

AF TGC Meeting Today 06/15/22 :

Agenda:

1. AF Topical Groups Summary Papers – TGCs (short updates AF7→AF1)
2. eeForum and MC Forum reports – status/updates
3. ITF Report: release (today), Qs and Discussion session #1 on June 29 – TR, VS
4. Seattle CSS, AF activities, planning individual AF session - VS, all
5. AOB

Topical Group Summaries

- Drafts to be posted on AF-wiki

<https://snowmass21.org/accelerator/start>

AF Reports (Drafts)

Here is the list of the preliminary drafts of reports in the Accelerator Frontier and their associated feedback by the community before the reports are finalized. **LINKS ARE TO BE ADDED**

1. [AF1: Beam Physics, Education and Outreach](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
2. [AF2: Accelerators for Neutrinos](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
3. [AF3: Higgs/Electroweak Factories](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
4. [AF4: Energy Frontier Colliders](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
5. [AF5: Beams for BSM Physics](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
6. [AF6: Advanced Colliders](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
7. [AF7-T: Accelerator Technologies - Targets and Sources](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
8. [AF7-M: Accelerator Technologies - Magnets](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)
9. [AF7-R: Accelerator Technologies - RF](#)
 - Please enter your comments and feedback on the report draft in this [shared document](#)

Same for ITF and Fora Reports

10. Implementation Task Force Report

- Please enter your comments and feedback on the report draft in this  [shared document](#)

11. Muon Colliders Forum Report (available)

- Please enter your comments and feedback on the report draft in this [shared document](#)

12. [e+e- Colliders Forum Report](#)

- Please enter your comments and feedback on the report draft in this [shared document](#)

13. [Accelerator Fronties Summary Report](#)

- Please enter your comments and feedback on the report draft in this [shared document](#)

- One way or another, opportunities need to be open to collect responses/inputs/Qs - !
 - *Shared Goosgle Docs? – as for ITF (see below)*
- “Final” (arXiv) versions after CSS (by Sep’22)

ITF Report Discussions

- ITF Report Draft released today (AF wiki, 23 tables, 11 Figs) – **June 15**
- 10 days to get AF (TGCs and proponents) input via Google Doc (see AF wiki page) – **by June 25**

https://docs.google.com/document/d/1zBnSmDX0iAmnE1_X5agaBHjk4Echjk31Qs7ZrGrs4xM/edit

- (ITF prepares responses)
- AF Meeting (TGCs+Fora+liaisons+proponents) with the ITF – **Wed, June 29**
(2-4 hours, same time as this one)
- If necessary – another meeting in July

ITF Report: Qs Google Doc

https://docs.google.com/document/d/1zBnSmDX0iAmnE1_X5agaBHjk4Echjk31Qs7ZrGrs4xM/edit

Questions on the ITF Report (draft released 06/14/2022)

(AF TGCs and project proponents are invited to submit here your questions and suggestions by Sunday, June 26 - to be considered by the ITF and addressed at the AF half-day meeting on Wed June 29, 2022 - (meeting in July - TBC). Please, sort out your Qs along the Topical Group categories)

1. LIST 1: General Qs:

- 1.1. (MyName/AFx or project): Please correct typo in Appendix 7.6.3 - (typo)
- 1.2.
- 1.3.

2. LIST 2: Colliders for Higgs/EW Physics (AF3)

- 2.1. (MyName/AFx or project): why my favorite collider is not even on the ITF Table 1?
- 2.2. .
- 2.3. .
- 2.4. .

3. LIST 3: Energy Frontier Colliders (AF4)

- 3.1. (MyName/AFx or project): why my favorite collider is not on the ITF Table 2?
- 3.2. .
- 3.3. .
- 3.4. .

4. LIST 4: Advanced Accelerators/Colliders (AF6)

- 4.1. (MyName/AFx or project): why my favorite collider is not on the ITF Table 3?
- 4.2. .
- 4.3. .
- 4.4. .

5. LIST 5: Accelerator Technologies (AF7 RF, Mag, T&S)

- 5.1. (MyName/AFx or project): why C³ positron target is not listed in the ITF Table 7?
- 5.2.
- 5.3.

