

**Training Course on ALARO-0 (TCA0),
Radostovice (Cz), 26-30 March 2007
Programme and Time-table**

Version of 26/3/07

	Monday	Tuesday	Wednesday	Thursday	Friday
08.45-09.45		L06	L09	E6(/T)	L15
10.00-11.00	L01	L07	E4(/T)	L12	L16
11.15-12.15	L02	E2(/T)	L10	E7(/T)	L17
13.30-14.30	L03	WGA2	WGB2	L13	
14.45-15.45	E1			E8(/T)	
16.00-17.00	L04	L08	E5(/T)	L14	
17.15-18.15	L05	E3(/T)	L11	E9(/T)	
19.45-20.45	WGA1 & realisations	WGB1 & realisations	WGC1 & realisations	WGC2	
21.00-22.00					

‘Lectures’

L01	Introduction	Jean-Francois
L02	Governing equations	Bart
L03	SLHD	Filip
L04	Moist physics generalities	Radmila
L05	Microphysical processes	Bart
L06	Radiation: basic and NER	Jean-Francois
L07	p-TKE scheme	Filip
L08	Radiation: gaseous statistics- & cloud saturation models	Jean-Francois
L09	Code status	Martin
L10	Existing validations and associated problems	Radmila
L11	3MT: the grey-zone challenge	Luc
L12	3MT: the equation's historical evolution	Jean-Marcel
L13	3MT: the core concepts	Jean-Marcel & Luc
L14	3MT: the up- & downdrafts' handling	Luc
L15	3MT: the certainties and the perspectives	Jean-Marcel
L16	Implementation problems, options, constraints	Martin
L17	Wrapping-up and preparing KIT work	Neva

‘Documentation’

The idea concerning the 'documentation' part of the programme is to have a collective presentation by 3 working groups, each having two sessions of two hours. One part is devoted to the preparatory 'home-work' presentation and discussion. Information about available implementation choices (of differing options and/or levels) at various places in the code will also be given. During three of the sessions (noted with “& realisations”) some time will be

reserved for presenting ALARO-0 experiences (porting, case studies) at services. These three 'mixed' evening sessions should be the most relaxed part of the course.

Composition of the WGs:

Working Group A: Martina, Christoph and Luc (see below the list of 'documentation' topics)

Working Group B: Jan, Filip, Joao (idem)

Working Group C: Neva/Jure, Siham, Doina (idem)

Additional information (for the home-work in preparation of the 'documentation' part)

Croatia (Martina Tudor):

1) Generic equations and their concrete code translations

Slovakia (Jan Masek):

2) Radiation (NER method + cloud optical properties)

Czech Republic (Filip Vana):

3) Turbulence (p-TKE + its shallow convection consequences + the J_q_l/i problem)

Austria (Christoph Wittmann):

4) Microphysics (i) condensation sources + sedimentation

Slovenia (Jure Cedilnik, Neva Pristov):

5) Microphysics (ii) autoconversion + collection + evaporation/melting

Morocco (Siham Sbihi):

6) Precipitating convection (i) updrafts (closure + M-T oriented output)

Romania (Doina Banciu):

7) Precipitating convection (i) downdrafts (closure + M-T oriented output)

Belgium (Luc Gerard):

8) Adjustment processes, cascading and protection against negative water species

Portugal (Joao Rio):

9) Cloudiness under its 'n' shapes (stratiform, radiative, turbulent, convective, microphysical)

Following this:

- **WGA takes care** of the coding structures for modularity-flexibility (and of the associated constraints for all types of parameterisation);
- **WGB takes care** for the parameterisation aspects more or less independent of the precipitating convection;
- **WGC takes care** for the parameterisation aspects linked with convection and its 3MT (Modular, Multi-scale, Microphysics and Transport) declination.

The working groups are assumed to continue their action beyond documentation efforts and after the training course (the KIT [keep in touch] aspect of L17).

‘Exercises’

Exercise sessions 1, 2, 4, 5, 7 and 8 will be supervised by Jean-Francois & exercise sessions 3, 6 and 9 by Martin.

Session E1 will be an introduction to the ‘exercise’ and ‘documentation’ parts of the training course.

For each of the E2 to E8 sessions, there will be an opportunity of parallel tutorial by lecturers and/or WG participants towards people feeling difficulties with the basic topics. This will be organised on demand, on an ad-hoc basis. Hence the “(/T)” in the time-table.

There should be five types of exercises:

- *algorithmic recognition*: 2 pieces of code (extracted but made ‘foreign’) and one basic publication: the aim is to find the right one between the two codes and to explain why;
- *bug search*: in a similar piece of code to the previous case; this time the declination is correct on the paper (referred to as ‘documentation’) but intentionally ill-coded;
- *algorithmic anticipation*: like in the first case (2 codes), but the difference is situated in the consequences for stability or accuracy; thus no reference document provided;
- *results’ interpretation*: cases study results made available, with in principle all necessary information available for the multi-source diagnostic of a weakness;
- *modularity (in ‘passive mode’)*: to create the equivalent of an existing code sub-item, starting from some non-ALARO-0 scientific and/or technical documentation.

While a paper version of all input pieces will be provided if necessary, people working on their own laptops and from a provided CD will be in a better position to benefit from the exercise sessions.

List of participants:

Austria: Sabine Leroch, Cristoph Wittmann

Belgium: Bart Catry, Luc Gerard, Piet Termonia

Croatia: Dijana Klaric (part time, Thursday-Friday), Tomislav Kovacic, Antonio Stanesic, Dunja Drvar

Czech Republic (organisers): R. Brozkova, J.-F. Geleyn, M. Janousek, F. Vana, T. Kral (part time, Monday-Wednesday)

Denmark: Bent Hansen Sass (part time, Monday-Thursday),

France: Jean-Marcel Piriou (part time, Thursday-Friday)

Hungary: Miklos Voros

Portugal: Ligia Amorim, Joao Rio

Romania: Doina Banciu

Russia: Mikhail Tolstykh

Slovakia: Richard Habrovsky, Emeline Larrieu Rosina, Jan Masek

Slovenia: Jure Cedilnik, Neva Pristov, Benedikt Strajnar