

Who...

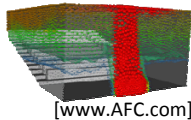
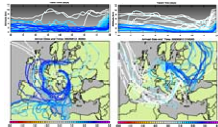
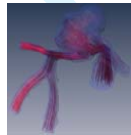
Highlights

Sem Seg

...benefits from SemSeg?

The need to understand flows emerges in many applications:

- **Engineering**
ex.: car design
- **Medicine**
ex.: blood flow analysis
- **Meteorology**
ex.: weather forecast
- **Safety applications**
ex.: indoor fire scenarios
- ... and many others



SemSeg is proud about:

- **IEEE VisContest winner 2011!**
- **TopoInVis 2011 in Zürich**, with 3 papers from SemSeg!
- **Three SemSeg workshops** with application partners!
- **Fluid Flow Visualization workshop** in Pisa (in 2011)!
- **2 Eurographics State-of-the-Art Reports** – in 2010 & 2012!
- **Annual contributions** to our best scientific journals (TVCG, CGF, ...) and events: **VisWeek 2009–2011**, **EuroVis 2010–2012**, **PacificVis 2011 & 2012**, **EG 2010 & 2012**, ...
- **Four PhD projects** in SemSeg!

4D Space-Time Topology for Semantic Flow Segmentation

SemSeg: a 3-years research project (**STREP**) from **June 2009** to **July 2012**

in the future and emerging technologies (**FET**) programme of the 7th framework programme for research of the European Commission (**FP7**) grant no. 226042



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What...

... problem addressed?

SemSeg in a nutshell

- **Vector field topology (VFT)** is an elegant and specific approach to analyzing/visualizing stationary flow fields
- **With VFT**, a (steady) flow field is **semantically segmented** into regions of **coherent behavior**
- **SemSeg's primary goal** was to find a comparable solution for **time-dependent flow fields** (more common in applications)
- To achieve this, research on **Lagrangian Coherent Structures**, **Higher-dimensional Embeddings**, and **Interactive Visual Analysis** was planned

Results

SemSeg provides:

- **Scientific results** in form of **40 high-quality research papers** (*peer-reviewed, many published in our best journals, etc.*) – see the **Results page** on www.SemSeg.eu
- **SemSeg software repository** providing software from SemSeg, SVN.SemSeg.eu/repository/software
- **Sample show cases**: solutions based on SemSeg research, see the **User Forum page** on www.SemSeg.eu

Partners, Contact

SemSeg (www.SemSeg.eu), a research collaboration of:

- **Univ. of Bergen**, Norway, Helwig Hauser et al., www.ii.UiB.no/vis
- **ETH Zürich**, Switzerland, Ronald Peikert et al., www.SciVis.ETHZ.ch
- **Uni Magdeburg**, Germany, Holger Theisel et al., VC.CS.OVGU.de
- **VRVis Res. Center**, Vienna, Austria, Krešimir Matković et al., www.VRVis.at



Project coordination

University of Bergen, Norway