CSS Seattle 07/17-26/2022 = 9.5 days

- Registered (as of Tue PM): 491, incl ~45 AF's
<https://seattlesnowmass2021.net/participantList/>

* Fees are still reasonable (till June 17):

Registration Type	Early Bird (Due June 5th)	Normal* (Due July 3rd)	Late*
Full	\$550	\$800	\$1000
Early Career	\$275	\$400	\$450

Block Schedule

(see Program at <https://seattlesnowmass2021.net/>)

NOTE: This schedule is not yet final	Saturday, July 16	Sunday, July 17	Monday, July 18	Tuesday, July 19	Wednesday, July 20	Thursday, July 21	Friday, July 22	Saturday, July 23	Sunday, July 24	Monday, July 25	Tuesday, July 26	Wednesday, July 27
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	
	7:30 AM											
	8:00 AM	Registration									National Study NAS EPP Decadal study	
	8:30 AM											
	9:00 AM											
	9:30 AM											
	10:00 AM	Introductory Plenary	Parallel	Parallel	Parallel	Parallel	Parallel	Parallel		Snow mass Summary (Program under development)	Snow mass Summary (Program under development)	
	11:00 AM								Parallel			
	12:00 PM										Closing Remarks	
	1:00 PM	Lunch	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch	Lunch	Lunch & Communicating HEP to the public and the govt.	Lunch	Lunch		LIGO Hanford Tour
	2:00 PM	Introductory Plenary	Parallel 1: AIML Parallel 2: Underground	Panel: Careers and Training the Next Generations	Parallel 1: Neutrino Parallel 2: Rare processes	Colloquium on Rare Processes and Precision Measurements	Colloquium on Underground Physics	Colloquium on Energy Frontier Physics	Presentation: Snow mass Early Career	Panel: Interconnections between frontiers and with other fields		
	3:00 PM											
	3:30 PM											
	4:00 PM	Coffee	Parallel 1: The next accelerators Parallel 2: LQCD	Parallel 1: Lepton Colliders Parallel 2: Cosmic	Colloquium on Instrumentation	Colloquium on new Accelerators and R&D	Colloquium on Theory	Colloquium on Computing	Parallel 1: Underrepresented Minorities Parallel 2: Instrumentation projects	Coffee	Talks: National, International Leaders	
	5:00 PM	Pre-Registration	Planning US HEP: past, present, future	Coffee	Coffee		Coffee	Coffee	Coffee			
	6:00 PM			DEI Talks and Panel	Colloquium on Community Engagement		Colloquium on Cosmic Frontier Probes of Fundamental Physics	Colloquium on Neutrino Physics	Quantum Information Science in HEP	talks DOE, NSF, FNL Director, other US labs	Panel International Status and Plans	
	7:00 PM											
	8:00 PM		Reception & Poster & Industry Partners		Adam Bress Public Lecture	Physics Slam			Colliderscope			

Intra-Frontier (AM) Sessions – see next slide

6/15/2022

(see Program at <https://seattlesnowmass2021.net/>)

6

AF Sessions – *Day by Day*

Note, that generally there are three types of sessions: “Day 1 and the Last 1.5 Days”, “AM parallel” sessions (Mon-Sun) and “PM plenary” session (Mon-Sun)

7-17 Sun : “Day 1”; AF conveners present 15-min workplan for the CSS (Steve G)

7-18 Mon : AM: first AF block (session 19G, KNE220 room, good for 100 people) – “AF Plenary” to discuss **AF3 and AF4 reports**
AM: second AF block (19H, 20 ppl) – reserved for “AFx internal discussion”
(that is not AF-plenary, TBD, “x” is not defined – pls send me your proposals)
AM: some AF people attend “NF All-Frontier – Discussion and Summaries”
PM: 3:30-5pm – **Snowmass plenary** (one of two parallel): **ITF report and EF/TF/AF/IF discussions**

