Users community engagement
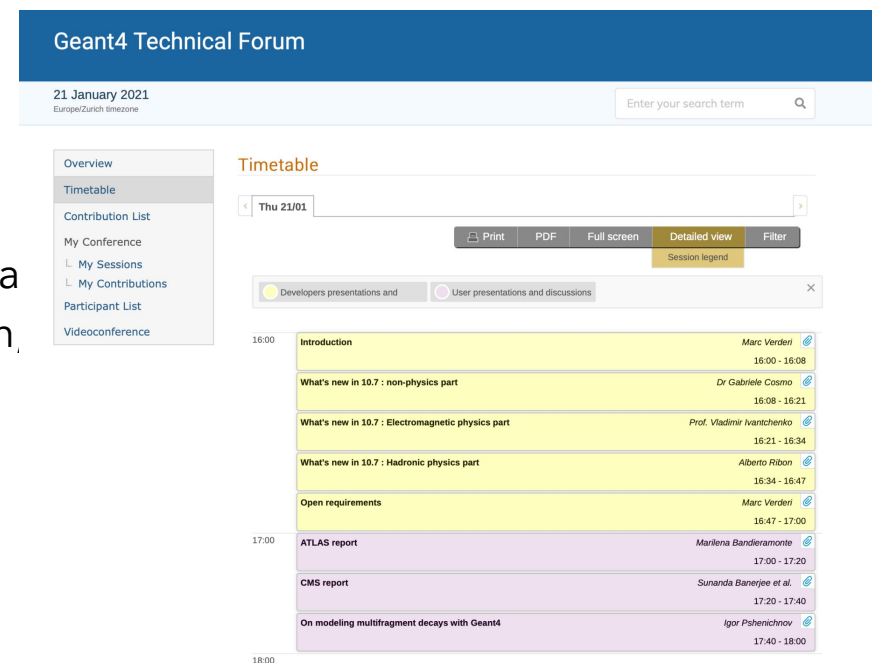
26th Geant4 Collaboration Meeting

24th September 2021

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(University of Warwick)

Geant4 Technical Forum

- What: The G4 Technical Forum is the main opportunity for users to give inputs and express requests and requirements to the Geant4 collaboration
    - basic functionalities, technical issues, performances, user support or other Geant4-user related aspects.
- When: 2-3 times per year:
    - *December-January*: To present the new Geant4 release
    - *March*: To present the work-plan of the year for the next Geant4 release
    - *September*: during the Geant4 Collaboration meeting (when not virtual
- Who: all the Geant4 users communities (HEP, Medical, Space and Radiation, Technology Transfer)
- How:
    - Format: 3 hours - one afternoon
        - 1 hour for developers + 2 hours for users
    - Minutes: shared on the Geant4 web page
    - Live recordings: available at the Indico page since the last edition


https://indico.cern.ch/event/985252/

Participation over the past years

- The Forum is well attended: usually ~20-30 persons (we can do better!)
- Mainly from LHC experiments
  - Each experiment has a direct contact with a Geant4 expert (weekly contact)
  - Nevertheless the TF is a good occasion to
    i. learn about new Geant4 features/planning
    ii. expose wider problems/ideas/issues
    iii. talk with most of the Geant4 experts, in one "place"
- Scarce participation from other user communities (dedicated technical forum)

