Resumen del estudio de Dune Numerics en el año 2021 📚 💻



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Lista de correo de Dune

• Dune/PDELab Course 2021 (Fri Jan 29 21:50:29 CET 2021).

Dear Dune community,

We are happy to announce that the annual DUNE/PDELab course typically hosted by the Interdisciplinary Center for Scientific Computing in Heidelberg will be held virtually this year. It is scheduled for March 8 - March 12, 2021.

This one week course provides an introduction to the most important DUNE modules and especially to DUNE-PDELab. At the end the attendees will have a solid knowledge of the simulation workflow from mesh generation and implementation of finite element and finite volume methods to visualization of the results. Topics covered are the solution of stationary and time-dependent problems, as well as local adaptivity, the use of parallel computers and the solution of non-linear PDEs and systems of PDEs. The application deadline is February 21, 2021. For further information, see the course homepage:

https://conan.iwr.uni-heidelberg.de/events/dune-course_2021/

Febrero 2021

Invitación por correo del profesor Dandy: Curso en Universidad de Heidelberg (Fri Feb 12 14:54:34 CET 2021).

Estimados colegas, estudiantes:

Espero puedan inscribirse y hacer extensiva la invitación al curso: DUNE (Distributed and Unified Numerics Environment) que se dictará en la Universidad de

Heidelberg. Los interesados pueden escribir una pequeña motivación para su inscripción, es totalmente gratuito.

Link: https://conan.iwr.uni-heidelberg.de/events/dune-course_2021

Nuevo repositorio

• **dune-archiso** (Sun Feb 14 17:58:00 CET 2021).

Nuevo SourceForge

• dune-archiso (Mon Feb 15 04:56:40 CET 2021).

Febrero 2021

• M Dune/PDELab Course 2021 Acceptance Notice (Peru-specific version) (Wed Feb 24 17:55:34 CET 2021).

Dear applicant,

Thank you very much for your application for the 2021 virtual course on Dune/PDELab. We are happy to inform you that we gladly accept you to the course and look forward to meeting you in two weeks.

We are currently designing the schedule for the course. With attendees spanning no less than 13 time zones, this is a major undertaking and it will take a few more days. As soon as we finalized the schedule, you will receive another Email with the necessary details for the course.

A total number of 19 people from Peru applied for the course. We surely could not accept everybody. We therefore selected five Peruvian participants for the course and would support you if you organized a follow up event for all applicants from Peru. Given that the course will be virtual, a lot of the course materials will be reusable e.g. the lectures will be recorded and available on stream. Also, such a virtual Peruvian course could feature a panel discussion where some of the lecturers from the original course (e.g. myself) answer questions from the audience.

My idea on how to proceed with this is to run the course and have a short discussion about this on the last day of the course. If you would like to discuss among each other beforehand, you find each other's email addresses in CC.

Best regards,

Dominic

• Creación del grupo de Telegram en español (Thu Feb 25 8:47:03 CET 2021).

Marzo 2021

- 🛣 Inicio del curso con Rubén, Miguel, Alessandri, Daniel, Alicia, John, Santiago (Mon Mar 8 15:00:00 CET 2021).
- 🚆 Fin del curso con Rubén, Miguel, Alessandri, Daniel, Alicia, John, Santiago (Fri Mar 12 15:00:00 CET 2021).

Nuevo repositorio

- introductory-review (Wed Mar 18 00:17:00 CET 2021).
- **dune-archiso** (Tue Mar 23 05:23:00 CET 2021).

Páginas web

- ី introductory-review
- Endeavour OS

Abril 2021

Nuevo repositorio

- **dune-basics** (Mon Apr 5 17:17:00 CET 2021).
- 🏗 GitHub Classroom (Wed Apr 7 16:36:00 CET 2021).

Mayo 2021

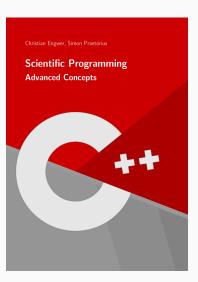
- Lista de correo de Open Porous Media
 - OPM Release 2021.04 (Wed May 5 08:14:51 CET 2021).
- Nuevo repositorio
 - proyecto_suelos que incluye la traducción del manual de HDNUM (Sun May 9 15:50:30 CET 2021).