7-19 Tue: AM: first block (19E, 30 ppl) – tentatively reserved for “AF1 & AF6 internal”
AM: second block (19F, 20 ppl) – tentatively reserved for “AF3 & AF4 internal”
AM: some AF people might want to take part in parallel NF, RPF and CEF discussions (see full session schedule)
PM: 3:30-5:00pm – **Snowmass plenary** (one of two parallel):: **eeForum and Muon Collider Fora presentations** and EF/TF/AF/IF discussions
PM: also possible – AF1 takes part in the Snowmass plenary “Panel on Careers and Training” 2:00-3:30pm

AF Sessions – *Day by Day* (2)

7-20 Wed : AM: first block (19C, 100 ppl) – “AF Plenary” to discuss (NB!) **AF6 and ITF reports**

AM: some AF people attend “NF-AF Cross-Frontier Discussion/Booster replacement” session

7-21 Thur: AM: first block (24L, 100 ppl) - “AF Plenary” to discuss **AF2 and AF5 reports**

AM: second block (24K, 70 ppl) – tentatively reserved for “AF7 internal”

PM: 3:30-5:00 - **Snowmass plenary “Colloquium on New Accelerators and R&D”**

7-22 Fri: AM: first block (24J, 100 ppl) - “AF Plenary” to discuss **Accelerator Frontier Summary report (our “main message”)**, EF, IF and TF people will join us (that’s one of the main AF events at the CSS)

AM: second block (24H, 50 ppl) – reserved for “AFx internal” (TBD)

AM: third block (24I, 70 ppl) – reserved for “AFx internal” (TBD)

AF Sessions – *Day by Day* (3)

7-23 Sat: AM: first block (24C, 70 ppl) – “AF Plenary” to discuss **AF7-MAG, -RF, -Targets&Sources reports**

AM: second half-block (18M, 150 ppl) – tentatively reserved for “AF3 & AF4 internal”

AM: some AF people attend “EF Plenary – Discussion and Summaries”

AM: some AF people attend “RPF All-Frontier Discussions”

7-24 Sun: AM: first block (KNE 120, 150 ppl) - “AF Plenary” to discuss **AF1 report**

AM: second block (22D, 30 ppl) – reserved for “AFx internal” (TBD)

7-25 Mon: AM: 20 min **AF summary talk** at the “Snowmass Summary” plenary (Tor R.)

7-26 Tue: AM: (closeout)

