



Max-Planck-Institut
für Biogeochemie



CarboSchools Spring School & Open Conference

April 10-16 / April 14-16, 2010

Jena (Germany)

Program CarboSchools-Spring School April 2010

Time	Saturday, 10.04.	Sunday, 11.04.	Monday, 12.04.	Tuesday, 13.04.	Wednesday, 14.04.	Thursday, 15.04.	Friday, 16.04.
08:30-09:00						Transfer Stern -> MPI	
09:00-09:30						Lab visits MPI/ festival set-up	Transfer Stern -> train station(s)
09:30-10:00							
10:00-10:30							
10:30-11:00		Thematic workshops/ Teacher Workshops	Thematic workshops/ Teacher Workshops	Thematic workshops/ Teacher Workshops	Jena city tour	coffee break	
11:00-11:30							
11:30-12:00						Poster session	
12:00-12:30							
12:30-13:00							
13:00-13:30		lunch	lunch	lunch			
13:30-14:00							
14:00-14:30						Market place (experiments fair)	
14:30-15:00							
15:00-15:30							
15:30-16:00	arrival (registration)	Group work	Group work	Group work	Public Event (Flash mob)	Presentations Students & Invited speakers Sustainability Award	
16:00-16:30					Transfer City -> Stern		
16:30-17:00							
17:00-17:30							
17:30-18:00		Pre-dinner presentations (on demand) dinner	Pre-dinner presentations (on demand) dinner	Pre-dinner presentations (on demand) dinner	dinner	clean-up	
18:00-18:30	Ice-breaking activity						
18:30-19:00							
19:00-19:30	Creative group presentations					Transfer MPI -> Stern	
19:30-20:00							
20:00-20:30		free evening for teachers		free evening for teachers			
20:30-21:00							
21:00-21:30	cultural dinner						
21:30-22:00						Farewell dinner + Party	

Program CarboSchools Open Conference April 2010

Time	Wednesday, 14.04.	Thursday, 15.04.	Friday, 16.04.	Saturday, 17.04.
08:00-08:30	Registration			
08:30-09:00				
09:00-09:30	Welcome & Introduction			
09:30-10:00	Plenary (Practices from the field)	Lab visits MPI + festival set-up	Plenary (Evaluation)	Excursion (CS members)
10:00-10:30	coffee break	coffee break	coffee break	
10:30-11:00	Plenary (Practices from the field)		Plenary (Experiences, CS products & future activities)	
11:00-11:30	catering lunch	Poster session		
11:30-12:00				
12:00-12:30	Parallel sessions		catering lunch	
12:30-13:00		Market place (experiments fair)	Internal Project Meeting	
13:00-13:30	coffee break			
13:30-14:00	Plenary (Wrap-up)		coffee break	
14:00-14:30	Transfer MPI -> City			
14:30-15:00	Public Event (student flash mob)	Presentations Students & Invited speakers Sustainability Award	Internal Project Meeting	
15:00-15:30				
15:30-16:00		clean-up		
16:00-16:30		Transfer MPI -> Stern		
16:30-17:00				
17:00-17:30				
17:30-18:00				
18:00-18:30				
18:30-19:00				
19:00-19:30				
19:30-20:00				
20:00-20:30				
20:30-21:00				
21:00-21:30				
21:30-22:00		Farewell dinner + Party		



CarboSchools Spring School

Jena, School Youth Hostel "Stern", April 10-16, 2010

Due to technical difficulties at this location and despite our attempts to solve them **there will be no internet access at Stern where the Spring School takes place.** Only one connected computer will be available for limited, emergency use.

During the Spring School, **RCs & other CS members are welcome to attend any sessions** as observers (workshops, group work as well as teacher sessions)

Pupils' program

Saturday: arrival

14:00-18:00 Registration

18:00 Ice-breaking Session

Student groups present their projects together "in a manner which is extraordinary to make it memorable" (e.g. art performance).

Ice-breaking activities by student helpers & Stephanie Hayes

20:00 Cultural buffet: all participants share food specialties from their region.

Sunday-Tuesday: thematic workshops (9h-13h) & group-work sessions (14h-18h)

Pre-dinner sessions (18:00-18:30) are available for participants willing to make presentations to the whole group. If you are interested, please register to Barbara Michel.

Wednesday: cultural & event day

Group-work 1 will develop plans & ideas for an event/action such as a flashmob or similar which will take place in the city centre of Jena on Wednesday afternoon. The action shall involve all spring school students and possibly additional students from schools in Jena, giving public visibility to the spring school.

09:00-12:00 Jena city exploration (by foot from Stern)

12:00-16:00 Lunch & free time & preparation for event

16:00-17:00 Public event

Thursday: Global change science festival (see separate program)

Departure from the Stern by bus at 8:30 sharp.

Friday: departure

Departure from the Stern by bus at 9:00.

Teacher's program

Sunday to Tuesday

All teachers join morning sessions 9:00-13:00 while their pupils are busy in workshops. The teacher sessions will be facilitated at MPI-BGC. Transfer to and from MPI-BGC will be arranged by Minibus and/or taxi.

Departure at 8:30 from Stern.

