Agenda – 1 hour

- Towards next Gate release
- Benchmarks, tests
- Github issues/PR
- AOB …

Towards release 9.1 (with G4 10.7)

- Compilation 10.7.1: OK
- Proposal : end March, early April
- Need
  1. Terminate about 10 benchmarks
  2. Check radionuclide decay issue
  3. Docker + VM
  4. Other?
- Once ok:
  - Tag repositories
  - Send email

Gate benchmarks

https://github.com/OpenGATE/GateBenchmarks

- Automatized thanks to **github actions** (once a week)
- User can run them individually:

```
cd t1_edep_profiles
./runTest.sh
./runAnalysis.py output/
```

- Warning : sub module needed (for the large output files)

```
git clone --recursive https://github.com/OpenGATE/GateBenchmarks.git
git submodule update --recursive --remote
```

Benchmarks status

Test name	Status	Comment
t1_edep_profiles	99%	Gamma index to change
t2_edep_vox	99%	Gamma index to change
t3_range_e+	100%	
t4_necr	100%	
t5_pet	100%	
t6_dpk	80%	Tolerance to be adapted (or Kolmogorov tests)
t7_garf test	50%	WIP
t8_let_actor	75%	See Andreas
t9_gaga_phsp	80%	WIP
t10_spectro_gamma	80%	See Nicolas

Future benchmarks ?

- RadioactiveDecay: David, Nicolas Arbor. In discussion with G4
- Mesh and merge actor(mesh inside vox): Julien Bert. In progress.
- Optical: Carlotta, Mathieu, Mirjam ?
- Positronium (polarized-Livermore PL) ? Wojciech
- Accolinearity ? Mirjam/MaximeT

Rad Decay ?

- Geant4 update: G4RadioactiveDecay -> G4Radioactivation
- https://github.com/OpenGATE/Gate/pull/363
- Current status:
  - Works well with “standard” Physics List emstandard_opt4 for example
  - Does not work (no decay) with QGSP_BERT_EMZ
  - This is a Gate bug, not a Geant4.
  - (check with Livermore + polarized ; positronium)

- Exchange with Vladimir Ivantchenko

  “Hi David,

  The simplest solution would be to use G4RadioactiveDecayPhysics constructor. Add this constructor on top of any EM physics and it should work.

  I am not sure but suspect, that problems you have connect with the order of initialization, which may happen, if you construct custom physics. The radioactive decay is a complicate one, because involve simultaneously EM physics, Decay physics, the ion table, and the nuclear de-excitation module. Initialisations of all components should be coherent.

  The G4DecayPhysics is responsible for decay of all unstable particles except radioactive decay. I would also recommend to use this constructor.

  Some information about PhysicsLIst is at https://geant4-userdoc.web.cern.ch/UsersGuides/PhysicsListGuide/html/index.html . Unfortunately, I just learn, that there is no chapter on radioactive decay…

  Cheers, Vladimir”

Docker + Virtual Marchine status?

- Gate repository:
  - https://github.com/OpenGATE/Gate/pull/414

- Docker HUB
  - Both for Geant4 and Gate
  - https://hub.docker.com/orgs/opengatecollaboration

To check status with Alex (maybe put table of available docker files on the readthedoc)

Github Issues & PRs

- PR #418 twice saved trees to root output file — Merged (Wojciech)
- Positron range #379 (Minh Phuong Nguyen): — OK, see t3
- PETscanner (cubicArray & genericRepeater) #296 — Can we close ? yes
- G4Radioactivation #378 (Alex Vergera Gil) — Still in progress
- Accolinearity #381 — Still in progress (Mirjam and Karl)
- AnatomicalOrientation #359 — Doc change ? (label in the mhd file?)
- PR #391: material database ? — DavidB. WIP + doc for mat (recom) db
- Issue #392: PET and Ccmod — Ane?
- GATE Error related to SPECT_FFD Example #351 — not started yet, todo @Lyon

… other issues

Next Geant 11

- Listen the G4 event 11/03at 4pm
- Prepare Gate for Geant4 11 !