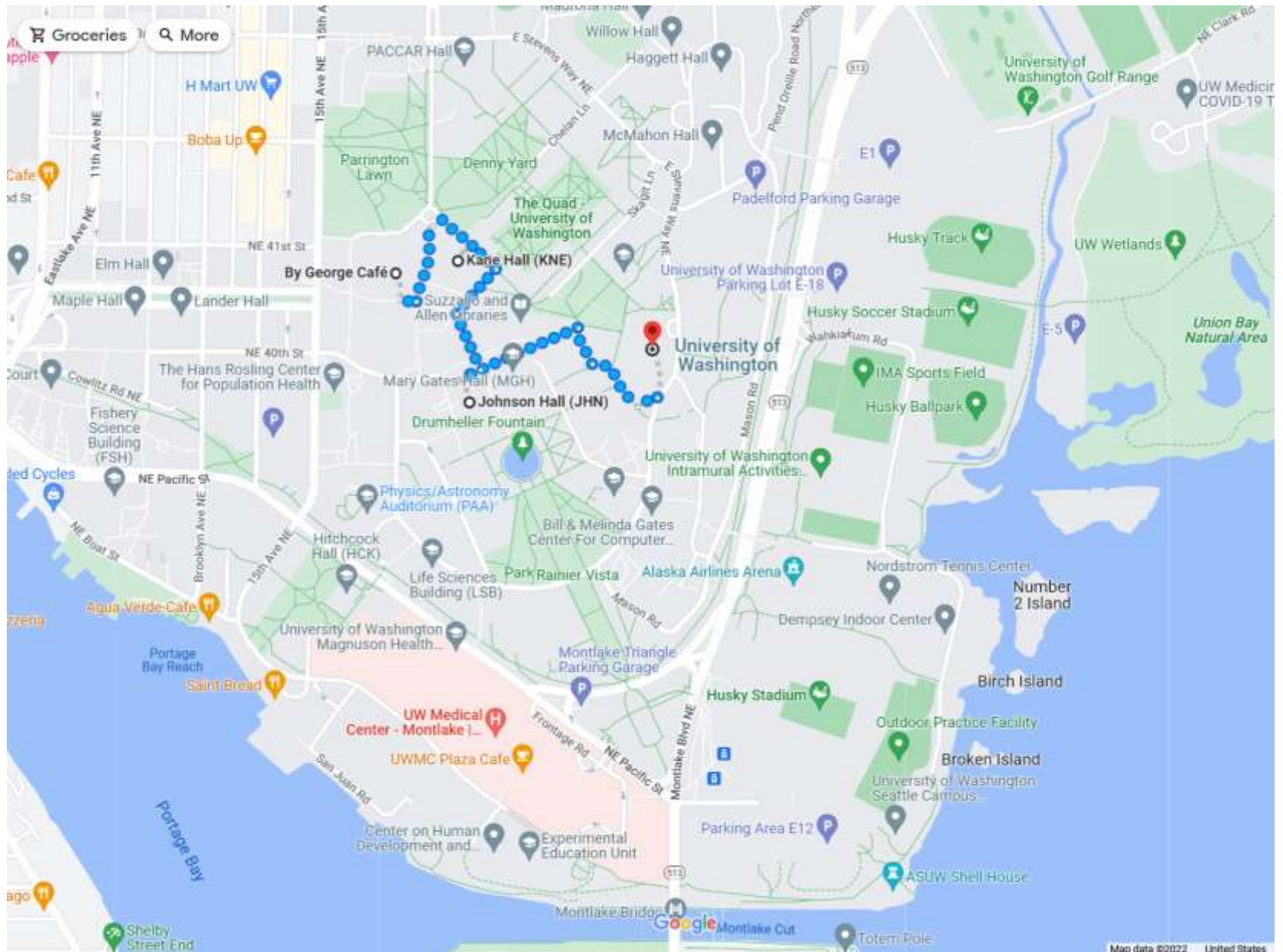
Unresolved yet: a) all TBD sessions – need your suggestions; b) need to finalize “AF internal” sessions – need your OK/alternative suggestions; c) the AF colloquium speaker(s) on 7-21; d) final day and a half program TBD; e) AF-CompF cross-frontier discussion (“to be or not to be”) – mb on 7-24?; f) will NF people join our AF2 and 5 session on Thur 7-21?

Back up slides

CSS aims at ~700 attendees:

expected number of people in each Frontier, built from the attendance survey

Frontier	Survey Numbers	Fraction	400 People	700 People
EF	323	20%	179	314
CF	220	14%	122	214
NF	205	13%	114	199
TF	192	12%	107	187
CompF	159	10%	88	155
IF	134	8%	74	130
RF	140	9%	78	136
AF	113	7%	63	110
CommF	69	4%	38	67
UF	33	2%	18	32
Total	1588	100%	882	1544
Number Actual	720			
Factor	2.205555556			



6/15/2022

All rooms within ~10 min walk

<http://seattlesnowmass2021.net/>

- Dorm rooms are not yet available for reservation – *but 200 will be [VS]*. If you want to be notified when they become available, please indicate [add your email to a list here](#).
- The primary lodging sponsored by the workshop are private dorm rooms on North campus within **0.4 miles from the workshop venue** ([7 minute walk](#)). The price will be close to \$110/night for single occupancy. The **minimum booking block is 8 days** (July 17~July 25) with shoulder dates of 2 days before and 2 days after the booking block.
- The room layout is a Double room, with private bathroom, desk, and excellent wifi. [Madrona Hall](#) is recently built and modern construction (as an example of one of the dorm room buildings).
- Nearby Hotels are **163-207\$/night** – see CSS webpage above

AM Sessions – Frontier's Internal and X-Frontier

PM Sessions – General (all Frontiers)

