



EUCETIFA

European Centre of Time-Frequency Analysis

EUCETIFA

NuHAG-1 =
prehistory

NuHAG-2 :
EU-funding

EUCETIFA
period

NuHAG
Infrastructure

NuHAG-3:
OUTLOOK

EUCETIFA FINAL EVENT at IST-A

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www.nuhag.eu

September 1st, 2009

¹NuHAG, EUCETIFA



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European Centre of Time-Frequency Analysis
Marie Curie Excellence Grant
FP6-51715 4

Hosted by University of Vienna
Faculty of Mathematics (NuHAG)
Oct. 1st 2005 Sept. 30th, 2009
Budget: 1.8 Mill. Euros
Grant announcement: Sept. 29th, 2004

The move from abstract to Numerical Harmonic Analysis started 20 years ago, with the submission of an interdisciplinary **priority program on image processing to FWF**, which ran from 1992 to 1999, and 1 year in College Park (MD).

Lessons learned from this 8-year period:

- **experience in interdisciplinary research**,
- **numerical algorithms** (T. Strohmer),
underpinned with theoretical studies (K. Gröchenig),
- a **book** on Gabor Analysis (Fei/Strohmer) in 1998,
- a **Web-Page** (built by M. Rauth, now www.nuhag.eu)

Funding came from FWF and Austrian National Bank OENB. Around 1998 T. Strohmer left for the USA, G. Zimmermann moved to Stuttgart, and W. Kozek went to Siemens.

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NuHAG *Numerical Harmonic Analysis Group*

NuHAG as a group and **trademark** (see GOOGLE) has been created around 1992 as a joint effort of three people:
H. Feichtinger, K.Gröchenig, and T.Strohmer.

Following the "brain-train" of 1998/1999 (K. Gröchenig went there in 1987, T. Strohmer went to the USA then) NuHAG had to be rebuilt, and it was **European funding** that helped us to regain strength and visibility:

An overview over the different recent projects is given at:
<http://www.univie.ac.at/nuhag-php/home/research.php>.

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NUHAG goals 2002 recalled:

- Bridge the gap between theory and numerical application
- Go for efficient algorithms which are applicable to real life problems
- Provide theoretical backup which allows to offer guaranteed convergence rates
- Refresh theoretical concepts by models relevant for scientific/technical applications
- Reach out for *interdisciplinary cooperation* (in medicine, geophysics, ...).

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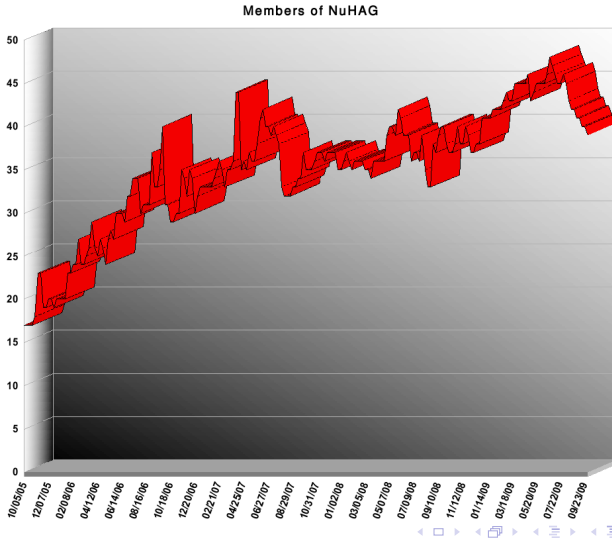
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NUHAG EU Funding

- NetAGES (geophysical) network (2000-2004);
- HASSIP RTN network (2002-2006);
- MC Individ. Fellowship Wojtek Czaja (2004-2006);
- MC Individ. Fellowship Massimo Fornasier (2004-2006);
- MC Individ. Fellowship Holger Rauhut (2006-2008);
- MC Individ. Fellowship Damian Marelli (2006-2008);
- MC Individ. Fellowship Sigrid Heineken (2008-2010);
- MC Individ.F. (to Berkeley): Franz Luef (2009-2010);
- MC Excellence Grant **EUCETIFA !!** (2005-2009);

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NuHAG Personnel Status as of 1.9.2009:

- Presently NuHAG has approx. **12 PostDocs** on various projects: Maurice de Gosson (EUC,FWF), Franz Luef (EUC, MC-OUT), Gero Fendler (EUC), Tomasz Hrycak (EUC,ESO), William Bourdeaux (EUC), Ivana Carizzo (EUC), Monika Doerfler (FWF), Norbert Kaiblinger (FWF), Darian Onchis (NAHA), Sigrid Heineken (MC-Ind), Gerard Ascensi (FWF LM), Tobias Werther (FWF, Medical Project).
- also 11 PhD students (Anna, Roza, Nina, Andreas, ...) out of which half of them is going to finish this year

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- Various Marie Curie Fellowship (5 incoming, 2 outgoing);
- **WWTF**²-Project MOHAWI (2005-2009);
- Computational Science Project NAHA
(priority program, Univ. Vienna, 2006 - 2009);
- Initiative Kolleg TF-analysis and Microlocal Analysis
(Graduate School: **Univ. Vienna**, 2006-2009);
- WWTF high potential projects 2007
(SPORTS [H. Rauhut], MULAC [P.Balacs]);
- SISE (**FWF**³ priority program, 2008-2011, in
computational engineering);
- **ESO** Project (astronomical project, 2009 - 2012);

²Viennese Technology Fund

³Austrian Science Foundation

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- Many international cooperation partners, in Germany, USA, France, GB, Israel, Switzerland, Norway, Serbia, etc.
- Local cooperation with colleagues from Communication Theory (TU Vienna, F. Hlawatsch, G. Matz, G. Tauböck);
- SISE cooperation partners: T. Zemen, FTW (TELECOM Research Center);
- Medical University Innsbruck (A. Amann);
- some local companies (Vienna, Carinthia);
- ESO Project partners (Dept. Astronomy, Univ. Vienna, Prof. W. Zeilinger)

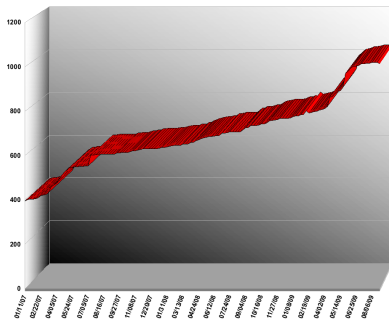
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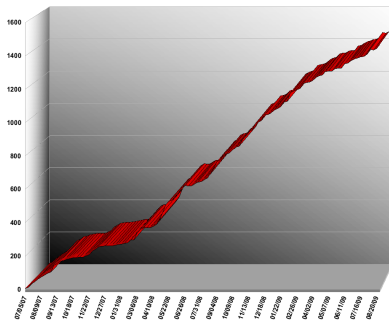
EUCETIFA helped to build solid **infrastructure**
Thanks to Harald Schwab we have built a “universe”:

- Bibliographic Database (> **500** NuHAG papers)
- MATLAB collections (Gabor Analysis);
- Talk- and Conference Server;
- 11 Scientific events (Strobl Conferences, ESI semester, WPI workshops)
- askNu: Collection of project management tools (approved by Dept. of Entrepreneurship, WU Vienna, used by DFG priority program DFG1324);
- See www.nuhag.eu for more details;

TALKS-database



Content Management



NuHAG :: BibTeX

The BibTeX collection of NuHAG Publications

SEARCH: [normal](#) [extended](#) [last](#) [queries](#) ADD: [formular](#) [formular-JS](#) [BibTeX](#) | [online journals](#) | NuHAG: [Library](#) [Paper Collection](#)

Welcome to the NuHAG-BibTeX database

2009-08-31 17:17
7362 entries

Your are identified as |
Your settings are used!

(use % as wildcard):

[search](#)

search in all fields

[search TeX_ID](#)

enter =TeX_ID for exact match

search within: author title booktitle | sort by: year journal author

[edit settings](#)

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[your queries](#)

[open queries](#)

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Quick-search for NuHAG-members: [go >](#)

NuHAG Publications:

[2010](#) [2009](#) [2008](#) [2007](#) [2006](#) [2005](#) [2004](#) [2003](#) [2002](#) [2001](#) [2000](#) [≤1999](#) | [all NuHAG Publications](#)

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nhgbib.bib [09.08.22 17:26 :: 2207136] use this BIB-file for including into your TeX-file!
 nhgbib_SCP.bib [09.08.10 14:54 :: 3590308] (last stable version)
 nhgbib_1.bib (Part1) [09.08.22 17:26 :: 778570]
 nhgbib_2.bib (Part2) [09.08.22 17:26 :: 1428684]
 nhgbib_1.bbl (Part1) [09.08.22 17:26 :: 559375]
 nhgbib_2.bbl (Part2) [09.08.22 17:26 :: 966982]
 nhgbib_1.pdf (Part1) [09.08.22 17:26 :: 808820]
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[bibtex-ToDo](#)

