

# SPM Report

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# Outline

- Transition to ICON and towards the end of the COSMO-model story
- Looking back. Still ~~crazy~~ valid after all these years? (*Paul Simon*)
- Words of gratitude
- Some possibly useful farewell thoughts

# COSMO to ICON

Transition to ICON has been the major occupation of most COSMO folks over recent years...

... in perils of ICONoclasm



**COSMO has quickly become a community of ICONodules (ICONolaters)**

At the end of 2021, all COSMO members are able to run ICON in the deterministic mode and obtain good results. Particular thanks a due to PP C2I team!

Further work is ongoing (EPS, advanced verification, etc.) within the framework of COSMO WGs, PPs, and PTs. Good luck!

# Towards the End of the COSMO-Model Story

**Version 6.0 (5.12 at the moment), a unified version for NWP and climate modelling, is the very latest release of the COSMO model**

The release of 6.0 is expected in **December 2021** (realistic scenario!). The model version 6.0 documentation will be published with DOIs.

Beyond that point in time

- the COSMO code is frozen,
- only maintenance is provided (incl. bug fixes)

**More than 20 years in operation... a success story.**

**Great thanks to all contributors!**

# “New” Consortium Member

**IMS** (Israel) officially joined the COSMO consortium on January 1, 2017 (Declaration of Partnership signed by the heads of 8 national NWP centres)

**Good job, keep it up!**

# Revival of WG4

- Extensive discussion as to the future of WG4
- Decision at the COSMO GM 2017 to keep WG4

The Working Group was “revived”

Much innovative work within the framework of WG4 over the last five years, PP MILEPOST (ongoing), intensive and fruitful co-operation with other COSMO WGs, e.g. WG5, etc.

**Good job!**

Issues remain, however. Changes in (adjustment of) the WG4 modus operandi may well be necessary in the future.

# High-Resolution Challenge

From the SPM talk at 2017

**With the increasing spatial resolution we enter the “convection-permitting” range of scales**

- Still no general consensus about the treatment of shallow convection
- Sophisticated interplay of radiation, turbulence, microphysics (expensive solutions exist, but how to make things cheap?)
- The interaction of SGS and resolved scales is not well understood
- Frankly speaking, we do not really understand what our models actually do

**We know that something is happening here  
But we don't know what it is**

**(Bob Dylan)**

**Doing “convection-permitting” is awkward,  
and we should find a sound way to go**

# Words of Gratitude

I wholeheartedly thank COSMO-ALL for your productive work and stimulating working environment

Five COSMO General Meetings

2017 (Jerusalem)



2018 (St. Petersburg)



2019 (Rome)



2020 (Teleco, Switzerland)



2021 (Teleco, Romania)



Efforts of GM organizers are gratefully acknowledged!

# Words of Gratitude (cont'd)

SMC



**Highly qualified and innovative (!) SMC team  
is all-important**

# Words of Gratitude (cont'd)

STC



Andrzej Wyszogrodzki

Lucio Torrisi

Yoav Levi

# Words of Gratitude (cont'd)

**Detlev Majewski**



<https://www.youtube.com/watch?v=1NdyC7W29Yg>

# Some Possibly Useful Farewell Thoughts

- **Write and update the model documentation**
- **Try to avoid superficial efforts. Think deeper, perform comprehensive analyzes (just running models and producing nice plots barely makes sense).**

**Thinking is not a waste of time,  
it helps to make progress!**

# Some Possibly Useful Farewell Thoughts

## Careful planning is vital

It would not be an exaggeration to say that

“All simple problems are already solved,  
the problems left are all complex”

- Draft project plans, stress motivation and goals, set priorities
- Consider both short-term and medium-term prospects (long-term planning is more difficult but try to guess)
- Formulate clearly what you expect to have at the end of the day

## WG Development Guidelines may help

(see <https://www.cosmo-model.org/content/consortium/reports/>)

**Those, who don't know where they are heading to,  
will be very surprised when they get to the wrong  
place (Mark Twain)**

**Wish You Every Success,  
Enjoy The COSMO Spirit!  
&  
Thanks For All The Fun!**

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