Name Box	B	C	D	E	F	G	H	I	J	K	L
	Sunday, July 17	Monday, July 18	Tuesday, July 19	Wednesday, July 20	Thursday, July 21	Friday, July 22	Saturday, July 23	Sunday, July 24	Monday, July 25	Tuesday, July 26	Wednesday, July 27
07:30 - 08:00 AM											
08:00 - 08:30 AM	Registration										
08:30 - 09:00 AM											
09:00 - 09:30 AM											
09:30 - 10:00 AM		Parallel	Parallel	Parallel	Parallel	Parallel	Parallel	Parallel			
10:00 - 10:30 AM	Introductory Plenary								Summary Plenary	Closeout Plenary	
10:30 - 11:00 AM											
11:00 - 11:30 AM											
11:30 - 12:00 PM											
12:00 - 12:30 PM											
12:30 - 01:00 PM	Lunch	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch	Lunch	Lunch	Lunch	Lunch		LIGO Hanford Tour
01:00 - 01:30 PM											
01:30 - 02:00 PM											
02:00 - 02:30 PM	Introductory Plenary	I	G	IIA X IIB	IIA X IIB	IIA X IIB	IIA X IIB	G			
02:30 - 03:00 PM		I		I	I				Summary & Closeout Plenary		
03:00 - 03:30 PM	Coffee		I	I	I			I IIA X IIB			
04:00 - 04:30 PM		Coffee									
04:30 - 05:00 PM	G	I	Coffee	Coffee	Coffee			Coffee	Coffee		
05:00 - 05:30 PM											
05:30 - 06:00 PM											
06:00 - 06:30 PM											
06:30 - 07:00 PM											
07:00 - 07:30 PM		Reception and Poster and Industry									
07:30 - 08:00 PM											
08:00 - 08:30 PM				Adam Riess Public Lecture	Physics Slam	Conference Dinner	ColliderScope				
08:30 - 09:00 PM			Industry Networking								
09:00 - 09:30 PM											
09:30 - 10:00 PM											
10:00 - 10:30 PM											
10:30 - 11:00 PM											

I → Long plenary for Primary presentation of the Frontiers (10)
 II → Split session (two topics in parallel. Secondary presentations by Frontier (5x2)
 G → General topic (not specific to any frontier) (7)

Initial AM Block Schedule

17

PM Sessions – “Types I and II”

- **The basic session is 1.5 hours, leaving**
 - 10 full 1.5-hour sessions for the Frontiers (10 blocks) = **Type I**
 - 10 shared (x2) session for the Frontiers (5 blocks) – **Type II**
- **Type I will be where the Frontier groups deliver their main message to the entire community in simple, direct terms**
 - There should be ample time for discussion, at least 30%
 - We will hold speakers to their time so that the discussion and Q&A does not get sacrificed
- **Frontiers (e.g. AF) choose specific topics and assign person or team to**
 - Write abstract, Propose talks or panels, Recruit speakers or participants
- **Current AF plan (in coord. with – EF, TF, IT and CEF)**
 - **ITF Report and Discussion - Type I or II (joint EF/AF/IF/TF)**
 - **Muon Collider Forum Report and Discussion – Type II (joint EF/AF/IF/TF)**
 - **e+e- Forum Report and Discussion – Type II (joint EF/AF/IF/TF)**
 - **HEP (and AF) Workforce Training – Type I (CEF led, all Frontiers)**
 - **“AF Own” – “Limits of Colliders/Ultimate Colliders” – Type I**
 - **“AF Own” – “Accelerator Technologies Status and Outlook” – Type II**

PM Sessions – “Type G”

Categories for General Sessions – Preliminary Thoughts - DPF Chair Line

- **Domestic Program:**

- Overview from US funding agencies
- Overview from US Lab directors
- View from HEPAP and Previous P5 chairs and members
- DOE and NSF also want to do some focused activities, such as meeting with PIs to discuss grant issues
- Perhaps a perspective from some people in Government, Congress,

- **International and Interdisciplinary Program**

- Presentations and panels of foreign lab directors
- Plans and planning process in other regions and nations
- ICFA, ECFA, perspective etc
- CERN and US collaboration
- Possibly Ukraine, Russia impacts
- Collaboration with Astrophysics (DAP), Nuclear (DNP), Gravity (DGRAV), DPB (also AF)

- **Special sessions on New and Evolving Technologies**

- Special session on Quantum including academic and commercial participation. how can HEP contribute?
- Special session on Gravitational Waves - HEP community is excited about this new way to experimentally probe the universe. How can HEP make the most out of this new opportunity?
- Special session on AI – how can HEP contribute?

