontier conveners. Both of you have the right seniority and esteem to represent our field. Please add another nomination to the

number of nominations for the both of you.

Best, Manfred.



Hi Manfred,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 11, 2019, at 10:46 AM, Manfred Paulini <<u>paulini@heps.phys.cmu.edu</u>> wrote:

Dear Chris and Tim;

I would like to nominate John Alison <johnalison@cmu.edu> as convener for the Snowmass Energy Frontier. He would certainly be a great convener if paired with a senior colleague. However, and most importantly, I want to have his name be included for the list of topical group leaders. In particular, he is an expert in di-Higgs production, a topic that will be a landmark search and hopefully measurement for the HL-LHC but is completely missing from the list of Snowmass topics.

John has been working on di-Higg searches as an Atlas postdoc with the University of Chicago and now as Assistant Professor with CMU on CMS. He currently serves a co-convern of the b-jet trigger group on CMS working to prepare for di-Higgs searches with b-jets in Run 3 and in particular the HL-LHC.

Chris, I also would like to nominate you as well as Meenakshi Narain as Energy Frontier conveners. Both of you have the right seniority and esteem to represent our field. Please add another nomination to the number of nominations for the both of you.

Best, Manfred.

Dear Chris and Tim, I strongly recommend Prof. Isobel Ojalvo (Princeton University) for a position in the Higgs convener. She is known for her redesign of the Higgs tau triggers that led to a factor of 2 higher efficiency in Run 2 - and she was lead on the analysis that achieved 5 sigma sensitivity for taus. I think it's important to include upcoming younger leaders in the process at a high level. She has the backing of many groups on both hardware trigger upgrades and in the future leadership for Higgs physics. She is dynamic and on top of everything she does. She will be at the top of her game at the time when these decisions go into full effect. I would much prefer and a few new, rising star in the cohort of organizers than to load it completely with very senior people – as was done when I ran the Higgs group for Snowmass 2013. Best Regards, Chris



#### Hi Chris,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 11, 2019, at 10:51 AM, Christopher G. Tully <<u>cgtully@Princeton.EDU</u>> wrote:

Dear Chris and Tim,

I strongly recommend Prof. Isobel Ojalvo (Princeton University) for a position in the Higgs convener.

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She will be at the top of her game at the time when these decisions go into full effect. I would much prefer and a few new, rising star in the cohort of organizers than to load it completely

with very senior people - as was done when I ran the Higgs group for Snowmass 2013. Best Regards,

Chris



### Dear Chris and Time,

This email its to nominate Tim Tait as a convener for the Energy Frontier.

Best,

Nausheen

--

Nausheen Shah

Assistant Professor Dept. of Physics and Astronomy Wayne State University Physics Bldg., Rm 362 666 W. Hancock St. Detroit MI 48201 (313) 577-2837

Pronouns: she/her. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.



Hi Nausheen,

Thanks very much for this nomination. I appreciate your confidence! We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 11, 2019, at 11:11 AM, Nausheen Shah <<u>nausheen.shah@wayne.edu</u>> wrote:

Dear Chris and Time,

This email its to nominate Tim Tait as a convener for the Energy Frontier.

Best,

Nausheen

--

Nausheen Shah

Assistant Professor Dept. of Physics and Astronomy Wayne State University Physics Bldg., Rm 362 666 W. Hancock St. Detroit MI 48201 (313) 577-2837

Pronouns: she/her. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone. Cc: tmptait@gmail.com

Dear Energy Frontier coordinators,

I'm looking at the Energy frontier agenda, and I've noticed that, during this Snowmass, we do not have a "Monte Carlo" simulation group:

```
https://snowmass-wiki.fnal.gov/wiki/Energy
```

During the 2013 Snowmass, we had a "Energy Frontier Simulations" group which helped creating Monte Carlo events samples for all Energy Frontier subgroups (+ developng Delphes detector geometries).

See our report https://arxiv.org/abs/1309.1057

I was one of such conveners (+Sanjay Padhi). Do you have any plans to have such a group this time?

best wishes, Sergei

----- Forwarded Message ----Subject: Nomination of conveners for Snowmass

SC

Community Planning Process Date: Mon, 11 Nov 2019 15:53:51 +0000 From: Users Office <usersoffice@fnal.gov> To: all-users <all-users@fnal.gov>, all-usersemployees <all-users-employees@fnal.gov>

Dear All,

The Snowmass Community Planning Process, organized by the Division of Particles and Fields of the APS, will commence in 2020. As members of the Users Executive Committee (UEC) at Fermilab, we request that nominations for the position of conveners for each working group be sent to the DPF organizing committee.

Here I quote the exact passage from the email sent to all APS members:

Convener Nomination Process The DPF is soliciting nominations of conveners for the working groups that will become the main organizing bodies for workshops, white papers, and the final summary paper. The DPF Program Committee, in coordination with the DPF Executive and in consultation with DPB and DAP, has settled on 10 major categories (or frontiers), the list of which is found in the accompanying Snowmass Topics pdf file (the link can be accessed through the APS email). We seek two conveners for each of these major categories

. In two conventions for called in these major callegories  $\mathbf{I}$ Each major category also includes a list of the topics that we expect to be studied within that category. Each topic is anticipated to be a working group in its own right, with a topical convener. Nominations can be submitted for a frontier or topical convener. Email your nominations to the convener contact(s) listed in the Snowmass Topics pdf file, and use the subject line Snowmass Convener Nomination. The convener contacts will collate your nominations and deliver them to the steering committee, and the steering committee will choose the frontier co-conveners from the list of nominees. The newly-chosen co-conveners will then select their topical conveners from the nominees. In order to ensure an equitable nomination process with broad representation, the steering committee must approve all topical convener choices in this second round. For more information on the Snowmass Community Planning Process, please visit this webpage: https://snowmass-wiki.fnal.gov/wiki/Main Page. As part of the UEC, we encourage all users to consider nominating your colleagues or yourselves for these important positions! The deadline for sending your nominations is Friday, November 15th.

Thank you,

Saptaparna Bhattacharya (UEC, Chair)

\_\_\_

Saptaparna Bhattacharya, Ph.D.

Post-doctoral Research Associate,

Northwestern University



# Hi Serei

We will pass this thought along to the process which will finally determine the categories. Right now, the rough draft on the wiki is all that currently exists, but it is expected to be modified.

Best wishes

Tim

On Nov 11, 2019, at 10:13 AM, Chekanov, Sergei
<chekanov@anl.gov> wrote:

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noticed that,
during this Snowmass, we do not have a "Monte Carlo"
simulation group:
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To: all-users <all-users@fnal.gov>, all-users-
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Thank you,
Saptaparna Bhattacharya (UEC, Chair)
---
```

Saptaparna Bhattacharya, Ph.D.

Post-doctoral Research Associate,

Northwestern University

Hi, Tim

Thanks a lot for the answer. Just to let you know that we created this simulation tool: https://atlaswww.hep.anl.gov/hepsim/ for the Energy Frontier at Snomwass 2013. It can still be useful for this Snowmass. best, Sergei Sergei Chekanov http://www.hep.anl.gov/chekanov/ \_\_\_\_\_ | Email: chekanov@anl.gov HEP Division, ANL | Tel : +01-630-252 6541 9700 S.Cass, Lemont, IL60439, USA | Fax : +01-630-252-5782 On 11/11/19 1:14 PM, Tim Tait wrote: Hi Serei We will pass this thought along to the process which will finally determine the categories. Right now, the rough draft on the wiki is all that currently exists, but it is expected to be modified. Best wishes Tim On Nov 11, 2019, at 10:13 AM, Chekanov, Sergei

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     Sergei Chekanov
http://www.hep.anl.gov/chekanov/
                                I Email:
chekanov@anl.gov
    HEP Division, ANL | Tel : +01-630-252
6541
9700 S.Cass, Lemont, IL60439, USA | Fax : +01-630-
252-5782
 ----- Forwarded Message -----
Subject:
               Nomination of conveners for Snowmass
Community Planning Process
       Mon 11 Nov 2010 15:53:51 +0000
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Users Office <usersoffice@fnal.gov>
From:
       all-users <all-users@fnal.gov>, all-users-
To:
employees
<all-users-employees@fnal.gov>
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colleagues or yourselves for these important positions! The deadline for sending your nominations is Friday, November 15th.

Thank you, Saptaparna Bhattacharya (UEC, Chair)

-Saptaparna Bhattacharya, Ph.D.
Post-doctoral Research Associate,
Northwestern University

I would like to nominate John Stupak to serve as a convener of the Accelerator Searches for DM and long-lived particles (ATLAS and CMS) topic. He is a leader within the HEP community with regard to both dark matter and long-lived particle searches. He is currently serving as convener of the ATLAS-exotics subgroup overseeing searches for long-lived particles as well as coordinating activities related to long-lived particles between the Exotics and SUSY groups within ATLAS. Regarding dark matter, his postdoc is one of two analysis contacts for the ongoing run 2 monojet search, a sign within the collaboration of the importance of their contributions (current and historical) to the analysis. John was selected by ATLAS to present an overview of searches for DM by ATLAS and CMS at the recent SUSY2019 conference.

Outside of ATLAS, John's leadership is also recognized. He is an invited speaker at the upcoming "Long-Lived Particles and the Third Generation" workshop in Edinburgh [1] and the sixth workshop of the LHC LLP Community in Ghent [2]. He is also an author on the recently-accepted LHC LLP Community white paper [3].

John has been involved in similar long-term HEP planning efforts in the past. His research group produced inputs (related to dark matter searches at the LHC) for the most recent update of the European Strategy for Particle Physics, for which he is an author on the HL/HE-LHC Physics Workshop working group 3 report [4], as well as both executive summaries of the workshop [5,6]. It is my understanding that he also contributed to the last Snowmass process before joining OU.

[1] <u>https://higgs.ph.ed.ac.uk/workshops/long-lived-particles-and-the-third-generation/</u>

[2] https://indico.cern.ch/event/849129/

[3] <u>https://arxiv.org/abs/1903.04497</u>

[4] https://arxiv.org/abs/1812.07831

[5] https://twiki.cern.ch/twiki/pub/LHCPhysics/HLHELHCWorkshop/report.pdf

[6] https://twiki.cern.ch/twiki/pub/LHCPhysics/HLHELHCWorkshop/HEreport.pdf

Sincerely,

Phil G.

Phillip Gutierrez, Chair Professor of Physics and Astronomy University of Oklahoma Phone +1 405 325-8020 Email: pgutierrez@ou.edu



Hi Philip,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 11, 2019, at 11:50 AM, Gutierrez, Phillip <<u>pgutierrez@ou.edu</u>> wrote:

I would like to nominate John Stupak to serve as a convener of the Accelerator Searches for DM and long-lived particles (ATLAS and CMS) topic. He is a leader within the HEP community with regard to both dark matter and long-lived particle searches. He is currently serving as convener of the ATLAS-exotics subgroup overseeing searches for long-lived particles as well as coordinating activities related to long-lived particles between the Exotics and SUSY groups within ATLAS. Regarding dark matter, his postdoc is one of two analysis contacts for the ongoing run 2 monojet search, a sign within the collaboration of the importance of their contributions (current and historical) to the analysis. John was selected by ATLAS to present an overview of searches for DM by ATLAS and CMS at the recent SUSY2019 conference.

Outside of ATLAS, John's leadership is also recognized. He is an invited speaker at the upcoming "Long-Lived Particles and the Third Generation" workshop in Edinburgh [1] and the sixth workshop of the LHC LLP Community in Ghent [2]. He is also an author on the recently-accepted LHC LLP Community white paper [3].

John has been involved in similar long-term HEP planning efforts in the past. His research group produced inputs (related to dark matter searches at the LHC) for the most recent update of the European Strategy for Particle Physics, for which he is an author on the HL/HE-LHC Physics Workshop working group 3 report [4], as well as both executive summaries of the workshop [5,6]. It is my understanding that he also contributed to the last Snowmass process before joining OU.

[1] <u>https://higgs.ph.ed.ac.uk/workshops/long-lived-particles-and-the-third-generation/</u>

[2] <u>https://indico.cern.ch/event/849129/</u>

[3] <u>https://arxiv.org/abs/1903.04497</u>

[4] <u>https://arxiv.org/abs/1812.07831</u>

[5] <u>https://twiki.cern.ch/twiki/pub/LHCPhysics/HLHELHCWorkshop/report.pdf</u>

[6] https://twiki.cern.ch/twiki/pub/LHCPhysics/HLHELHCWorkshop/HEreport.pdf

Sincerely,

Phil G.

Phillip Gutierrez, Chair Professor of Physics and Astronomy University of Oklahoma Phone +1 405 325-8020 Email: <u>pgutierrez@ou.edu</u>

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Dear Chris and Tim,
I would like to endorse the nomination of Meenakshi
Narain
for an Energy Frontier convenership in the DPF
Snowmass
community planning process. I believe she is well
qualified
for this position based upon her research at CMS and
her
many contributions to other planning processes in the
international HEP community. I expect that her
colleagues
at Brown will provide you with more details about her
qualifications, but I am available to expand upon
these
comments if useful.
Regards,
Al
A. T. Goshaw, James B. Duke Professor (emeritus)
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A. T. Goshaw, James B. Duke Professor (emeritus)
Physics Department, Room 277
Duke University
Durham, NC 27708
919–660–2584
919–491–4737 (cell)
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#### Hi Al,

AI

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 11, 2019, at 11:57 AM, Al Goshaw <<u>goshaw@phy.duke.edu</u>> wrote:

Dear Chris and Tim,

I would like to endorse the nomination of Meenakshi Narain for an Energy Frontier convenership in the DPF Snowmass community planning process. I believe she is well qualified for this position based upon her research at CMS and her many contributions to other planning processes in the international HEP community. I expect that her colleagues at Brown will provide you with more details about her qualifications, but I am available to expand upon these comments if useful. Regards,

A. T. Goshaw, James B. Duke Professor (emeritus) Physics Department, Room 277 Duke University Durham, NC 27708 919-660-2584 919-491-4737 (cell)



Energy Frontier Contacts,

I am pleased to nominate **Pavel Nadolsky** as a convener for the QCD subgroup of the Energy Frontier.

The QCD subgroup will focus on "PDF measurements; Precision X-section measurements; use of QCD and Lattice in extraction of CKM elements and pseudoscalar decay constants." I believe Pavel is exceptionally qualified to convene these topics.

Pavel has taken a leading role in the CT Parton Distribution Functions (PDFs) for the proton which are used for virtually every LHC calculation. In particular, these PDFs were essential for making predictions of the Higgs Boson which was discovered at CERN.

Pavel has just completed a comprehensive review article on PDFs with Dave Soper and Karol Kovarik. Additionally, Pavel currently serves as a convener for the PROSA collaboration2 and is a member of the PDF4LHC project.

Pavel is also the Co-Spokesperson of the CTEQ collaboration which is devoted to a broad program of research projects and cooperative enterprises centered on QCD and its implications in all areas of the Standard Model and beyond.

In his research, Pavel has also made use of new Data Science and Artificial Intelligence tools and techniques.

In a recent PDFSense project that Pavel initiated, he makes use of Artificial Intelligence tools (including Google TensorFlow and Embedding Projector) to search for new and intricate relationships that might not be discovered using conventional tools. (ArXiV:1803.02777)

Sincerely, Fred Olness

\_\_\_\_\_

Fredrick Olness, Dedman Family Distinguished Professor Department of Physics; Fondren Science Bldg., Box 0175 Southern Methodist University; Dallas, TX 75275-0175 Email: <u>olness@smu.edu</u> Office: +1 (214) 768-2500 <u>http://www.physics.smu.edu/~olness</u>

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Hi Fred,

Thanks very much for this nomination. We will pass it on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 11, 2019, at 12:05 PM, Fred Olness <<u>olness@smu.edu</u>> wrote:

Energy Frontier Contacts,

I am pleased to nominate **Pavel Nadolsky** as a convener for the QCD subgroup of the Energy Frontier.

The QCD subgroup will focus on "PDF measurements; Precision X-section measurements; use of QCD and Lattice in extraction of CKM elements and pseudoscalar decay constants." I believe Pavel is exceptionally qualified to convene these topics.

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Sincerely, Fred Olness

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Fredrick Olness, Dedman Family Distinguished Professor Department of Physics; Fondren Science Bldg., Box 0175 Southern Methodist University; Dallas, TX 75275-0175 Email: <u>olness@smu.edu</u> Office: +1 (214) 768-2500 <u>http://www.physics.smu.edu/~olness</u>

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Dear Chris and Tim,

I am writing to nominate Antonio Boveia as a subgroup convener focusing on collider searches for dark matter. He served as a leader for the LHC dark matter forum and his group has also contributed to European strategy studies. I think he has the relevant experience and ability to organize relevant studies.

Best regards, Liantao

Liantao Wang Department of Physics University of Chicago



### Hi Liantao

Thanks for the nomination. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes

Tim

On Nov 11, 2019, at 9:29 PM, LianTao Wang
<liantaow@uchicago.edu> wrote:

Dear Chris and Tim,

I am writing to nominate Antonio Boveia as a subgroup convener focusing on collider searches for dark matter. He served as a leader for the LHC dark matter forum and his group has also contributed to European strategy studies. I think he has the relevant experience and ability to organize relevant studies.

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Best regards,
Liantao
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Liantao Wang Department of Physics University of Chicago Dear Chris and Tim,

I am nominating MEENAKSHI NARAIN (Brown) for the frontier co-converneship of the ENERGY FRONTIER. Meenakshi is a senior physicist with the experience to convene such an important frontier. Her experience includes being the US CMS Collaboration Board chair, her engagement with the broader US LHC community through the USLUA group, her engagement with the wider energy frontier through her contributions to the yellow report and the APS/DPF whitepaper contributions to the European Strategy group. Her engagement extends back to the previous Snowmass. There is no doubt that she has demonstrated strong physics and organizational skills that make her eminently qualified for the energy frontier convenorship. Most importantly, she is willing to take on the role, and I am confident she would devote the time to make this a success.

Regards, Mike Tuts (Columbia)



Hi Mike,

Thanks for the nomination. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes Tim

On Nov 12, 2019, at 4:24 AM, Michael Tuts <<u>tuts@pmtuts.net</u>> wrote:

Dear Chris and Tim,

I am nominating MEENAKSHI NARAIN (Brown) for the frontier co-converneship of the ENERGY FRONTIER. Meenakshi is a senior physicist with the experience to convene such an important frontier. Her experience includes being the US CMS Collaboration Board chair, her engagement with the broader US LHC community through the USLUA group, her engagement with the wider energy frontier through her contributions to the yellow report and the APS/DPF whitepaper contributions to the European Strategy group. Her engagement extends back to the previous Snowmass. There is no doubt that she has demonstrated strong physics and organizational skills that make her eminently qualified for the energy frontier convenorship. Most importantly, she is willing to take on the role, and I am confident she would devote the time to make this a success.

Regards, Mike Tuts (Columbia)

Dear Chris, Tim,

we would like to nominate John Stupak as topical convener of the "Accelerator Searches for DM and longlived particles (ATLAS & CMS)", as we understand he would be interested in serving in this role and as his research profile fits the topic. John has been in charge, since April 2018, of the ATLAS exotics subgroup focusing on challenging signatures and including long-lived exotics particles (LLP), and also of the ATLAS LLP forum together with his subgroup coconvener and the corresponding SUSY subgroup conveners. As a convener of the exotics subgroup, he is in charge of supervising around 100 people working on about 10 analyses, covering models such as displaced jets (in the inner detector, calorimeter or the muon spectrometer) or multiple-charged particles for example. In a related way, he also led a task force in ATLAS to improve on the identification of displaced tracks/vertices and was also personally involved in reinterpreting a prompt search coverage in a displaced model (JHEP 10 (2018) 031). Finally, he is also involved in ATLAS DM searches, a postdoc of his group being the analysis contact of the full Run-2 monojet analysis.

Cheers,

Carl and Marie-Helene (as current and previous ATLAS exotics group conveners)



# Hi Marie-Helene and Carl,

Thanks for the nomination. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes Tim

On Nov 12, 2019, at 5:58 AM, Marie-Hélène Genest
<genest@lpsc.in2p3.fr> wrote:

sorry, re-sending without the typo in Chris' email
address...

Dear Chris, Tim,

we would like to nominate John Stupak as topical convener of the "Accelerator Searches for DM and long-lived particles (ATLAS & CMS)", as we understand he would be interested in serving in this role and as his research profile fits the topic. John has been in charge, since April 2018, of the ATLAS exotics subgroup focusing on challenging signatures and including long-lived exotics particles (LLP), and also of the ATLAS LLP forum together with his subgroup co-convener and the corresponding SUSY subgroup conveners. As a convener of the exotics subgroup, he is in charge of supervising around 100 people working on about 10 analyses, covering models such as displaced jets (in the inner detector, calorimeter or the muon spectrometer) or multiplecharged particles for example. In a related way, he also led a task force in ATLAS to improve on the identification of displaced tracks/vertices and was

also personally involved in reinterpreting a prompt search coverage in a displaced model (JHEP 10 (2018) 031). Finally, he is also involved in ATLAS DM searches, a postdoc of his group being the analysis contact of the full Run-2 monojet analysis.

Cheers,

Carl and Marie-Helene (as current and previous ATLAS exotics group conveners)

Subject: Nomination of Meenakshi Narain for Energy Frontier convener of the Snowmass Community Planning Date: November 12, 2019 at 6:34 AM

To: chill@physics.osu.edu, tmptait@gmail.com

Cc: cushman@umn.edu, ykkim@hep.uchicago.edu, than@pitt.edu, Harrison Prosper harry@hep.fsu.edu

### Dear Chris and Tim,

I am nominating Meenakshi Narain to be convener of the Energy Frontier group within the Snowmass Community Planning process for two related reasons. Firstly, she is a first-rate physicist with a well-formed vision of the future of the field. And, secondly, because she has amply demonstrated the requisite leadership skills for such a position. I have known Meenakshi since the early days of the D0 Collaboration, when I served as one of her mentors. She has succeeded in every leadership role she has assumed, always bringing projects to a successful conclusion, and in the process acquired a broad range of experiences as even a cursory reading of her CV will attest. Below, I highlight examples of her recent leadership roles within the field.

Narain is currently the US CMS Collaboration (USCMS) Board Chair and, as such, the leader of USCMS. Moreover, she serves as the US regional representative within the CMS Collaboration Management Board. Narain is one of its most active members, tirelessly working on behalf of US physicists with a particular emphasis on the younger members of our field, who, after all, are the ones whose future the Snowmass process is all about. Narain is actively engaged in the US LHC Users Association (USLUA) and in making the case to Congress for continued strong support of the US HEP program. She has been using her persuasive talents of late to encourage participation of USCMS and USLUA members in the next Snowmass process. It is clear from the feedback this is having the desired effect.

In the recent past, Narain co-led the CMS group charged with conducting HL-LHC physics and performance studies, which are a core component of the CMS HL-LHC

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Detector Technical Design Reports. Under her leadership, the group performed a record number of studies of potential sensitivity of the HL-LHC detectors to new physics. The results of the studies are included within the CERN "Yellow Report" for HL-LHC physics, which was submitted to the European Strategy Group. Narain also contributed to the Future Colliders section of the APS/DPF whitepaper, which was also submitted to the European Strategy Group.

Narain is very familiar with Snowmass. For example, in Snowmass 2013, she co-convened the "New Particles" subgroup of the "Path Beyond the Standard Model" group. She co-led the LPC-based "SM backgrounds" group, which was crucial to the Snowmass process as highlighted during the plenary at Minneapolis. For the first time, large numbers of pileup interactions (up to 140) were simulated for 14, 33, and 100 TeV pp collisions, making the future challenges in our exploration of the energy frontier vividly clear.

And, finally, my last example of Narain's leadership prowess. At first, this one may not seem quite as relevant as those above, but, upon reflection, one realizes that our field's future may depend on it. Narain was a founding co-chair of the CMS Diversity Office (2018), and is currently a member of this office (2019–2020). She is also the founding co-chair of the USCMS Diversity and Inclusion Committee. She, as do I and many others, recognize that the vibrancy of our field is best assured by embracing as diverse a set of viewpoints, opinions, approaches, ideas, and scientific tastes, as possible. Moreover, that is best achieved by embracing diversity among colleagues.

I have highlighted just some examples of Narain's recent leadership contributions to our field. She would be an exemplary Snowmass Energy Frontier convener and the message it would send, far an wide, would be powerful and empowering. Harrison

Harrison B. Prosper Chair, CMS Collaboration Board Kirby W. Kemper Endowed Professor of Physics Department of Physics Florida State University Tallahassee FL 32306 USA Phone: 850 644 6760

"Take the risk of thinking for yourself. Much more truth and happiness will come to you that way."

Christopher Hitchens



## Hi Harrison,

Thanks for the nomination. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes

Tim

On Nov 12, 2019, at 6:34 AM, Harrison B. Prosper <harry@hep.fsu.edu> wrote:

Dear Chris and Tim,

I am nominating Meenakshi Narain to be convener of the Energy Frontier group within the Snowmass Community Planning process for two related reasons. Firstly, she is a first-rate physicist with a wellformed vision of the future of the field. And, secondly, because she has amply demonstrated the requisite leadership skills for such a position. I have known Meenakshi since the early days of the D0 Collaboration, when I served as one of her mentors. She has succeeded in every leadership role she has assumed, always bringing projects to a successful conclusion, and in the process acquired a broad range of experiences as even a cursory reading of her CV will attest. Below, I highlight examples of her recent leadership roles within the field.

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Narain is very familiar with Snowmass. For example, in Snowmass 2013, she co-convened the "New Particles" subgroup of the "Path Beyond the Standard Model" group. She co-led the LPC-based "SM backgrounds" group, which was crucial to the Snowmass process as highlighted during the plenary at Minneapolis. For the first time, large numbers of pileup interactions (up to 140) were simulated for 14, 33, and 100 TeV pp collisions, making the future challenges in our exploration of the energy frontier vividly clear.

And, finally, my last example of Narain's leadership prowess. At first, this one may not seem quite as relevant as those above, but, upon reflection, one realizes that our field's future may depend on it. Narain was a founding co-chair of the CMS Diversity Office (2018), and is currently a member of this office (2019–2020). She is also the founding co-chair of the USCMS Diversity and Inclusion Committee. She, as do I and many others, recognize that the vibrancy of our field is best assured by embracing as diverse a set of viewpoints, opinions, approaches, ideas, and scientific tastes, as possible. Moreover, that is best achieved by embracing diversity among colleagues.

I have highlighted just some examples of Narain's recent leadership contributions to our field. She would be an exemplary Snowmass Energy Frontier convener and the message it would send, far an wide, would be powerful and empowering.

Harrison

Harrison B. Prosper Chair, CMS Collaboration Board Kirby W. Kemper Endowed Professor of Physics Department of Physics Florida State University Tallahassee FL 32306 USA Phone: 850 644 6760

"Take the risk of thinking for yourself. Much more truth and happiness will come to you that way."

Christopher Hitchens

Dear Chris and Tim,

I would like to nominate Matt LeBlanc (U Arizona) as the sub-group convener of the QCD subgroup of Snowmass process.

Matt has been the sub-group convener of the ATLAS Jet Energy Scale and Resolution subgroup convener for the last two years and has done an excellent job in my opinion. Also he is a very good colleague to work with. I can always learn something from him over chats/emails. He is also largely involved in several important SM measurements.

Thanks for your consideration.

Cheers.

Bingxuan Liu

EXAMPLE 2 Control Cont

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#### Hi Bingxuan,

Thanks for the nomination. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes Tim

On Nov 12, 2019, at 7:53 AM, Bingxuan Liu < bingivy@gmail.com > wrote:

Dear Chris and Tim,

I would like to nominate Matt LeBlanc (U Arizona) as the sub-group convener of the QCD subgroup of Snowmass process.

Matt has been the sub-group convener of the ATLAS Jet Energy Scale and Resolution subgroup convener for the last two years and has done an excellent job in my opinion. Also he is a very good colleague to work with. I can always learn something from him over chats/emails. He is also largely involved in several important SM measurements.

Thanks for your consideration.

Cheers.

Bingxuan Liu

Bingxuan Liu Post-doc Researcher Argonne National Laboratory CERN Office: Bat 4, R-029 +33651856074 bingxuan.liu@cern.ch

Dear Chris and Tim,

I would like to nominate Meenakshi Narain (Brown Univ.) for the convener-ship of the Energy Frontier group of the upcoming DPF Snowmass Community planning process.

Prof. Narain is a member of the CMS collaboration and leads the US CMS collaboration as its Collaboration Board Chair. She serves as the regional representative from the US in the CMS Management Board.

She is actively engaged with the US LHC Users Association (USLUA) in promoting the US HEP program at the congressional level and encouraging the USCMS and USLUA members to engage in the next Snowmass planning process. Recently, Prof. Narain co-led the CMS HL-LHC physics and performance studies, and contributed to the "Future Colliders" section of the APS/DPF whitepaper submitted to the European Strategy group in 2018.

Prof. Narain was founding co-chair of the CMS Diversity Office (2018), and currently a member of this office (2019-2020). She is also the founding co-chair of the USCMS Diversity and Inclusion Committee.