Junio 2021

Nuevo repositorio

• biblioteca (Fri Jun 12 00:21:00 CET 2021).

Inicio del estudio de Scientific Programming with C++ in Summer Term 2021 (Fri Jun 25 23:38:00 CET 2021).



Webinar

• Una introducción a la caja de herramientas DUNE Numerics para la solución de modelos matemáticos (Tue Jul 13 22:10:00 CET 2021).

Lista de correo de Dune Devel

• First candidate for upcoming release 2.8.0 available for testing (Sat Jul 31 20:01:15 CET 2021).

Agosto 2021

Lista de correo de DuMux

• Release 3.4 (Tue Aug 3 09:07:20 CET 2021).

Lista de correo de Dune Devel

- dune 2.8.0-rc1 Debian release (Wed Aug 25 14:42:36 CET 2021).
- 2 python rc1 packages (Thu Aug 26 13:39:41 CET 2021).

Septiembre 2021

👫 Lista de correo de Dune Devel

• Dune 2.8.0 Released (Mon Sep 6 11:00:09 CET 2021).

Inicio del estudio de AMDiS Workshop 2021 (Fri Sep 18 02:03:00 CET 2021).



- Nuevo lanzamiento (downstream) dune-common
 - Fresh ports FreeBSD math/dune-common: Update 2.7.1 -> 2.8.0 (Tue Sep 07 07:14:38 CET 2021).
 - Repositorio de Usuarios de Arch Linux Version bump to 2.8.0, adding python bindings (Wed Sep 30 03:04:20 CET 2021).

Octubre 2021

- 📦 Nuevo lanzamiento (upstream) precice
 - preCICE v2.3.0 (Wed Oct 6 15:10:00 CET 2021).
- Nuevo lanzamiento (downstream) precice
 - Repositorio de Usuarios de Arch Linux Update version to 2.3.0. (Tue Oct 26 23:43:04 CET 2021).
- Nuevo lanzamiento (downstream) dune-common
 - Debian 12 Changes for 2.8.0-3 (Thu Oct 21 17:29:30 CET 2021).
- Nuevo repositorio
 - dune-book, examples from dune-book with dune 2.8.0. (Thu Oct 26 05:17:30 CET 2021).

Noviembre 2021

- Lista de correo de Open Porous Media
 - OPM Release 2021.10 (Wed Nov 10 08:31:37 CET 2021).

Diciembre 2021

- Nuevo repositorio
 - dune-adapter, preCICE-adapter for DUNE, a modular toolbox for solving partial differential equations (Tue Dec 7 08:31:00 CET 2021).

Gitpod soporta distribuciones Linux basadas en libc que incluye Arch Linux (Mon Dec 13 09:40:00 CET 2021).

- Nuevo lanzamiento (downstream) python-pyprecice
 - Repositorio de Usuarios de Arch Linux Version bump to 2.3.0.1 (Wed Dec 29 04:06:18 CET 2021).
- Nuevo repositorio
 - overview-2021 (Wed Dec 29 20:24:00 CET 2021).

Future studies

- 1. Standard C++17/20 versions.
- ${\bf 2.}\ \ preCICE, the coupling \ library \ for \ partitioned \ multi-physics \ simulations.$
- 3. DuMux, DUNE for Multi-{Phase, Component, Scale, Physics, ...} flow and transport in porous media.
- 4. AMDiS, Adaptive Multi-Dimensional Simulations.
- 5. Python bindings for the DUNE-FEM.
- 6. Simulation Software Engineering

Outline 2022 (January, February, March)

Modular approach

- 1. Study C++17/20, solve exercises from scientific programming (1 month).
- 2. Study math theory, solve exercises (1 month).
- 3. Study simulations (1 month).
- 4. Rehacer 1, 2 y 3.

Integral approach

• Redo IWR Course 2021 a.k.a. pdelab-tutorials-2021.

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