- **Engagement**

- STEM,
- Promoting DEI: Gender, race, sexual orientation,
- supporting people with disabilities,
- Careers issues in HEP,
- How can we encourage people to work on “enabling technologies” in HEP? Instrumentation, computing, etc
- Sustainability in the next round of HEP projects, current operations, etc,
- A report on the US Congressional visits and other outreach activities to the government,
- Outreach: do we do it well enough

AM Sessions – Program evolving

- **Only for 7 “workdays” (non-plenaries = Mon-Sunday)**
- **AF can get upto 12 blocks (1 block = 1 room x 4 hours)**
 - Could be 2 blocks (Mon)+2+2+2+3+0+1 block (Sun) – see next slide
- **First order business – address X-Frontier needs:**
 - e.g., AF people are available for discussions on EF and RPF summaries (Sat), while EF and TF people are available for the AF summary discussion (Sunday)
 - AF-NF cross-cutting issues (Sunday)
 - AF-RPF-EF dark matter/CLFV discussions Thursday
 - AF-EF possible discussion block (2 hrs) on Friday
- **Next – AF internal discussions:**
 - *AF Summary report and discussion – AF wide - Sunday*
 - *Individual Topical Group Reports and Discussions, i.e., 9 of them - to be scheduled so the entire (or at least ½ of AF can attend) – probably later in the week*
 - *Do we want to have an extra time for the ITF report discussions - ?*
 - *Topical discussions – one or two topical groups - **PLEASE LET ME KNOW ASAP any needs/ideas for such!***

[illegible]

Block Schedule




schedule is not yet final	Sunday, July 17	Monday, July 18	Tuesday, July 19	Wednesday, July 20	Thursday, July 21	Friday, July 22	Saturday, July 23	Sunday, July 24	Monday, July 25	Tuesday, July 26	Wednesday, July 27
7:30 AM											
8:00 AM	Registration										
9:00 AM											
10:00 AM	Introductory Plenary	Parallel	Parallel	Parallel	Parallel	Parallel	Parallel	Parallel	Summary Plenary	Closeout Plenary	
11:00 AM											
12:00 PM	Lunch	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch	Lunch	Lunch	Lunch	Lunch		
1:00 PM											LIGO Hanford Tour
2:00 PM	Introductory Plenary	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion			
3:00 PM		Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Summary & Closeout Plenary		
	Coffee										
4:00 PM		Coffee				Coffee					
5:00 PM	Colloquia	Collouqia, Panels, Discussion	Coffee	Coffee	Coffee	Collouqia, Panels, Discussion	Coffee	Coffee			
			Collouqia, Panels, Discussion	Collouqia, Panels, Discussion	Collouqia, Panels, Discussion		Collouqia, Panels, Discussion	Collouqia, Panels, Discussion			
6:00 PM											
7:00 PM		Reception & Poster & Industry Partners		Adam Riess Public Lecture	Physics Slam	Conference Dinner					
8:00 PM											

Intra-Frontier (AM) Sessions – see next slide

Initial AM Block Schedule

[illegible]

As of today: Submitted WPs

- Energy Frontier (EF) (132)  Anticipated submissions
- Neutrino Physics Frontier (NF) (75)  Anticipated submissions
- Rare Processes and Precision Measurements (RF) (68)
- Cosmic Frontier (CF) (87)
- Theory Frontier (TF) (118)  Anticipated submissions
- Accelerator Science and Technology Frontier (AF) (106)
- Instrumentation Frontier (IF) (82)
- Computational Frontier (CompF) (63)
- Underground Facilities and Infrastructure (UF) (13)
- Community Engagement Frontier (CommF) (29)
- total submissions: 463 (many papers have entries in multiple frontiers)