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We are now entering the phase of **NuHAG-3**. Goals:

- continue to keep the broad platform open for interaction;
- deepen the understanding of connections between pure and applied problems;
- identify new application areas and mathematical problems;
- improve the efficiency and reliability of numerical work;
- *Scientifically* we are looking into prosperous times, because there are more and more data to be analyzed, and the level of mathematical sophistication will go up!
- give young colleagues a chance to develop their own ideas;

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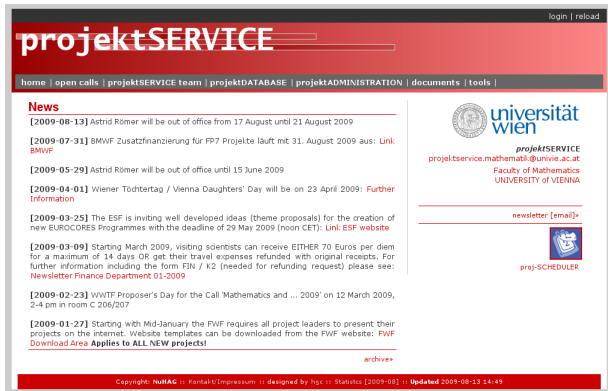
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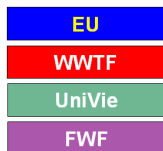
- Helmut Boelcskei (full Prof. at ETH Zürich);
- Wojtek Czaja (assoc. Prof. at Univ. College Park/MD);
- Holger Rauhut (jun. Prof. , Hausdorff Excellence Center);
- Massimo Fornasier (RICAM, START Prize Winner 2008);
- Peter Balazs (Acoustic Res. Inst. OEAW, WWTF);
- Werner Kozek (industrial career at Siemens);
- Monika Dörfler (Herta Firnberg Fellow);
- Norbert Kaiblinger (FWF fellow);
- Ewa Matusiak (Researcher, Technion);
- Karin Schnass (PhD EPFL Lausanne);

Effects on the Faculty: Introduction of a "project service team" in 2007 (Astrid Römer, Alan Hazivar): see <http://www.univie.ac.at/nuhag-php/projekt-service/>

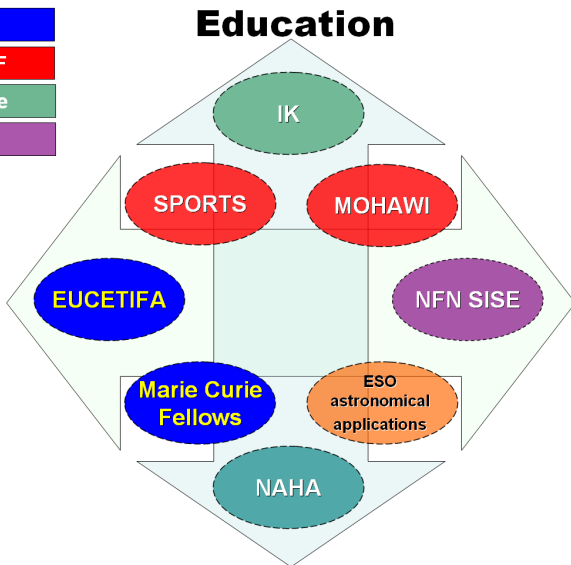


The screenshot shows the homepage of the projektSERVICE website. The header features the site name "projektSERVICE" in a large, bold font. Below the header is a navigation menu with links for "home", "open calls", "projektSERVICE team", "projektDATABASE", "projektADMINISTRATION", "documents", and "tools". A "login | reload" link is located in the top right corner. The main content area is divided into two columns. The left column is titled "News" and contains several news items with dates and brief descriptions, each followed by a "Link" to further information. The right column features the logo of the University of Vienna and the text "projektSERVICE" along with the contact email "projekt.service.mathematik@univie.ac.at". Below this is a "newsletter [email]" link and a "proj-SCHEDULER" icon. At the bottom of the page, there is a copyright notice: "Copyright: NuHAG :: Fontal©Impressum :: designed by hgc :: Statistics [2009-08] :: Updated 2009-08-13 14:49".

The NuHAG project landscape as of 2009



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Numerical Algorithms