Departure at 12:30 from MPI-BGC

Sunday: **Introduction to book review & Cooperation between schools**

- Experiences of participants
- Status of exchange projects
- Who is willing to get involved?

Monday: **CarboSchools online library & brainstorming on recommendations to school systems**

Evaluate and - if necessary - correct Library materials (with respect to: what information is missing or should be re-arranged to make the texts more useful to teachers?)

Make suggestions which Library materials should be published on paper inside the book.

Tuesday: **library (continued)**

During afternoons, Doru Chifor, Franca Gordiano and Maddalena Macario will be busy facilitating group-works.

The rest of the teachers will

- *be invited to prepare drafts for Comenius proposals*
- *be given a first draft of the CarboSchools book to read & comment*
- *be interviewed by evaluator*

Wednesday

All teachers are invited to conference sessions while their pupils are visiting Jena.

Thursday: Festival (see separate program)

Teachers prepare & support pupils' demonstrations at the poster session & "market place".

Friday: departure

Departure by bus from the Stern at 9:00.

Teachers who are still in Jena and can leave their pupils on their own during the morning are welcome at the last conference sessions.

Sunday & Tuesday will be free evenings for teachers - students helpers will stay with pupils at Stern to allow teachers to go out in town if they wish (NB - transportation & dinner outside Stern are not covered).

Global Change Science Festival

April 15, 2010

Max Planck Institute for Biogeochemistry

Entrance hall & auditorium

(Day in common between Spring School & Open Conference)

CarboSchools participants: students, teachers, scientists & regional coordinators present experiments, games, posters, videos etc. developed within the project - and invite everyone to try & take part. The festival will gather the 50 pupils and 15 teachers attending the CarboSchools Spring School since Saturday, April 10, and will also be open to schools from Jena, families & the general public. All day long the Solar-Café will offer organic coffee prepared with solar power and electro vehicles for testing (bike, scooter, and small car).

9:00-10:30 Set-up of the festival

For those available, visit of MPI-BGC, stable isotope laboratory & ^{14}C accelerator.

10:30-11:00 Coffee break

11:00-13:00 Poster session

Students & teachers present their local CarboSchools activities by means of posters, practical demonstrations, movies, etc.

Floating lunch available for all registered conference participants in a separate room: after the poster session students, teachers and scientists can take turns at the Market Place booths to pick-up food. Local visitors from Jena (not registered as conference participants) are offered to have lunch at the central campus cafeteria between 11:00-14:00.

13:00-16:00 The Market place / Experiments fair

Parallel presentations in booths/workshop/activity rooms in the institute's hall, seminar rooms & outdoor, where experiments will be demonstrated as a result of the Spring School workshops and project activities throughout the year including games, exhibits, movies and more, realized during the Spring School group work sessions.

16:00-16:15 Market place closing time & short preparations for presentations

16:15-18:30 Climate Change - from understanding to acting (plenary)

Short presentations of outcomes from Spring School group works by pupils + invited talks from other science education projects. Indicative program (order & timing to be adjusted on site):

1. **Group 10** (documentary about the Spring School) showing also outputs from **Groups 1** (flash-mob) & **Group 13** (Street Art) through movie/slide show + short explanations by pupils of the 3 groups, if desired **(10 min)**.
2. **Jana Albrechtova**, Charles University, Prag, **Czech Republic - the Globe Carbon Project (20 min)**
3. **Group 14** (Monster PET) announce the results of the "monsters' names contest" **(5 min)**
4. **Group 5** (Climate-neutral art) and **Group 6** (Eco-cluedo game) present their work in plenary if desired (optional) **(5 min)**.
5. **Jenny Schlüpmann**, Sonnentaler, Freie Universität Berlin, Germany - "La main à la pâte": the project "Climate, my planet... and me!" **(20 min)**
6. **Philippe Saugier**, EPOCA, Veynes, France - Ocean Acidification: follow European scientists in the Arctic! **(5-10 min)**
7. **Sébastien Duyck**, Service Civil International, Utrecht, Netherlands - youth involvement at UNFCCC & Climate negotiations **(15 min)**
8. movie **(5 min)** + presentation **(10 min)** **Marilène Priolet**, Monde Pluriel, Grenoble - Children and Youth International Conference Let's Take Care of the Planet, Brasilia, June 5-10, 2010
9. **Eco-school project** by pupils from Lycée Max Linder, Libourne, France **(10 min)**
10. **Group 7** (Theatric performance) showing the performance **(10 min)**.
11. **Sustainability Award** to the school demonstrating the highest potential for local CO₂ emissions reductions. The school will receive the symbolic funding, collected from everyone's travel emissions **(5 min)**.

18:30-19:30 Clean-up

19:30-20:00 Bus transfer to the Stern for the Farewell dinner

CarboSchools Open Conference

Jena, April 14-16, 2010

Max Planck Institute for Biogeochemistry, Auditorium

Teacher-scientist partnerships for climate change education:

Results & perspectives

The Max Planck Institute for Biogeochemistry and the CarboSchools consortium invite educators, scientists & anyone interested in climate change science education to come to Jena for two and a half days of presentations, meetings and discussion with project participants from all over Europe.