I believe that Meenakshi Narain would be a very effective convener of the "Energy Frontier" group.

Best regards, Bogdan Dobrescu Deputy Head of the Theoretical Physics Department Fermilab https://home.fnal.gov/~bdob

#### Dear Chris and Tim,

I nominate Antonio Boveia from Ohio State to help convene a group focusing on dark matter. Antonio has led dark matter searches in ATLAS, and he has been co-convener of both the LHC Dark Matter Forum and the LHC Dark Matter Working Group. He is knowledgeable, highly organized, and very effective as a group leader. He would make an excellent co-convener.

Regar ds, Mel



# Dear Mel,

Thanks for the nomination. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes Tim

Professor Tim Tait

Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 12, 2019, at 12:28 PM, Mel Shochet
<shochet@hep.uchicago.edu> wrote:

Dear Chris and Tim,

I nominate Antonio Boveia from Ohio State to help convene a group focusing on dark matter. Antonio has led dark matter searches in ATLAS, and he has been co-convener of both the LHC Dark Matter Forum and the LHC Dark Matter Working Group. He is knowledgeable, highly organized, and very effective as a group leader. He would make an excellent co-convener.



I strongly nominate either Charlie Young or Henry Lubatti for convenership of the Accelerator Searches for DM and long-lived particles -> Dedicated Experiments division. I think they obviously have the expertise and experience required, and as members of the MATHUSLA collaboration they are in an excellent position to speak for the importance of endeavors in this category.

cheers, David



Dear David,

Thanks for these nominations. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 12, 2019, at 1:46 PM, David Curtin
<david.r.curtin@gmail.com> wrote:

I strongly nominate either Charlie Young or Henry Lubatti for convenership of the Accelerator Searches for DM and long-lived particles -> Dedicated Experiments division. I think they obviously have the expertise and experience required, and as members of the MATHUSLA collaboration they are in an excellent position to speak for the importance of endeavors in this category.



Dear Chris, Tim, Roger and Matthew,

We would like to nominate Julia Gonski, for a topical group co-convenership. We think she could make a real difference in one of the following areas: the Energy Frontier topical groups in BSM (both topics) and in the Instrumentation Frontier topical groups in Calorimetry or Electronics. Julia is a young, talented and enthusiastic postdoc in our group, who we expect will grow to be a future leader in the field.

As a group we have discussed the optimal way for us contribute to the Snowmass process and arrived at a consensus that having an early career physicist, who has the talent, time and enthusiasm to convene a topical group would be the most effective path. Julia is the natural candidate to fulfill that role given her physics experience in BSM and her work on the ATLAS HL-LHC upgrade of the liquid argon calorimeter electronics. Julia is enthusiastic about her participation in Snowmass and will be sending in a selfnomination that will detail her experience in these areas.

While the Snowmass process is key to identifying the future physics opportunities in the field and providing the necessary input to a future P5 plan, it is also true that explaining that plan to decision makers and the wider public is essential. We bring that up because Julia has experience in this area as well, having served on the APS Council of Representatives (2016-2019, representing the Forum on Graduate Student Affairs) as well as other APS committees. This experience is unusual for someone so early in her career, but emphasizes her engagement in broader physics policy issues. She would be a valuable asset in representing the plan to those decision makers and the public.

In summary, Julia Gonski has the physics, technical, organizational and communications skills that make her an excellent candidate for a topical group co-convenership. We recommend her to you most highly.

Mike Tuts Gustaaf Brooijmans John Parsons



Subject: Re: Snowmass Convener Nomination Date: November 12, 2019 at 2:56 PM

To: Matthew Szydagis matthew.szydagis@gmail.com

Cc: Michael Tuts tuts@pmtuts.net, Chris Hill chill@physics.osu.edu, rusack@umn.edu, John Parsons parsons@nevis.columbia.edu, Gustaaf Brooijmans gusbroo@nevis.columbia.edu

Dear Mike, Gustaaf, and John,

Thank you for the nomination. We have recorded it for the Energy Frontier as well, and will see that it is passed along to the next stage of the selection process.

Best wishes Tim

-----

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 12, 2019, at 2:13 PM, Matthew Szydagis
<matthew.szydagis@gmail.com> wrote:

Dear Mike,

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Thank you for this, on behalf of both myself and
Roger -- I have recorded your nomination of Julia
Gonski within Instrumentation
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Best Matthew On Tue, Nov 12, 2019 at 5:08 PM Michael Tuts <tuts@pmtuts.net> wrote: Dear Chris, Tim, Roger and Matthew,

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In summary, Julia Gonski has the physics, technical, organizational and communications skills that make her an excellent candidate for a topical group co-convenership. We recommend her to you most highly.

Mike Tuts

Gustaaf Brooijmans

John Parsons

### Dear Chris and Tim,

My understanding is that Meenakshi Narain would be happy to serve as the co-convener of the Energy Frontier topic. I am happy to endorse her nomination. I think that she is well-known to much of the HEP field, in particular at the Energy Frontier, so I can be brief. I have known her for at least 15 years, including co-editing the first CMS paper on the search for Z-prime to dimuons. More to the point in this context, she has had various leadership positions requiring a broad knowledge of collider physics and the ability to organize diverse groups of physicists. One I witnessed closely was an enormous effort to produce successfully for CMS the physics case for the HL-LHC. Meanwhile she has been elected as US CMS Collaboration Chair, one of those positions that is essentially what the occupant makes of it. Meenakshi has re-energized the position with numerous useful initiatives that however avoid any destructive interference with the line management of US CMS and its upgrades. I presume that others will detail her various other contributions (input to European Strategy, etc), so I stop here.

Best regards, Bob



Dear Tim and Chris,

I would like to nominate Prof. Nausheen Shah (Wayne State U, see <u>https://clasprofiles.wayne.edu/profile/fz9187</u>) as a Topical Convener for the "BSM: new bosons, new fermions" and/or "BSM: SUSY and MET" subgroups of the Theory Frontier. She is an expert in both topics, so I cannot really make up my mind and nominate her for one. Could she be added to the lists of possible conveners for both topics?

Please let me know if I need to provide more information regarding my nomination - I will be more than happy to!

Best regards,

**Alexey Petrov** 



Dear Alexey,

Thanks for this nomination. We will forward this to the DPF executive committee for the next round of the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 13, 2019, at 9:15 AM, Alexey Petrov
<apetrov@wayne.edu> wrote:

Dear Tim and Chris,

I would like to nominate Prof. Nausheen Shah (Wayne State U, see https://clasprofiles.wayne.edu/profile/fz9187) as a Topical Convener for the "BSM: new bosons, new fermions" and/or "BSM: SUSY and MET" subgroups of the Theory Frontier. She is an expert in both topics, so I cannot really make up my mind and nominate her for one. Could she be added to the lists of possible conveners for both topics?

Please let me know if I need to provide more information regarding my nomination -- I will be more than happy to!

Best regards,

Alexey Petrov

Dear Friends -- In my haste to make the deadline for this nomination of Meenakshi, I neglected to sign it! The copy below is signed.

On 11/13/19 4:43 PM, Kenneth Lane wrote: Dear Old Friends --

It is my great pleasure to nominate Meenakshi Narain to be the convener of the Energy Frontier Group at the upcoming DPF Snowmass Community Planning Process. My nomination of Meenakshi is based on two things:

1) As a participant at the first Snowmass Meeting in 1982, devoted to proposing and developing options for the then future of High Energy Physics, and again at the Superconducting Supercollider Snowmass Meeting in 1984, to consolidate plans for the SSC, I know how crucially important this process is. Not only to chart our future, but just as important that future be a unified plan with very broad support in the US HEP community. We are once again at such a crossroads, one at which we must define and prioritize our (yours, really) future for the next ~30-40 years.

2) The Energy Frontier Group at Snowmass will have a very important task, an existential one really. Unlike 1982-84, it is not totally clear what the most compelling opportunities will be at very high energies in the coming decades. It is therefore essential that our field formulates -- or at the very least, puts in place a mechanism to formulate on a rather short time-scale -- a program that can capture the enthusiasm not only of those already active in the field, but of the young people we want to be the leaders of our field in 20 or 30 years from now.

Meenakshi's impressive career, her experience and leadership in collider physics, from Dzero at the Fermilab Tevatron to CMS at the CERN LHC, make her an ideal "captain" to convene the Energy Frontier Group at Snowmass. Having come of age in the last great developmental period in US HEP, Meena understands the importance of these two points. And, I believe, she has the experience and enthusiasm to guide their implementation. She will make an outstanding Energy Frontier Convener.

Best regards to all,

Ken Lane



# Hi Ken,

Thanks very much for this nomination. We will be sure to pass this along to the DPF executive committee for the next step in the selection process.

Best wishes Tim

-----

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 13, 2019, at 1:45 PM, Kenneth Lane
<lane@bu.edu> wrote:

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On 11/13/19 4:43 PM, Kenneth Lane wrote: Dear Old Friends --

It is my great pleasure to nominate Meenakshi Narain to be the convener of the Energy Frontier Group at the upcoming DPF Snowmass Community Planning
Process. My nomination of Meenakshi is based on two
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1) As a participant at the first Snowmass Meeting in 1982, devoted to proposing and developing options for the then future of High Energy Physics, and again at the Superconducting Supercollider Snowmass Meeting in 1984, to consolidate plans for the SSC, I know how crucially important this process is. Not only to chart our future, but just as important that that future be a unified plan with very broad support in the US HEP community. We are once again at such a crossroads, one at which we must define and prioritize our (yours, really) future for the next ~30-40 years.

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#### Dear Chris and Tim,

I assume it is ok to nominate the convener contacts to be a frontier convener, and so I would like to nominate Tim Tait to be one of the Energy Frontier conveners.

Best regards,

Rouven



## Hi Rouven,

Thanks very much! We will be sure to pass this along to the DPF executive committee for the next step in the selection process.

Best wishes Tim

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 13, 2019, at 1:45 PM, Rouven Essig
<rouven.essig@stonybrook.edu> wrote:

Dear Chris and Tim,

I assume it is ok to nominate the convener contacts to be a frontier convener, and so I would like to nominate Tim Tait to be one of the Energy Frontier conveners.

Best regards,

# Rouven

### Hi Chris and Tim,

Thanks for taking on the responsibilities of helping to "staff up" the leadership positions for Snowmass. I have two people that I'd like to put forward. I've put them both in the same message. If you'd rather they be separate, please let me know and I'll resend separate ones.

## 1. Wade Fisher, Topical Group Nomination for BSM: New Bosons, New Fermions

Wade Fisher is an associate professor in the Physics and Astronomy Department at Michigan State and a very active experimenter in ATLAS. His expertise spans a number of important areas. As a Fermilab Leon Lederman fellow, he was the Higgs co-convener for the D0 experiment during the final Higgs limit measurements at the Tevatron. He was also very active in the properly combined limit using both D0 and CDF data.

His physics efforts in ATLAS have been in the production of new IVBs especially in conjunction with Higgs bosons. Wade early on recognized that associated production of H + V'(bb) was interesting and he began his work in those channels when he joined our faculty. He then turned his attention to highly boosted H (bb). He's also worked with students and post docs in searching for VLQs which decay to Ht, Zt, and Wb final states.

