

FD International Fortran Conference 2021



University of
Zurich^{UZH}





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Zurich^{UZH}

Welcome to the FortranCon 2021

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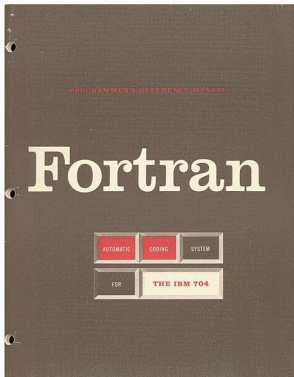
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FortranCon 2021 @ University of Zurich, 23.-24. September 2021

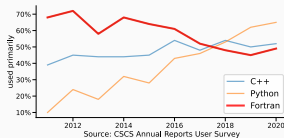
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Long live to Fortran!



1st Fortran program runs, September 20, 1954 (source: <https://www.edn.com/1st-fortran-program-runs-september-20-1954/>)



Sep 2021	Sep 2020	Change	Programming Language	Rating	Change
1	1		C	11.85%	-4.12%
2	3	▲	Python	11.67%	+1.20%
3	2	▼	Java	11.12%	-2.37%
4	4		C++	7.13%	+0.01%
....					
16	16		MATLAB	1.02%	-0.07%
17	37	▲	Fortran	1.01%	+0.66%
18	9	▼	R	0.98%	-1.40%
19	13	▼	Perl	0.78%	-0.53%
20	29	▲	Delphi/Object Pascal	0.77%	+0.24%

“This dinosaur is back in the top 20 after more than 10 years. Fortran was the first commercial programming language ever, and is gaining popularity thanks to the massive need for (scientific) number crunching. Welcome back Fortran” (source: <https://www.tiobe.com/tiobe-index/>)

- The conference is supported both by the **University of Zurich** and members of the **BCS Fortran Specialist group** from the UK
- Virtual event due to Covid-19 emergency
- Every 18 months (next edition in 2023)
- 160 registered people!
- Website of the event at
<https://tcevents.chem.uzh.ch/e/FortranCon2021>

Presentations

- Timetable adapted for different timezones of the speakers
- Keynote presentation by **Damian Rouson**:
Fortran at the Intersection
- Two presentation tracks:
 - Presentations (25 min): 8
 - Communications (15 min): 5
- Invited presentation by **Leandro Martinez**:
A computational chemist perspective on Fortran vs. Julia programming
- **Fortran-lang** Minisymposium

Timetable

Timetable

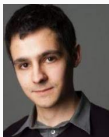
Thu 23/09	Fri 24/09	All days
Print	PDF	Full screen
Detailed view	Filter	Session legend
Unlited Presentation	Keynote	Presentations
Welcome		
14:00		
Zoom, Virtual		
Handling dimensions and units of measure in a program		
Zoom, Virtual		
Score adventures with compile time evaluation		
Zoom, Virtual		
Fortran in Hydrometallurgy: Practice and Research		
Zoom, Virtual		
Unlited Presentation: A computational chemist perspective on Fortran vs. Julia programming		
Zoom, Virtual		
Bit-reproducible methods of dimensional and notational verification testing		
Zoom, Virtual		
Standard Fortran on GPUs and its utility in quantum chemistry codes		
Zoom, Virtual		
Break		
17:00		
Keynote: Fortran at the intersection		
Zoom, Virtual		
LFortran: Interactive LLVM-based Fortran Compiler for Modern Architectures		
Zoom, Virtual		
HPFort: Present and Future Directions for Portable GPU Programming in Fortran		
Zoom, Virtual		
SPADE: Three Decades of Spacecraft Power Systems Analysis with Fortran		
Zoom, Virtual		

Thu 23/09	Fri 24/09	All days
Print	PDF	Full screen
Detailed view	Filter	Session legend
Minisymposium	Presentations	Wrap up
14:00		
SEACAL: Cross Platform Parallel Hybrid Code for Calculations of Ship Motions		
Zoom, Virtual		
Rzy: Two Decades Later		
Zoom, Virtual		
Test automation on a Fortran Legacy Software: the AnaTest framework		
Zoom, Virtual		
Break		
Zoom, Virtual		
15:00		
The Case for Asynchronous Task Parallelism in Fortran		
Zoom, Virtual		
Your Requirements Specification as an Executable Test Suite		
Zoom, Virtual		
16:00		
The State of Fortran		
Zoom, Virtual		
Flash AST generation in LFortran		
Zoom, Virtual		
Supporting Arrays and Allocatables in LFortran		
Zoom, Virtual		
Implementing Fortran Standardise within LFortran		
Zoom, Virtual		
Discussion LFortran		
Zoom, Virtual		
What's new in the Fortran Standard Library?		
Zoom, Virtual		
Improving String Support in Fortran (SBC Project)		
Zoom, Virtual		
Unlited Note for arlib		
Zoom, Virtual		
Discussion arlib		
Zoom, Virtual		
Fortran package manager		
Zoom, Virtual		
Handling Compiler Flags in Iyem (SBAC)		
Zoom, Virtual		
Discussion Iyem		
Zoom, Virtual		
Wrap up		
Zoom, Virtual		
18:00		

- Zoom
 - Presentation via Screen-sharing
 - Please stay within allocated time
 - 5 min reserved for Q&A after presentation preferably via Slack, or *raise hand*
- Slack channel (fortrancon2021.slack.com) for questions and discussions
 - *#live-questions* channel for ongoing presentation
 - Moderators insert mark
 - Speakers answer at end of presentation
 - Use Slack channel *#discussion* for continued discussion

Steering Committee

- Tiziano Müller



- Alfio Lazzaro



Scientific Committee

- Harvey Richardson, HPE UK (chair)
- Alessandro Fanfarillo, AMD
- Steve Lionel, retired Intel
- John Reid, JKR Associates and Rutherford Appleton Laboratory
- Anton Shterenlikht, HPE UK
- Nathan Sircombe, ARM

Funding

We gratefully acknowledge the funding of this event by the UZH and the UZH Graduate Campus via its GRC Grant.



Please give feedback!

Twitter: *#FortranCon2021*

Thanks to everyone! Enjoy the conference!