Participation over the past years

- Reports from the major LHC experiments: ALICE, ATLAS, CMS, LHCb
- But also (partial list of the last 3 years):
  - CCFE contribution to G4/GV - UK (2018)
  - Modeling dust clouds in Geant4 - NK Labs, LLC Cambridge, MA, USA (2019)
  - GEMC - GEant4 MonteCarlo and CLAS12 detector (2019)
  - Geant4 and GlueX - Jefferson Lab (2019)
  - sPHENIX - Jefferson Lab (2019)
  - Electron-Ion Collider - Jefferson Lab (2019)
  - Geant4 in LArTPC simulation - FNAL (2020)
  - "pyg4ometry" to load/manipulate/save/visualise/convert GDML/Fluka/CAD geometry - Royal Holloway University of London (2020)
  - Tetrahedral mesh navigator - Hanyang University (2020)
  - PREXII Experiment - Radiation Control (2019) - Jefferson Lab
  - QSS particle tracking simulation for HEP- University of Buenos Aires (2021)
  - On modeling multifragment decays with Geant4 (2021) - INR RAS, Moscow and MIPT, Dolgoprudny
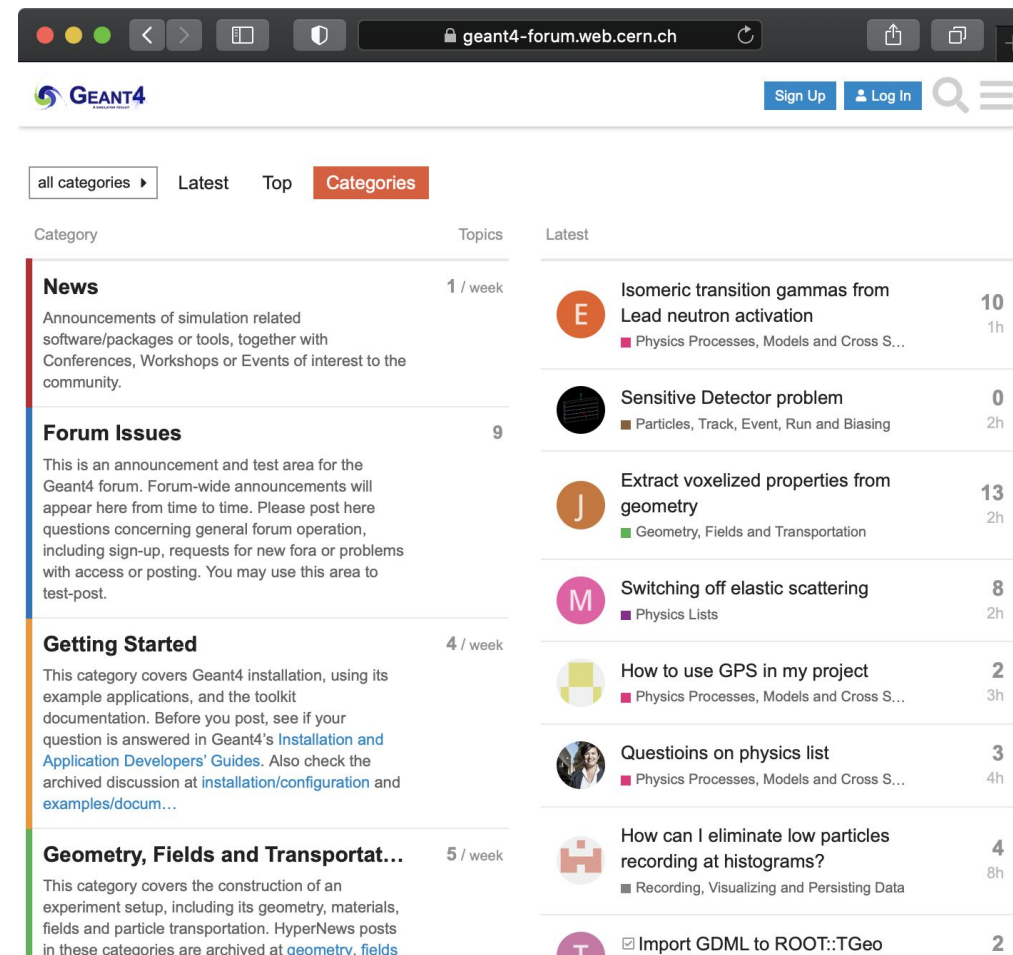
CLAS12 Simulations
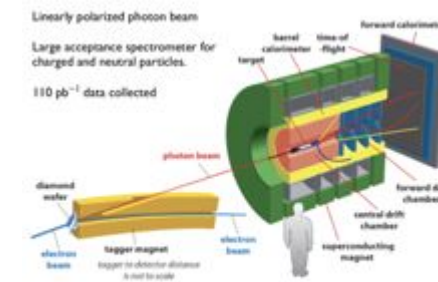
GlueX at Jefferson Lab

sPHENIX
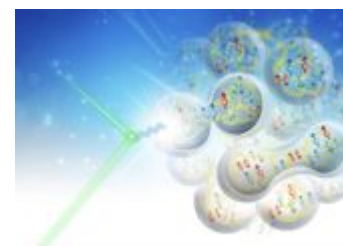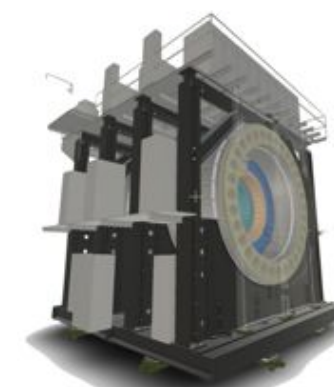
Some thoughts