As of today: AF Submitted WPs

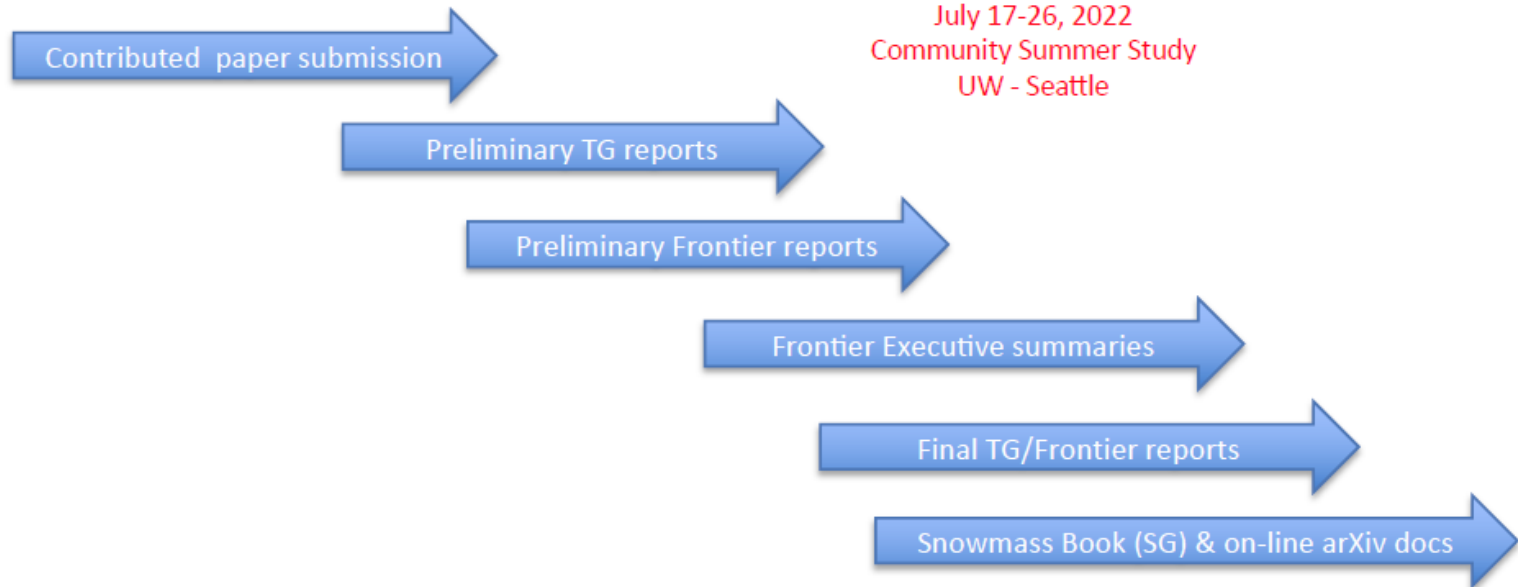
• AF0 (general)	16
• AF1 Phys&Edu	6
• AF2 Neutrino	10
• AF3 Higgs	11
• AF4 E-Frontier	10
• AF5 Rare Proc	5
• AF6 Advanced	9
• AF7 RF	17
• AF7 Magnets	18
• AF7 Targ&Src	4

CSS Events summary

- Reception - Monday, July 18 (day #2) [TBC]
- Public Physics Slam - Tuesday, July 19
- Public Lecture featured by [Adam Riess](#) - Wednesday, July 20
- Public ColliderScope featured by [Larry Lee](#) - Thursday, July 21 [TBC]
- Dinner - Friday, July 22
- Poster sessions - Reception Monday, July 18
Session break Mon-Fri July 18-22
- Exhibit (industry sponsors) - Session break Mon-Fri, July 18-July 22
- Snowmass @ Seattle Public Library
- LIGO Hanford in-person/virtual tour
- Physics Demo (VR)

Snowmass Timelines

Fall 2021	01/22	02/22	03/22	04/22	5/22	06/22	07/22 CSS	08/22	09/22	10/22 Snowmass Book & arXiv
--------------	-------	-------	-------	-------	------	-------	--------------	-------	-------	--------------------------------------



- **March 15: Contributed papers (a.k.a. White Papers)**
- May 31: Preliminary Topical Group Reports
- June 30: Preliminary Frontier Reports
- **July 17 – 26: Converge on reports for all the frontiers and produce executive summaries representing the views of their communities and providing the basic input needed for P5**
- September: draft Executive Summary and Report Summary
- **October- November: Snowmass Book finalized and ready for submission**