The Manifold Atlas Project: www.map.him.uni-bonn.de

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May 17, 2010

The Manifold Atlas Project

What is the Manifold Atlas?

1. A scientific Wiki devoted to the study of manifolds

2. In the near future, a sort of on-line journal

$$\boxed{\textbf{Scientific Wiki}} + \boxed{\textbf{On-line journal}} \Longrightarrow \boxed{\textbf{Manifold Atlas}}$$

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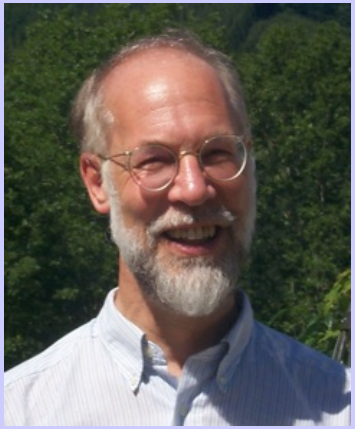
Who works for the Atlas?

- Managing editor: Matthias Kreck
- Scientific administrator: Diarmuid Crowley
- Programmer: Philipp Kühl
- System administrator: Martin Steitz
- $\exists$ 39 member Editorial Board, $\ni$ Erik Pedersen.




The Manifold Atlas Project

Why build the Atlas?

Goal: to help organise and create knowledge about manifolds.

1. **Reference source**:
   - examples of manifolds
   - classification theorems
   - survey articles
   - guide to the literature

2. **Discussion forum**:
   - Wikipedia style discussion pages
   - bib-items are pages

3. **Context for collaboration**:
   - material developed in the Atlas can be published there or elsewhere.

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What are some similar projects on the web?

1. Wikipedia
2. KnotInfo: invariants of classical knots
3. n-lab: work space for research related to n-categories
4. Math Overflow: discussion forum
5. Poly-math project: "massively parallel" research
6. Scholarpedia: a refereed Wiki

How is the Atlas organised at a scientific level?

There are 6 chapters:

1. **Manifolds**: constructions, examples and invariants (17*)
2. **Theory**: general facts and theorems (11*)
3. **Problems**: deep open problems (1*)
4. **History**: ... (0*)
5. **Philosophy**: ... (0*)
6. **Questions**: research and study questions (2*)

* (n)-pages in this Chapter to date

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What sorts of pages are there in the Atlas?

Epistemic status:

1. **Evolving** pages : typical Wiki pages
2. **Static** pages : refereed articles

Editing protocols:

1. **Open-editing** pages: open to all registered users
2. **Author-based** pages: open to a team of writers

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How is the Atlas organised at a human level?

1. So far we have organised parts of the Atlas into **projects**.

   Current projects and organisers:

   - Bordism : D. Crowley and M. Kreck
   - Embeddings : Arkadiy Skopenkov

   Planned projects and organisers:

   - Surgery : Andrew Ranicki
   - Aspherical manifolds : Wolfgang Lück
   - Homogeneous spaces : Stephan Klaus

2. We are also planning **writing meetings**.

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What are some special features of the Atlas?

1. Robust WikiTex:
   - supports diagrams, e.g. xy-pic
   - submit files in Tex
   - TeX $\Longleftrightarrow$ WikiTex converter under development
2. Automatic bib-item creation with a number from:
   - MathSciNet
   - Zentralblatt
   - the arXiv
3. Each bibitem is a page:
   - corrections can be recorded
   - comments can be made

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How can I get involved with the Atlas?

1. Visit the Atlas: www.map.him.uni-bonn.de
2. Register
3. Pose a question
4. Start a (seed) page
5. Join an existing project
6. Propose or organise a new project
7. Submit a survey article to Matthias Kreck: kreck@him.uni-bonn.de

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