- How can we engage more our users?
  - The Forum is announced through a mailing list and on the Geant4 website
  - Other means? Direct contact with representatives of each community?
  - Social media? I know there is a Twitter Geant4 account, is it an official one? Maybe engage some of the younger G4 members?
  - NOTE: Ok to be proactive, but remember that we first have to make "happy" our existing users

- How can we increase the user interest and participation?
  - Maybe have one dedicated forum for each community would be more effective
  - Avoid being too generic, encouraging interactions/comments
  - Open call for volunteering coding?
    - Call for features development/bug fixes or call for ideas
    - Share success stories from other users.

Geant4 Discourse

- What: A [Discourse](#) web forum for users to post questions about use of, or to give feedback on, Geant4
  - Replaced HyperNews system
  - [Full PaaS support from CERN IT](#)
  - "Categories" largely follow those on HyperNews, covering specific topics or areas of the toolkit
  - *This Week*: Request to add dedicated categories for Space and Medical (inc. Biology/DNA?) Communities
- Sign up is "open" but must be approved by admins (currently SB members)
  - Trying to encourage users to use full names. Most don't use their work email so difficult to form picture of location/use environment.
- About 1700 user accounts, but...
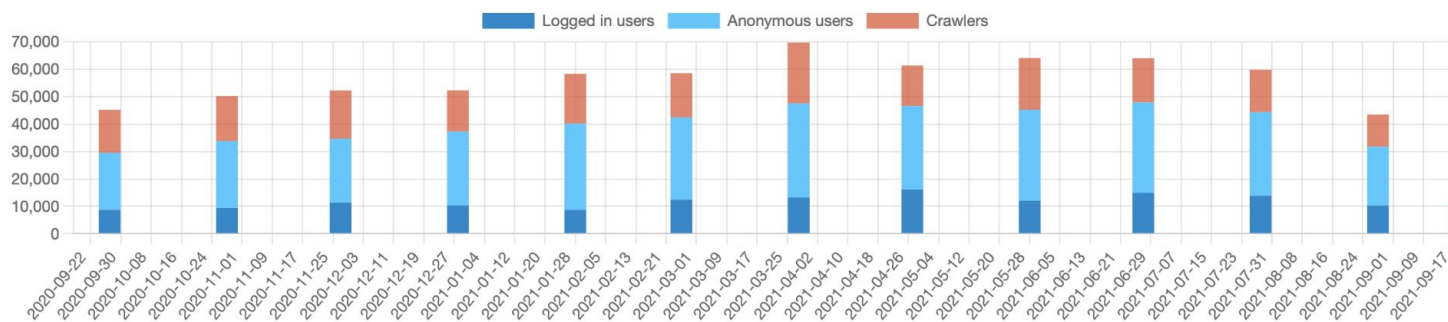
Participation over last year

- Page views probably not a great metric: lots of crawlers/bots in "Anonymous"
- Better to focus on Topics and Posts
- Shows it's pretty active, and generally have good response/discussion on new topics