This conference aims at

- showing the achievements from educational projects developed since January 2008 by nine leading EU carbon research laboratories in partnership between scientists and secondary school teachers around Barcelona (Spain), Bergen (Norway), Firenze and Benevento (Italy), Groningen (Netherlands), Norwich (UK), Paris and Bordeaux (France), Jena and Kiel (Germany).
- discussing the educational impact of these projects based on in-depth evaluations carried on participating students
- giving new inspiration, tools and resources for climate change education to the broader educational community in Europe and beyond, and to research institutes willing to develop their education & outreach activities.

The conference will run in parallel with the CarboSchools Spring School gathering 45 students (16-19 years old) and 15 teachers from these 9 regional projects and an associated project in Cluj (Romania).

Wednesday, April 14: Achievements from regional projects

- | | |
|--------------------|--|
| 08:00-09:00 | Registration (Entrance Hall) |
| 09:00 | Welcome (Lecture Hall)
Dr. Markus Reichstein |
| 09:10 | Introduction & practical information
<i>Susanne Hermsmeier, Barbara Michel & Philippe Saugier</i>
+ <i>personal introductions</i> |
| 09:30-11:50 | Practices from the field: diversity of partnerships & projects
<i>Session chairs Stephanie Hayes & Sally Soria-Dengg</i>
(including coffee break & discussions) |

The general idea behind CarboSchools (CS) is to form **partnerships** between scientists and teachers and develop collaborations in the frame of a **school project**. This general idea is implemented in many different ways in CS regional projects. In this session the different types of

partnerships and projects realized in CS will be introduced. Examples of achievements illustrating this diversity of projects and partnerships will be highlighted and benefits and limitations (for teachers, scientists & pupils) of each type will be discussed.

11:50-12:00 Introduction to parallel sessions

12:00-13:00 Lunch break

13:00-14:30 Parallel workshop sessions

Topic 1 - Integration to school curricula

Some CS activities have strong interaction with many subjects within the school curricula (especially in biology) where they have the potential to be integrated. This session will look at opportunities and obstacles for curriculum integration and interdisciplinarity: how best can teachers from diverse disciplines (such as math, physics, informatics, foreign language) be involved, what are the limits and the benefits? (*Facilitator Francesca Ugolini*)

Topic 2 - Science education in a perspective of sustainable development

This session will explore how some projects managed to articulate science education activities with activities developing action competences for sustainable development (e.g. reducing CO₂ emissions in schools); why they were not carried out in some projects; what activities were carried out; the public reached; how successful they were; the skills developed by the pupils when carrying out such activities; other benefits, limitations and organizational issues when trying to incorporate this element into a science education project. (*Facilitator Phil Smith*)

Topic 3 - How to start a project between a school and a research institution?

Bridging the gap between research and schools is one of the concerns numerous European educational initiatives. One question often encountered by CS scientists or teachers from colleagues is how to start collaboration with a school or a research institution, respectively. What are the difficulties? How do I profit from this collaboration? Is it expensive? Will it cause me a lot of extra work? How do I get support from my superiors? These and more related questions will be discussed with CS teachers and researchers. (*Facilitator Joachim Dengg*)

14:30-14:45 Coffee break

14:45-15:30 Wrap-up in plenary

15:40-16:00 Bus to Jena – departure at 15:40 sharp in front of MPI-BGC

16:00-17:00 Public event in the streets of Jena with CarboSchools students

Thursday, April 15: Global Change Science Festival

(See separate program)

Friday, April 16: Evaluation & the way forward

9:00-10:30 Evaluation

Two years of evaluating CarboSchools projects using self-evaluation questionnaires, pre & post attitude questionnaires and interviews: what did we learn about the impact of CarboSchools activities on pupils' perception of science, scientists and school science? (Presentations & discussion) *Elma Dijkstra and Martin Goedhart*

10:30-11:00 Coffee break

11:00-11:45 Further experiences in Climate science education

Gabriele Weigelhofer, Wasser Kluster Lunz, Austria - *The WESPe project, an Austrian science education project about climate change effects on the aquatic carbon cycle*

<http://www.sparklingscience.at/en/projects/352-wespe>

Maddalena Macario, Lyceo scientifico "N. Copernico", Prato, Italy - *I-CLEEN: a cooperative web project for Italian science teachers asking questions on climate and energy*
www.icleen.museum (in italian)

11:45-12:15 CarboSchools final products

Publication of CarboSchools resources & results on-line and as a book devoted to integrating climate change science education in school curricula: how the broader educational community can use this experience? *Joachim Dengg, Stéphanie Hayes and Philippe Saugier*

12:15-12:45 General discussion: how to best disseminate & maintain CarboSchools results?

12:45-13:00 Closing of the conference: towards the Snowball project - perspectives for beyond 2010 - Joachim Dengg

Friday afternoon: CS general assembly (for CS consortium members only)

- Regional events for dissemination: who does what, when, where & exchange of experience between regional projects
- Status of deliverables
- Calendar of activities until project end (December 2010)
- Calendar for EU final report
- Miscellaneous questions

Saturday: Excursion (for CS consortium members)