What's especially interesting to me is that Wade has taken on a complex analysis, essentially motivating the creation of a new group in ATLAS. Obviously, significant bumps above background are not evident in searches through many channels. However, our searches have been necessarily organized by focusing on single final state measurements in many groups. Since big bumps haven't occurred, we have to look harder. Wade realized that, while final states might be distinct and "live" within individual analysis groups, individual models of new physics - the real target - would populate many different final states with different strengths. So he has instituted a combined search strategy that would probe models by combining together potentially statistically weaker signals in different final states simultaneously. This is consistent with his approach to the combined CDF and D0 Higgs results and he's an acknowledged expert in the statistics groups within ATLAS. The first results of limits in VLQ and IVB's have been published for the 36/fb data.

Wade sees the whole forest as well as the bark on the trees. His experience so far has been both hands- on, but I think uniquely, collaborative and inclusive. He'd be a great topical convener and get people to work together very well. Oh, by the way he's also a L3 manager of 4 upgrade projects in ATLAS, including L1Calo electronics fabrication which is about to be installed and commissioned for Phase1.

## 2. Wade Fisher, Energy Frontier Co-Convener.

If DPF's plan is to combine senior + relatively junior folks in the larger job of Frontier coconvener, for all of the reasons above, I think Wade would be an exceptional choice. In addition to his physics prowess, he is extremely organized, can keep many people (productively and happily) engaged toward a bigger set of goals, and he is an impressive "explainer." I'd follow him anywhere. He's up for promotion to Professor as we speak and so borders the line between junior and senior, but he's precocious in his leadership abilities.

## 3. Dan Hayden, Topical Group Nomination for QCD: PDF measurements or BSM New

### Bosons, new Fermions.

Dan Hayden is a former post doc of ours and is now, this fall, a new assistant professor on our faculty. Dan's expertise has been in the production of Z' and W' and was the leader of the ATLAS Z' search group for the 36/fb running. He was subsequently "promoted" to the Lepton +X leadership position. I worked with Wade and with one of my graduate students, we did the dilepton resonant search for Z' during the first 13 TeV running. He also worked with me during the last Snowmass and we created tools to predict Z' potential of the various scenarios from our Energy Frontier group and published them as a contribution.

(https://www.slac.stanford.edu/econf/C1307292/docs/submittedArxivFiles/1308.5874.pdf)

In the course of this analysis we became interested in the PDF uncertainties, which seem to be forever the limiting systematic uncertainty going forward with any Z' or W' resonant search, but especially so for non-resonant contact interaction search. With my student and in collaboration with CP Yuan and Carl Schmidt here at MSU, we invented a way to significantly reduce these uncertainties by making use of a fortuitous correlation of the Collins-Soper angle and regular kinematical cuts to isolate the actual parton collision quarks. For DY with selections, we can actually make the LHC seem like a u-ubar collider. By adding DY medium mass data in bins of y, M, and theta\* to the CTEQ global fit, we can greatly improve the PDF uncertainties for very high mass. We published these results separately in PRD (New method for reducing parton distribution function un-certainties in the high-mass Drell-Yan spectrum. Phys. Rev., D99(5):054004, 2019). This involved the use of ePump, which is a tool written by Carl Schmidt at MSU which can analytically "simulate" the effects of new physics channels within CTEQ global fit results. This tool has application in many different reactions and is perfect for "prediction the future" for Snowmass. Hayden is a near-expert in applying this code.

This is important. So much of our future precision will be challenged by many theoretical uncertainties, that it's worth Snowmass paying attention to this as a *separate focus*. To that end, Dan as an experimenter with this as a part of his portfolio would be a great way to emphasize mandate.

So you see why I can imagine Dan in two different groups - Z'/W' because he's a seasoned veteran in these ubiquitous searches and has a leg up in future collider prospects.

But also in the QCD- PDF group helping to guide the investigations of how best to mitigate these pernicious PDF systematics in future precision and search measurements. Like I said, I think that this issue could and should be a point of focus: the LHC program will be severely challenged by theoretical and phenomenological uncertainties and we should tackle that head-on. Snowmass is the perfect venue.

I hope you can find a way to include these two talented colleagues in Snowmass leadership.

They're two of my favorite topics, so please let me know if you have questions.

Thanks again for doing this.

Chip

Raymond Brock \* University Distinguished Professor Department of Physics and Astronomy 3210 BPS Building Michigan State University \* East Lansing, MI 48824 sent from: brockr@msu.edu

MSU office: (517)353-1693/884-5579 open fax: (517)355-6661 secure fax: (517)351-0688 Vidyo personal room: <u>http://goo.gl/AgiDJ4</u> CERN Office: 32 2-B03 \* 76-71756



#### Hi Chip

Thanks for these nominations. We will forward them on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

On Nov 13, 2019, at 2:06 PM, Brock, Raymond <<u>brockr@msu.edu</u>> wrote:

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I hope you can find a way to include these two talented colleagues in Snowmass leadership.

They're two of my favorite topics, so please let me know if you have questions.

Thanks again for doing this.

Chip

Raymond Brock \* University Distinguished Professor Department of Physics and Astronomy 3210 BPS Building Michigan State University \* East Lansing, MI 48824 sent from: <u>brockr@msu.edu</u>

MSU office: (517)353-1693/884-5579 open fax: (517)355-6661 secure fax: (517)351-0688 Vidyo personal room: <u>http://goo.gl/AgiDJ4</u> CERN Office: 32 2-B03 \* 76-71756

Dear Stefano, Tom, Chris, and Tim,

I have a nomination that I'd like to put forward for a Topical group - but I don't know which one!

# Bjoern Penning, Topical Convener of Accelerator Searches for DM and long-lived particles and/or Dark Matter Direct Detection

Bjoern Penning is an assistant professor at Brandeis with an unusual background - a crosscutting background. I know him as a "conventional" D0 and ATLAS colleague where in ATLAS he began to focus on searches for Dark Matter in the "anything + missing energy" search strategies. He always had an eye on combinations of Dark Matter searches. As is well-known he was at Bristol on CMS after his Lederman Fellowship at Fermilab. He recently went to Brandeis after shifting his career toward direct searches with LZ. In my opinion, Bjoern is uniquely able to straddle experiment; theory; and important for this physics, combinations of search strategies. He's both a capable collider physicist and now into a much different technical pursuit - but always with his eye on the critical future of Dark Matter.

If you know Bjoern, and I'll bet you do, you know him to be maximally enthusiastic and talented as a motivator and "collector" of people. These convener jobs - especially for the extended Snowmass project - require physics talent, sure. But energy and enthusiasm and the ability to organize and infect others with energy and enthusiasm are really critical. Bjoern stands out in all of these areas.

I'd remind you - from the last Snowmass - that Bjoern was the prime-mover of the "Young Snowmass" effort that by the time we got to Minneapolis, was "a thing." Typical Bjoern.

In a number of venues I've moaned about one of the ways that I think we missed the mark during the last Snowmass in which I was a co-convener with Peskin of the Energy Frontier. We were inventing as we went along, of course. We missed the mark by not having baked in the connective tissue that blends the Frontiers together. We just couldn't do it well that first time around. But Snowmass Frontiers should not be siloed this time and Bjoern is precisely the kind of person who could deftly straddle these barriers.

So I hope you can find a way to ask him to lead one or more of the Topical Groups - or invent a glue-group between the accelerator and direct search efforts for Dark Matter.

Let me know if I can help.

thanks Chip Brock

Raymond Brock \* University Distinguished Professor Department of Physics and Astronomy 3210 BPS Building Michigan State University \* East Lansing, MI 48824 sent from: <u>brockr@msu.edu</u>

MSU office: (517)353-1693/884-5579

secure fax: (517)351-0688 Vidyo personal room: <u>http://goo.gl/AgiDJ4</u> CERN Office: 32 2-B03 \* 76-71756



#### Hi Chip

Thanks for this nomination and suggestion. We will forward them on to the DPF executive committee for the next stage of the selection process.

For Snowmass 2013, the cosmic frontier had a subgroup for "complementarity" that fit the role that you are aiming for here. It worked well within Cosmic, but obviously didn't interface as well outside of it, including with the Energy frontier. Something more truly cross-frontier would be much better, and even Cosmic doesn't have a complementarity group under the current proposal for Snowmass 2021.

#### Best wishes

Tim

On Nov 13, 2019, at 3:22 PM, Brock, Raymond <<u>brockr@msu.edu</u>> wrote:

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Let me know if I can help.

thanks Chip Brock

Raymond Brock \* University Distinguished Professor Department of Physics and Astronomy 3210 BPS Building Michigan State University \* East Lansing, MI 48824 sent from: brockr@msu.edu

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MSU office: (517)353-1693/884-5579 open fax: (517)355-6661 secure fax: (517)351-0688 Vidyo personal room: <u>http://goo.gl/AgiDJ4</u> CERN Office: 32 2-B03 \* 76-71756

Hi,

I would like to nominate Matt LeBlanc as (sub)convener. I've known Matt for 6+ years now, most especially through his work as part of the Jet/EtMiss group in ATLAS. He would be an excellent (young) candidate because of his organizational skills, his thoughtfulness, and clarity by which he articulates ideas.

Giordon

--

Dr. Giordon Stark (pronouns: he/him) ATLAS Post-doctoral scholar employee at SCIPP/UCSC https://giordonstark.com/ GS



Dear Giordon,

Cc: Chris Hill chill@physics.osu.edu

Thanks for these nominations. We will forward them on to the DPF executive committee for the next stage of the selection process.

Best wishes Tim

-----

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 13, 2019, at 4:57 PM, Giordon Stark <<u>gstark@cern.ch</u>> wrote:

Hi,

I would like to nominate Matt LeBlanc as (sub)convener. I've known Matt for 6+ years now, most especially through his work as part of the Jet/EtMiss group in ATLAS. He would be an excellent (young) candidate because of his organizational skills, his thoughtfulness, and clarity by which he articulates ideas.

Giordon

--

Dr. Giordon Stark (pronouns: he/him) ATLAS Post-doctoral scholar employee at SCIPP/UCSC https://giordonstark.com/

## Dear Snowmass2021 steering committee,

I would like to nominate Bryan Fulsom at Pacific Northwest National Laboratory for the position of topical convener for Hadron spectroscopy: light meson, b b-bar, c c-bar, exotic tetraquark, pentaquark states. I am familiar with Bryan's work on these topics over the course of many years, from his PhD and postdoctoral research on the B Factory experiments to his current topical convenorship on Belle II. I believe his knowledge and range of experience in this area would provide invaluable input and leadership to this the Snowmass 2021 process.

- Chris Hearty

Christopher Hearty U. British Columbia / IPP 604 822 9163



# Dear Chris,

Thanks for this nomination. We will forward it on to the DPF executive committee for the next stage of the selection process.

Best wishes

Tim

On Nov 13, 2019, at 5:03 PM, Christopher Hearty
<hearty@physics.ubc.ca> wrote:

Dear Snowmass2021 steering committee,

I would like to nominate Bryan Fulsom at Pacific Northwest National Laboratory for the position of topical convener for Hadron spectroscopy: light meson, b b-bar, c c-bar, exotic tetraquark, pentaquark states. I am familiar with Bryan's work on these topics over the course of many years, from his PhD and postdoctoral research on the B Factory experiments to his current topical convenorship on Belle II. I believe his knowledge and range of experience in this area would provide invaluable input and leadership to this the Snowmass 2021 process.