- Can also see fairly steady stream of new users in "New Contributors"
- Daily Engagement average light
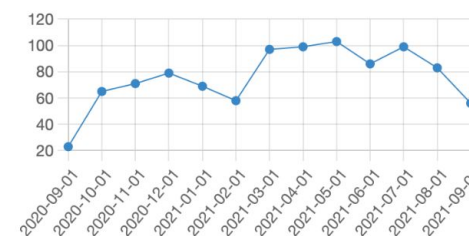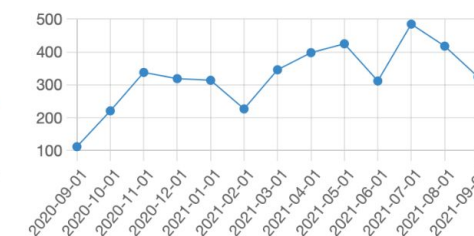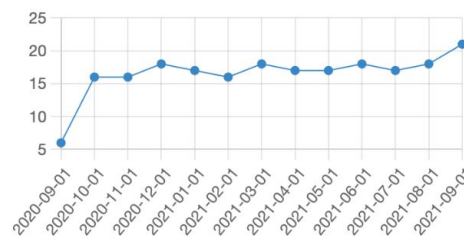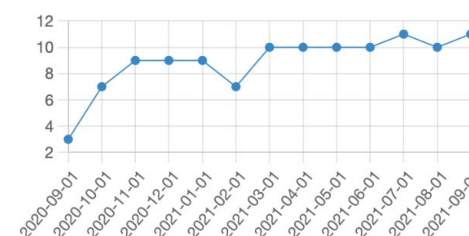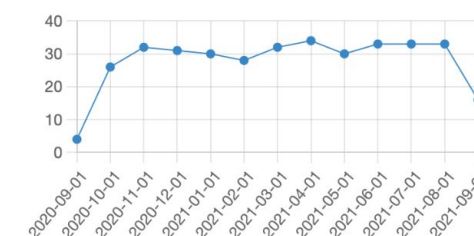
Building the Community
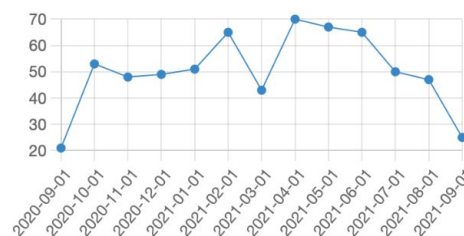
- Good input from the collaboration to questions - please keep it up and get involved in helping users if you haven't already!
  - It's on all of us to help users

- Not clear how to (or even if) we can engage/encourage experienced users to help as well - thoughts/ideas welcome

- Do want to give special thanks to Mike Kelsey and Daniel Weller here!

All Time ▾
Last Updated: Sep 22, 2021 10:30 am

1706 users   filter by username   all groups ▾

Username	❤ Received	❤ Given	Topics Created	Replies Posted ▾	Topics Viewed	Posts Read	Days Visited	Tim Re
mkelsey Michael Kelsey	97	6	27	527	2.1k	8.0k	710	3c
allison John Allison	39	0	1	396	250	772	315	1c
bmorgan Benjamin Morgan	28	17	0	321	636	1.9k	169	1c
civanch Vladimir Ivantchenko	21	0	0	300	421	1.1k	168	1c
maire Michel Maire	48	0	2	277	416	1.3k	448	1c
faca87 fausto casaburo	3	2	50	244	192	720	248	2c
weller	23	8	14	174	925	3.8k	259	2c
dsawkey Daren Sawkey	11	0	0	134	225	1.0k	134	1€
anna Anna Zaborowska	10	0	0	119	370	1.3k	174	20
guatelli	27	6	0	117	266	676	102	1c

Thoughts on Common Issues

- Still a lot of questions on installing
  - All we can do here is to ensure binary packages (rpm/deb/conda etc) are available and documented for basic users
- Many questions can be answered by pointing to an existing example
  - How can we make these more visible and topics they illustrate? Could the new website help with "advertising"?
- Often need to tease out "what Geant4/OS version"
  - Provide a post template that requires this info?
  - Should we even provide support for "old" versions (other than to help upgrade)?
- Monday highlighted "hard/need application" feedback.
  - Our documentation is good! Providing, or pointing to existing, training is all we can do. E.g. not our task to teach C++, but we can point to courses, e.g. HSF. Could think about a "software carpentry" that walks through writing an example?
- Geant4Py could also help here, but is in desperate need of effort to update, maintain and support long term.

All reports | Trending Search Terms

Term	Searches
gdml	123
python	119
gps	115
neutron	109
dicom	103
cross section	92
root	87
install	82
cry	79
biasing	77

Thanks for your attention.

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Backup slides