The aim of the summer school is to present a comprehensive series of lectures on various aspects of non-homogeneous fluids and flows. The emphasize will be on mathematical, computational and experimental topics originating in environmental applications. The summer course is prepared for graduate students, young scientists, and other interested specialists. Besides of the course lectures, the program will include a one day workshop (on Wednesday, August 29) dedicated to short, more advanced lectures given by attending scientists.

INVITED LECTURERS:
Vincenzo Armenio - University of Trieste, Italy
Chantal Staquet - University Joseph Fourier, Grenoble, France
Vladimir Zeitlin - Ecole Normale Supérieure, Paris, France
Eleuterio F. Toro - University of Trento, Italy
Eduard Feireisl - Institute of Mathematics AS CR, Prague, Czech Republic
Antonín Novotný - Université du Sud, Toulon, France
Dmitri Kuzmin - University of Erlangen-Nuremberg, Germany
Yuli D. Chaschechkin - Russian Academy of Sciences, Moscow, Russia
Philippe Fraunié - Mediterranean Institute of Oceanography, Toulon, France

MAIN TOPICS:
Variable density flows
Stratified and rotating flows
Gravity waves in ocean and atmosphere
Singular limits of the Navier-Stokes-Fourier system
Free-surface and shallow-water flows
Advanced numerical methods

WWW:  http://www.it.cas.cz/prague_sum_2012  E-mail:  Tomas.Bodnar@fs.cvut.cz  or  matus@math.cas.cz
**Course Location:**
The whole course and workshop will be hosted by the Faculty of Mathematics and Physics of the Charles University in Prague.

*Sokolovská 83*
*CZ - 186 75 Praha 8*
*Czech Republic*

**Registration & Fees:**
The participants should register as soon as possible by e-mail at: Tomas.Bodnar@fs.cvut.cz and matus@math.cas.cz.
The registration fee covers course materials and small refreshment during the course breaks. The accommodation and travel expenses are not covered. The participants from Ercoftac member institutions can profit from a special 25% discount.

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<th>Early</th>
<th>Late</th>
<th>Ercoftac</th>
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<tbody>
<tr>
<td>Student fee (whole course &amp; workshop)</td>
<td>240 €</td>
<td>270 €</td>
<td>180 €</td>
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<tr>
<td>Full regular fee (whole course &amp; workshop)</td>
<td>320 €</td>
<td>350 €</td>
<td>240 €</td>
</tr>
<tr>
<td>Limited fee (workshop only)</td>
<td>160 €</td>
<td>180 €</td>
<td>120 €</td>
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*The early registration should be received before July 31, 2012.*

The fee should be paid by a bank transfer to the following account:

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<td>CZ80 0710 0000 0000 6962 3011</td>
<td>CNBACZPP</td>
<td>Ceska narodni banka</td>
<td>Na Prikope 28, 115 03 Praha 1</td>
<td>Matematicky ustav AV CR, v.v.i.</td>
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**Support for Students and Young Scientists:**
Few grants will be available for students and young scientists. Please only ask for this support if you cannot attend the summer school without it and you have no other funds to use. Depending on the number of applicants the exact amount of support will be announced after the application deadline. The grant will cover at least the registration fee. Those participants who will benefit from the support will be asked to present a poster showing their own scientific work. A formal application, containing short CV, motivation letter and recommendation letter, should be received by organizers before July 31, 2012.

For detailed information contact the course organizers:

- **Šárka Nečasová**
  *Institute of Mathematics*
  *Academy of Sciences of Czech Republic*
  *matus@math.cas.cz*

- **Tomáš Bodnár**
  *Faculty of Mechanical Engineering*
  *Czech Technical University in Prague*
  *Tomas.Bodnar@fs.cvut.cz*

- **Milan Pokorný**
  *Faculty of Mathematics and Physics*
  *Charles University in Prague*
  *pokorny@karlin.mff.cuni.cz*

*For further details and actual information see:  http://www.it.cas.cz/prague_sum_2012 ver. 2.5.2012*