```
- Chris Hearty
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Christopher Hearty U. British Columbia / IPP 604 822 9163 Hi Chris, Tim,

I would like to nominate Matt LeBlanc (University of Arizona, <u>matt.leblanc@cern.ch</u>) as a coconvener for QCD or any subgroup therein (PDF or precision X-section measurements seem to be most fitting) in the upcoming long range planning exercise. Matt is in his third year as a postdoc (his first), so I see him as a very fitting junior partner. He is heavily involved in jet physics in ATLAS, with significant contributions to the precision jet cross section measurements, the measurements of jet substructure and mass and the corresponding determination of jet characteristics and, most recently, the tuning of soft versus hard emissions in jets using novel approaches and tools like the Lund Plane.

Matt is currently the co-convener of the jet definitions and calibration group in ATLAS. He has contributed to several BOOST workshops and the recent Les Houches TeV Physics workshop. His organizational skills and outstanding physics talents fit a junior convener role in the "Snowmass Process" very well.

Please let me know if you have nay questions, best by e-mail or skype (kokopelliaz - do not ask).

Thank you for your considerations,

ciao, Peter

--

Dr Peter Loch Associate Research Scientist Department of Physics University of Arizona Tucson, Arizona, USA http://w3atlas.physics.arizona.edu/~loch



# Hi Peter,

Thank you very much for this nomination. We will pass it on the DPF executive committee for the next step in the selection process.

Best wishes Tim

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 13, 2019, at 10:24 PM, Peter Loch
<peterloch59@gmail.com> wrote:

Hi Chris, Tim,

I would like to nominate Matt LeBlanc (University of Arizona, matt.leblanc@cern.ch) as a co-convener for QCD or any subgroup therein (PDF or precision X-section measurements seem to be most fitting) in the upcoming long range planning exercise. Matt is in his third year as a postdoc (his first), so I see him as

a very fitting junior partner. He is heavily involved in jet physics in ATLAS, with significant contributions to the precision jet cross section measurements, the measurements of jet substructure and mass and the corresponding determination of jet characteristics and, most recently, the tuning of soft versus hard emissions in jets using novel approaches and tools like the Lund Plane.

Matt is currently the co-convener of the jet definitions and calibration group in ATLAS. He has contributed to several BOOST workshops and the recent Les Houches TeV Physics workshop. His organizational skills and outstanding physics talents fit a junior convener role in the "Snowmass Process" very well.

Please let me know if you have nay questions, best by e-mail or skype (kokopelliaz - do not ask).

Thank you for your considerations,

ciao, Peter

Dr Peter Loch Associate Research Scientist Department of Physics University of Arizona Tucson, Arizona, USA http://w3atlas.physics.arizona.edu/~loch

#### Dear Chris, Tim,

I'd like to nominate myself for the role of topical convener in the Energy Frontier working group, specifically under the BSM/New Bosons & Fermions topic.

This BSM topic is my primary research focus at the ATLAS experiment, wherein we are actively refining our approach to searches for new bosons and fermions. This is an active area for broad reinterpretations, which has been a focus of the workshops we've organized on this issue in 2015 and 2016 (Argonne) and 2017 (CERN). I believe that a central theme of the Snowmass process should be how we intend to evaluate current progress in BSM searches and refocus these efforts in light of the absence of unambiguous signs of new physics.

Best regards, Wade Fisher

--

Wade Fisher -\*- Associate Professor of Physics Department of Physics and Astronomy Michigan State University Biomedical and Physical Sciences Building 567 Wilson Road, Rm 3233 East Lansing, MI 48824

MSU Office: 517-884-5556 CERN Office: 32 2-B03 \* 76-71756 Fax MSU: 517-355-6661 <u>http://www.pa.msu.edu/~fisherw/</u>



# Dear Wade,

Thank you very much for this nomination. We will pass it on the DPF executive committee for the next step in the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 14, 2019, at 1:16 AM, Wade Cameron Fisher <wade.cameron.fisher@cern.ch> wrote:

Dear Chris, Tim,

I'd like to nominate myself for the role of topical convener in the Energy Frontier working group, specifically under the BSM/New Bosons & Fermions topic.

This BSM topic is my primary research focus at the ATLAS experiment, wherein we are actively refining

our approach to searches for new bosons and fermions. This is an active area for broad reinterpretations, which has been a focus of the workshops we've organized on this issue in 2015 and 2016 (Argonne) and 2017 (CERN). I believe that a central theme of the Snowmass process should be how we intend to evaluate current progress in BSM searches and refocus these efforts in light of the absence of unambiguous signs of new physics.

Best regards, Wade Fisher

\_\_\_

Wade Fisher -\*- Associate Professor of Physics Department of Physics and Astronomy Michigan State University Biomedical and Physical Sciences Building 567 Wilson Road, Rm 3233 East Lansing, MI 48824

MSU Office: 517-884-5556 CERN Office: 32 2-B03 \* 76-71756 Fax MSU: 517-355-6661 http://www.pa.msu.edu/~fisherw/ Dear Chris, Tim,

I'd like to nominate myself for the role of co-Convener of the Energy Frontier working group. I have had an extensive career spanning three energy frontier colliders: LEP (L3), Tevatron (D0) and LHC (CMS and ATLAS). My primary focus in all cases as been on the search for the Higgs boson, measurements of the Higgs boson properties and searches for BSM physics. I am also actively involved in the ATLAS Phase-1 and HL-LHC upgrades, focusing on the calorimeter trigger. Finally, I sit on the ATLAS statistics committee and support several statistical methods software packages used in both ATLAS and CMS.

Best regards, Wade Fisher

--

Wade Fisher -\*- Associate Professor of Physics Department of Physics and Astronomy Michigan State University Biomedical and Physical Sciences Building 567 Wilson Road, Rm 3233 East Lansing, MI 48824

MSU Office: 517-884-5556 CERN Office: 32 2-B03 \* 76-71756 Fax MSU: 517-355-6661 <u>http://www.pa.msu.edu/~fisherw/</u>



# Dear Wade,

Thank you very much for this nomination. We will pass it on the DPF executive committee for the next step in the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 14, 2019, at 6:08 AM, Wade Cameron Fisher <wade.cameron.fisher@cern.ch> wrote:

Dear Chris, Tim,

I'd like to nominate myself for the role of co-Convener of the Energy Frontier working group. I have had an extensive career spanning three energy frontier colliders: LEP (L3), Tevatron (D0) and LHC (CMS and ATLAS). My primary focus in all cases as been on the search for the Higgs boson, measurements of the Higgs boson properties and searches for BSM

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physics. I am also actively involved in the ATLAS
Phase-1 and HL-LHC upgrades, focusing on the
calorimeter trigger. Finally, I sit on the ATLAS
statistics committee and support several statistical
methods software packages used in both ATLAS and CMS.
Best regards,
Wade Fisher
___
Wade Fisher -*- Associate Professor of Physics
Department of Physics and Astronomy
Michigan State University
Biomedical and Physical Sciences Building
567 Wilson Road, Rm 3233
East Lansing, MI 48824
MSU Office: 517-884-5556
CERN Office: 32 2-B03 * 76-71756
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Fax MSU: 517-355-6661
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http://www.pa.msu.edu/~fisherw/
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Cc: Priscilla Cushman cushman@umn.edu, Young-Kee Kim ykkim@hep.uchicago.edu

Dear Colleagues,

please receive my nomination of Meenakshi Narain to become one of the Conveners for the Snowmass Working Group "Energy Frontier". In my opinion she is one of the most suitable

colleague fulfilling this important responsibility.

I know Meenakshi Narain from my time in the CMS Management in my roles as the Deputy Spokesperson and the Head of the Engagement Office. During that time she co-convened the CMS HL-LHC physics and performance studies for the CMS Detector Technical Design Reports. She guided and motivated the group to accomplish a record number of sensitivity projections (~40). They are part of the CERN "Yellow Report" for HL-LHC physics, which was submitted to the European Strategy Group.

For the preparation of lectures on Physics at Future Colliders, which I had to give at RWTH Aachen University, I tremendously profited from the results she produced in the context of the Snowmass 2013 process for New Physics at Colliders with 14, 33, and 100 TeV as well as from her numerous presentations on the physics prospects, for example at the ECFA HL-LHC Workshops. In recognition of her comprehensive expertise she is also member of HEPAP (2018–2021). This is only a small snapshot on her deep competence concerning the questions to be addressed in the working group of the "Energy Frontier".

In addition to meeting these important scientific criteria, Meenakshi Narain is well recognized in the community. For example she represents the U.S.

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community in CMS in the role as the U-S. Collaboration Board Chair. She was founding chair of the Diversity Office in CMS and since several years she is chairing the CMS Women Forum – For All together with me.

Meenakshi Narain is perfect in motivating people and get especially young scientists involved. This she did for the Snowmass 2013 Process as well as in her role of the co-leader of the LHC Physics Center (LPC) for CMS at Fermilab. As member of the LPC Management Board I was absolutely astonished and satisfied with her accomplishments in getting young people introduced and enthusiastic about our field.

Taking these roles it is obvious that Meenakshi Narain is working in a very strategic and well organized way.

All of these characteristics of Meenakshi Narain are crucial ingredients to become the successful convener of the "Energy Frontier" working group. Therefore I enthusiastically nominate Meenakshi Narain for this responsibility which is of extremely high importance for our scientific research field.

Please let me know, where I can be of further help.

With my very best wishes,

Kerstin

Prof. Dr. Kerstin Borras DESY & RWTH Aachen University Kerstin.Borras@desy.de mobile: +49-40-8998-(9)-4488

Subject: Nomination for Convener of the "Energy Frontier" group of the upcoming DPF Snowmass Community Planning Date: November 14, 2019 at 6:59 AM

To: Christopher S. Hill chill@physics.osu.edu, tmptait@gmail.com

Dear Chris and Tim,

I would like to nominate Prof. Meenakshi Narain of Brown University and CMS collaboration for the position of the convener of the Energy Frontier group of the upcoming DPF Snowmass Community planning.

I have known Meenakshi since she was a student at SUNY, Stonybrook and has been a collaborator since 1992 on the D0 and then on the CMS experiments. I have seen her working from a close quarter for more than 25 years. Meenakshi is an excellent physicist, an excellent leader and has the ability to take the community together towards the future of HEP.

Meenakshi played seminal role in the discovery of the top quark as a postdoctoral fellow, led top subgroup, later became a recognized leader in the measurement of top quark properties and established herself as a leader. As you are aware this discovery and measurement by the CDF and D0 collaboration has been awarded with the EPS HEP prize in 2019.

Fast forwarding to the present, Meenakshi leads the US CMS collaboration as its Collaboration Board Chair. She also serves as the regional representative from U.S. in the Management Board of the CMS Experiment where I meet her often. She is actively engaged with the US LHC Users Association (USLUA) in promoting the US HEP program at the congressional level and encouraging the USCMS and USLUA members to engage in the next Snowmass planning process. In the recent past she co-led the CMS HL-LHC physics and performance studies which are a core part of the CMS HL-LHC Detector Technical Design Reports. Under her leadership, the group performed a record number of sensitivity projections (~40), which became part of the CERN "Yellow Report" for HL-LHC physics and submitted to the European Strategy group.

Recently, she contributed to the "Future Colliders" section of the APS/DPF whitepaper submitted to the European Strategy group in 2018.

Meenakshi was co-convener of the ``New Particles" subgroup of the ``Path Beyond the Standard Model" group in the High Energy Frontier for Snowmass 2013 and also co-led the LPC based ``SM backgrounds" group, which was crucial to the Snowmass process as highlighted during the plenary at Minneapolis. For the first time, large numbers of pileup interactions (up to 140) were simulated for 14, 33, and 100 TeV pp collisions.

Meenakshia was also founding co-chair of the CMS Diversity Office (2018), and currently a member of this office (2019-2020). She is also the founding co-chair of the USCMS Diversity and Inclusion Committee.

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Meenakshi has been closely associated with the LPC center at Fermilab and co-led the LPC center for four years from 2013 to 2016. The LPC, which is there for more than a decadeis fulfilling its mission well. I have been contacted by the DOE in past to get my opinion on how LPC helps non-US CMS physicists and students. Within CMS it is accepted as ``one of the two main centers for CMS". It continues to catalyze contributions of USCMS collaborators to the experiment, allowing physicists stationed in the US to play lead roles in physics publications, detector operations and the upgrade programs. It also enables a lot of non-US physicists and students to get involved in CMS due to the financial and intellectual support it provides. It is an effective venue for those unable to be at CERN due to various constraints (economic, family, learning-style). The evolution of the LPC to its current form can be attributed to Meenakshi's spirited leadership which successfully created new programs and initiatives which have now become the core of what the LPC offers to its participants and visitors.

With such stellar contribution to the field of hadron collider physics, I think she is an excellent candidate to lead the effort.

I hope my views would be considered when the decisions are made.

Thank you, Sincerely Yours Brajesh Choudhary Spokesperson, India-CMS Collaboration (8/2017 - 8/2021)

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Prof. Brajesh Chandra Choudhary Department of Physics & Astrophysics University of Delhi Delhi - 110007, India Phone - +91-11-27667225 (X1432) (O), +91-9810662609 (Mobile) Hello Chris and Tim:

I would like to nominate myself, Ketevi A. Assamagan (BNL), to convene of sub-convene in these topics of Energy Frontiers: Higgs physics decay channels and production processes;

Accelerator searches for DM and long lived particles (ATLAS and CMS);

I am a member of the atlas collaboration and have convened the atlas Higgs working group and the LHC Higgs cross section group in the past. Currently, my focus has been on VBF H -> invisible, H -> invisible combination and DM interpretation in the Higgs portal model, Higgs coupling combination, searches for Dark Sector states (dark vector bosons prompt or long-lived), search for additional scalar S with mS != 125 GeV, and H  $\rightarrow$  4I. I also organize the Dark Interactions Workshop at BNL; you will find the past workshop details here:

https://www.bnl.gov/di2014/ https://www.bnl.gov/di2016/ https://www.bnl.gov/di2018/ We are planning for di2020 for August 2020.

Best regards, Kétévi.

Hi Chris:

Thanks much. Regards, Kétévi.

From: "Hill, Christopher" <chill@physics.osu.edu> Date: Thursday, November 14, 2019 at 11:56 AM To: Ketevi Adikle Assamagan <Ketevi.Adikle.Assamagan@cern.ch> Cc: "ttait@uci.edu" <ttait@uci.edu> Subject: Re: To nominate convener - Snowmass energy frontiers

Hi Ketevi,

Thanks very much! We will be sure to pass this along to the DPF executive committee for the next step in the selection process. Best.

### **Christopher S Hill**

Professor Department of Physics 3048 Physics Research Building, 191 W. Woodruff Ave., Columbus, OH 43210-1117 614-688-7512 Office <u>chill@physics.osu.edu</u>

From: Ketevi Adikle Assamagan <Ketevi.Adikle.Assamagan@cern.ch> Date: Thursday, November 14, 2019 at 10:21 AM To: "Hill, Christopher" <chill@physics.osu.edu>, Tim Tait <tmptait@gmail.com> Subject: To nominate convener - Snowmass energy frontiers

Hello Chris and Tim:

I would like to nominate myself, Ketevi A. Assamagan (BNL), to convene of sub-convene in these topics of Energy Frontiers: Higgs physics decay channels and production processes;

Accelerator searches for DM and long lived particles (ATLAS and CMS);

I am a member of the atlas collaboration and have convened the atlas Higgs working group and the LHC Higgs cross section group in the past. Currently, my focus has been on VBF H -> invisible, H -> invisible combination and DM interpretation in the Higgs portal model, Higgs coupling combination, searches for Dark Sector states (dark vector bosons prompt or long-lived), search for additional scalar S with mS != 125 GeV, and H  $\rightarrow$  4I. I also organize the Dark Interactions Workshop at BNL; you will find the past workshop details here:

https://www.bnl.gov/di2014/ https://www.bnl.gov/di2016/ https://www.bnl.gov/di2018/ We are planning for di2020 for August 2020 KA

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Best regards, Kétévi.

Hi Chris and Tim,

I am writing to nominate my colleague, Dmitri Tsybychev (<u>dmitri.tsybychev@stonybrook.edu</u>),to be a topical convener in either the Higgs or EW area of the Energy Frontier. Dmitri's has a long standing interest in Vector Boson Scattering studies which have been a component of his ATLAS research essentially since the start of data taking. His interests are broader than this, as his students and post docs have also worked on the Higgs boson search and more recently the measurement of Higgs boson properties, however, in the context of Snowmass, he is particularly interested in VBS. I wasn't sure whether this ultimately would fall into the Higgs or EW topics, thus the dual nomination.

Regards, John Hobbs

Department of Physics & Astronomy Stony Brook Univ. Dear Chris and Tim,

I would like to nominate Meenakshi Narain as a Snowmass Energy Frontier convener.

Meenakshi Narain is a member of the CMS collaboration and leads the US CMS collaboration as its Collaboration Board Chair. She serves as the regional representative from U.S. in the Management Board of the CMS Experiment. She is actively engaged with the US LHC Users Association (USLUA) in promoting the US HEP program at the congressional level and encouraging the USCMS and USLUA members to engage in the next Snowmass planning process [see slides from USLUA meeting at [1]]. In the recent past she co-led the CMS HL-LHC physics and performance studies which are a core part of the CMS HL-LHC Detector Technical Design Reports. Under her leadership, the group performed a record number of sensitivity projections ( $\sim$ 40), which became part of the CERN "Yellow Report" for HL-LHC physics and submitted to the European Strategy group.

Recently, she contributed to the "Future Colliders" section of the APS/DPF whitepaper submitted to the European Strategy group in 2018.

Narain was co-convener of the ``New Particles'' subgroup of the ``Path Beyond the Standard Model'' group in the High Energy Frontier for Snowmass 2013. . Narain co-led the LPC based ``SM backgrounds'' group, which was crucial to the Snowmass process as highlighted during the plenary at Minneapolis. For the first time, large numbers of pileup interactions (up to 140) were simulated for 14, 33, and 100 TeV pp collisions.

Narain was founding co-chair of the CMS Diversity

Office (2018), and currently a member of this office (2019–2020). She is also the founding co-chair of the USCMS Diversity and Inclusion Committee.

[1]https://indico.cern.ch/event/844493/contributions/3
545927/attachments/1927548/3191334/USLUA-FutureColliders-Oct2019.pdf

Best regards,

Andy White

Dr. Andrew P. White Professor of Physics University of Texas at Arlington awhite@uta.edu



# Hi Andy

Thank you very much for this nomination. We will pass it on the DPF executive committee for the next step in the selection process.

Best wishes Tim

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

On Nov 14, 2019, at 8:08 AM, Andy White
<awhite@uta.edu> wrote:

Dear Chris and Tim,

I would like to nominate Meenakshi Narain as a Snowmass Energy Frontier convener.

Meenakshi Narain is a member of the CMS collaboration and leads the US CMS collaboration as its Collaboration Board Chair. She serves as the regional representative from U.S. in the Management Board of the CMS Experiment. She is actively engaged with the US LHC Users Association (USLUA) in promoting the US HEP program at the congressional level and encouraging the USCMS and USLUA members to engage in the next Snowmass planning process [see slides from USLUA meeting at [1]]. In the recent past she co-led the CMS HL-LHC physics and performance studies which are a core part of the CMS HL-LHC Detector Technical Design Reports. Under her leadership, the group performed a record number of sensitivity projections (~40), which became part of the CERN "Yellow Report" for HL-LHC physics and submitted to the European Strategy group.

Recently, she contributed to the "Future Colliders" section of the APS/DPF whitepaper submitted to the European Strategy group in 2018.

Narain was co-convener of the ``New Particles'' subgroup of the ``Path Beyond the Standard Model'' group in the High Energy Frontier for Snowmass 2013. . Narain co-led the LPC based ``SM backgrounds'' group, which was crucial to the Snowmass process as highlighted during the plenary at Minneapolis. For the first time, large numbers of pileup interactions (up to 140) were simulated for 14, 33, and 100 TeV pp collisions.

Narain was founding co-chair of the CMS Diversity Office (2018), and currently a member of this office (2019-2020). She is also the founding co-chair of the USCMS Diversity and Inclusion Committee.

[1]https://indico.cern.ch/event/844493/contributions/ 3545927/attachments/1927548/3191334/USLUA-Future-Colliders-Oct2019.pdf

Best regards,

Andv White

MILLO MILLO

Dr. Andrew P. White Professor of Physics University of Texas at Arlington awhite@uta.edu Dear people,

I would like to nominate Professor Meenakshi Narain as one of the co-conveners of the Energy frontier group for the upcoming DPF Community Planning effort. During the period I was spokesperson, Meenakshi served as the co-convener of the CMS Upgrade Performance Studies Group (UPSG) that was responsible for guiding the physics studies and detector optimizations that contributed to the various Technical Proposals and Technical Design Reports that defined the CMS Upgrade. Under her leadership, this team also produced the CMS contribution to the CERN Yellow Report that was submitted to the European Strategy group. She is herself a major contributor to the analysis of D0 and CMS data in Higgs physics, standard model (SM) and Beyond the SM physics, and heavy quark physics. In her work on the UPSG and her service as head of the LHC Physics Center (LPC) at Fermilab, she demonstrated her ability to lead and motivate physicists of all ages, but especially young people, to work on problems that, although in the future, are nevertheless critical to our field. She has made major contributions to all recent planning exercises, for example to Snowmass 2013. Professor Narain would be an excellent choice for this very important convenership.

Cheers Joel Butler

--

Joel Butler Fermilab, Distinguished Scientist CMS experiment at CERN EMAIL: Business: <u>butler@fnal.gov</u> or joel.butler@cern.ch Personal: joeln.butler@gmail.com Mobile phones/SKYPE: US: (+1) 630 651 4619; Europe: +41 75 411 4981; SKYPE:joel\_butler Dear Tim,

Please attached below my nomination of Ian Low as the Energy Frontier Convener.

Best Regards,

Carlos Wagner



5640 S. Ellis Ave, Chicago, IL 60637

Chicago, November 14<sup>th</sup>, 2019

Dear Tim (Prof. Tait),

I would like to nominate Prof. Ian Low as the Energy Frontier Convener for the Snowmass studies. Ian is a renowned expert in the field of particle physics and has expressed strong interest in contributing to the Snowmass process.

Ian has the proper knowledge and organizational skills to be an effective Energy Frontier Convener and we believe the High Energy Physics Community would highly profit if he fulfilled this relevant leadership role.

Best Regards,

Carlos E.M. Wagner Head, Argonne HEP Theory Group Professor, University of Chicago. CW



Dear Carlos,

Thank you for this nomination. We have recorded it, and will pass it on the DPF executive committee for the next stage of the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 14, 2019, at 1:42 PM, Carlos E.M. Wagner <elcwagner@gmail.com> wrote:

Dear Tim,

Please attached below my nomination of Ian Low as the Energy Frontier Convener.

Best Regards, Carlos Wagner

<IanSmass.pdf>

Dear Chris and Tim,

I would like to nominate Nausheen Shah (nausheen.shah@wayne.edu) as a topical group leader for:

BSM: new bosons, new fermions

or

BSM: SUSY and MET

Sincerely,

Gil Paz

### 

Gil Paz Department of Physics and Astronomy

Wayne State University 666 W. Hancock Street Detroit, MI 48201, USA Associate Professor Physics Building, Rm 360

Phone: (313) 577-2756 Fax: (313) 577-3932 Email:gilpaz@wayne.edu



Dear Gil,

Thank you for this nomination. We have recorded it, and will pass it on the DPF executive committee for the next stage of the selection process.

Best wishes Tim

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

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On Nov 14, 2019, at 2:10 PM, Gil Paz
<gilpaz@wayne.edu> wrote:
Dear Chris and Tim,
I would like to nominate Nausheen Shah
(nausheen.shah@wayne.edu) as a topical group leader
for:
BSM: new bosons, new fermions
```

BSM: SUSY and MET

Sincerely,

Gil Paz

Dear Tim,

Thanks for confirming.

Gil

Gil Paz	
Department of Physics and Astronomy	

Wayne State University 666 W. Hancock Street Detroit, MI 48201, USA Associate Professor Physics Building, Rm 360

Phone: (313) 577-2756 Fax: (313) 577-3932 Email:gilpaz@wayne.edu

From: Tim Tait <tmptait@gmail.com> Sent: Thursday, November 14, 2019 5:33 PM To: Gil Paz <gilpaz@wayne.edu> Cc: Chris Hill <chill@physics.osu.edu> Subject: Re: Nomination of a topical group leader

Dear Gil,

Thank you for this nomination. We have recorded it, and will pass it on the DPF executive committee for the next stage of the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

Pronouns: he/him. Some people identify with or use pronouns that may not be obvious based on their appearance. By stating mine clearly I hope to encourage others to share theirs. Please help make our culture more inclusive, safe, and comfortable for everyone.

> On Nov 14, 2019, at 2:10 PM, Gil Paz <gilpaz@wayne.edu> wrote:

> Dear Chris and Tim,

>

> I would like to nominate Nausheen Shah (nausheen.shah@wayne.edu) as a topical

group leader for: > > BSM: new bosons, new fermions > > or > > BSM: SUSY and MET > > Sincerely, > > Gil Paz > > Gil Paz Associate Professor > Department of Physics and Astronomy Physics Building, Rm 360 > Wayne State University Phone: (313) 577-2756 > 666 W. Hancock Street Fax: (313) 577-3932 > Detroit, MI 48201, USA Email:gilpaz@wayne.edu

#### Dear Chris, Tim,

I'd like to nominate Antonio Boveia as convener of the subgroup that will concentrate on dark matter studies as part of the Snowmass process.

Antonio has been deeply involved in dark matter searches within the ATLAS collaboration for a number of years. He initially led our jets+X subgroup of the Exotics physics group and more recently led the ATLAS contribution to the LHC dark matter working group. I think highly of him and his contributions to ATLAS and the field. He would be an excellent convener for the Snowmass process and bring his typical deep level of focus and expertise to that task.

Regards, Stephane.

Stephane Willocq University of Massachusetts-Amherst <u>stephane.willocq@cern.ch</u> Skype: swillocq



## Dear Stephane,

Thank you for this nomination. We have recorded it, and will pass it on the DPF executive committee for the next stage of the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 14, 2019, at 2:11 PM, Stephane Yves G Willocq <stephane.willocq@cern.ch> wrote:

Dear Chris, Tim,

I'd like to nominate Antonio Boveia as convener of the subgroup that will concentrate on dark matter studies as part of the Snowmass process.

Antonio has been deeply involved in dark matter searches within the ATLAS collaboration for a number of years. He initially led our jets+X subgroup of the Exotics physics group and more recently led the ATLAS contribution to the LHC dark matter working group. I think highly of him and his contributions to ATLAS and the field. He would be an excellent convener for the Snowmass process and bring his typical deep level of focus and expertise to that task.

Regards, Stephane.

Stephane Willocq University of Massachusetts-Amherst stephane.willocq@cern.ch Skype: swillocq Dear Chris and Tim,

This email is to nominate my colleague, Meenakshi Narain, as a convener for the "Energy Frontier" group. She was co-convener of the "New Particles" subgroup of the "Path Beyond the Standard Model" group in the High Energy Frontier for Snowmass 2013. She is Collaboration Board Chair of the US CMS collaboration. She has been actively promoting diversity and inclusion both locally at Brown and globally in the CMS collaboration. Given the leadership she has demonstrated and her passion in getting the collider community engaged in the upcoming Snowmass planning, I believe that she will be a good organizer for the "Energy Frontier" group.

Best regards,

JiJi Fan

Dear Tim,

Please find my nomination of Radja Boughezal as the Energy Frontier QCD working group leader.

Best wishes,

Carlos Wagner



5640 S. Ellis Ave, Chicago, IL 60637

Chicago, November 14<sup>th</sup>, 2019

Dear Tim (Prof. Tait),

I would like to nominate Dr. Radja Boughezal as the leader of the Energy Frontier QCD (precision cross sections) working group. Radja is a well known expert in the field of QCD, works on the computation of higher order QCD cross sections for hadron colliders and has expressed strong interest in contributing to the Snowmass process.

I believe that Radja has the proper knowledge and organizational skills to be an effective working group leader and the Snowmass studies will greatly benefit from having her as the leader of the Energy Frontier QCD working group.

Best Regards,

Carlos E.M. Wagner Head, Argonne HEP Theory Group Professor, University of Chicago CW



Hi Carlos,

Thank you for this nomination. We will be sure to pass it on to the DPF executive committee, for the next step in the selection process.

Best wishes Tim

\_\_\_\_\_

Professor Tim Tait Chair, Department of Physics and Astronomy University of California, Irvine

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On Nov 14, 2019, at 3:23 PM, Carlos E.M. Wagner <<u>elcwagner@gmail.com</u>> wrote:

Dear Tim,

Please find my nomination of Radja Boughezal as the Energy Frontier QCD working group leader.

Best wishes, Carlos Wagner

<RadjaSmass.pdf>

Dear Chris, Tim,

I would like to nominate Prof. Meenakshi Narain from Brown University as convener of the "Energy Frontier" group of the upcoming DPF Snowmass Community planning process.

Meenakshi has plenty of relevant experience: She convened the New Particles group during Snowmass 2013, she contributed to the "Future Colliders" section of the APS/DPF whitepaper submitted to the European Strategy group in 2018, and she led the CMS HL-LHC physics and performance studies group, which supplied the physics justifications and performance estimates for the CMS HL-LHC Detector Technical Design Reports. These studies also became part of the CERN "Yellow Report" for HL-LHC physics which was submitted to the European Strategy group.

I think she would provide excellent leadership to the Energy Frontier group.

best regards,

Ulrich Heintz Professor of Physics Brown University I would like to nominate Andrei Gritsan to be a Snowmass Convener for the Higgs Physics Properties Group. Andrei joined CMS in 2007 and was instrumental in CMS' discovery study of the Higgs in 2011/2012. Since then has been a leader in the study of its properties including its quantum numbers, width, and anomalous couplings. He has served as the convener of the H->ZZ group in CMS and has the developed tools for the continued study of this state. In Run 2, he has worked on the study of anomalous couplings of the Higgs boson using H->ZZ, H->tautau, and H-> gamma gamma decays within an EFT framework, and has been an editor of several Higgs papers in CMS. He has also been a contributor to the LHC Higgs XS WG and Yellow Reports 3 and 4, and has been a contributor and co-author of the PDG

since 2006, and has collaborated with many theory colleagues.

Sincerely,

Morris Swartz

Morris Swartz Professor Dept of Physics and Astronomy Johns Hopkins University Mail: 3400 N. Charles St. Baltimore, MD. 21218–2686 Phone: 1–410–516–5159 Fax: 1–410–516–7239 email: morris@jhu.edu