

## Science Questions, Working Groups, and White Paper

### Workshop Goals

The goal of this workshop is to review the status and future of direct and indirect neutrino mass measurements in the laboratory as well as from astrophysical and cosmological observations. We plan to assess critically what these fields can contribute to the measurement of the neutrino mass and the determination of the neutrino mass spectrum in the next decade. The discussions of this workshop will be summarized in a white paper.

### The Science Questions

To provide a focus for the working groups we have formulated five major science questions:

*Q1. What are the reach and experimental limitations of current and future direct neutrino mass experiments?*

*Q2. What can we learn about neutrino mass and mass hierarchy from double beta decay experiments, and what is their future reach?*

*Q3. What can we learn from astrophysical or cosmological observations about neutrino mass and the mass hierarchy?*

*Q4. What are the model-dependencies and uncertainties in laboratory measurements and astrophysical/cosmological observations, and how are these uncertainties established?*

*Q5. How do we analyze future neutrino mass experiments and astrophysical observations to extract unified information on neutrino masses and the mass hierarchy?*

Questions Q1-3 require the assessment of experts in the respective subfields. Questions Q4-5 frame the discussion between laboratory and astrophysical observations.

### Workshop Groups

Working groups will be organized around these scientific questions. The discussions will be summarized in form of summary talks given by working group leaders and a workshop white paper.

### **Workshop Talks**

All participants are encouraged to upload Powerpoint and/or PDF files of their workshop talks before their presentation. All talks will be archived on our Indico conference system. You can directly access the Indico system at the following URL or through the INT workshop webpage. Instructions for how to upload talks are available on the workshop wiki and in the printed INT welcome package.

<http://agenda.hep.wisc.edu/categoryDisplay.py?categId=20>

### **Workshop Wiki**

A workshop wiki has been set up. It contains up-to-date information on how to upload talks, contribute to the writing of the white paper, and other topics relevant to the workshop. You can access the wiki directly at the following URL or through the INT workshop webpage:

<https://wiki.hep.wisc.edu/numass2010/>

### **White Paper**

A white paper will be drafted during the workshop. We envision a total length of 20-25 pages with about 4-5 pages dedicated to each one of the science questions listed above. The length of the white paper is flexible based on input from the working groups. The white paper will be co-authored by all workshop participants and active participation in the writing of the white paper is strongly encouraged. Publication in a suitable journal is under discussion. The writing of the white paper will be organized through the workshop wiki. Instructions for setting up CVS to contribute to the writing of the white paper are available on the workshop wiki and in the printed INT welcome package.

As a first step we ask all workshop participants to review the collection of literature references and inform the organizers about missing papers and references. Only original and published references (if possible) should be listed in our bibliography:

<https://wiki.hep.wisc.edu/numass2010/LiteratureReferences>

# How To Upload Your Talk For NuMass2010

1. Go to <http://agenda.hep.wisc.edu/categoryDisplay.py?categId=20>
2. login with

username: numass2010

password: Seattle

1. Select the day of your talk.
2. Click on icon to the left of your talk title and follow instructions on web interface for talk upload.
3. You're done!

For questions contact Karsten Heeger at [✉ heeger@wisc.edu](mailto:heeger@wisc.edu).

TalkInstructions (last edited 2010-02-04 20:53:08 by KarstenHeeger)

# How To Set Up CVS for NuMass2010 Whitepaper

## Important note

You only need to set up CVS if you plan to contribute to the writing of the white paper. If you don't plan to actively contribute to the writing of the paper, you don't need to follow these instructions. Simply point your web browser to the following link and follow the paper development.

<http://neutrino.physics.wisc.edu/numasscvs/viewvc.cgi/?root=NuMass2010>

The following instructions assume that you are familiar with the terminal.

## Instructions

The following instructions assume that you are familiar with the terminal.

1. Be sure to have an account on the HEP.WISC cluster. Ask the organizer if you need one.
2. Configure the proper environmental variables on your local machine (i.e. the machine where your working copy will resides)

```
export CVS_RSH=ssh
export CVSAFSDIR=/afs/hep.wisc.edu/neutrino/NuMass2010/cvs_repo
export CVSROOT=:ext:username@login.hep.wisc.edu:$CVSAFSDIR
```

where you have to use your username on the HEP.WISC cluster

3. Check out the latest version from the repository:

```
cvs checkout NuMass2010-whitepaper
```

(it will ask for your password on the HEP.WISC cluster)

4. To commit your changes, simply use:

```
cvs commit -m "Write Here A Message You Feel Like Attaching"
```

5. To bring your working copy up-to-date with the repository latest version:

```
cvs update
```

## Email notification

If you would like to receive an email notification every time someone commits a change to the cvs, please send an email with your request to [✉ sangiorgio@wisc.edu](mailto:sangiorgio@wisc.edu).

## More resources

- [http://www.linuxdevcenter.com/pub/a/linux/2002/01/03/cvs\\_intro.html](http://www.linuxdevcenter.com/pub/a/linux/2002/01/03/cvs_intro.html) Quick introduction to use CVS
- <http://ximbiot.com/cvs/manual/cvs-1.12.13/cvs.html> Extensive manual of Version Management with CVS

## GUIs for CVS

- <http://www.heilancoo.net/MacCVSClient/> MacCVSClient - Graphical Client for Mac
- <http://www.wincvs.org/> WinCVS - GUI for all platforms
- <http://www.smartcvs.com/> SmartCVS - another GUI for all platforms

## Contact

If you experience problems with the cvs, contact [✉ sangiorgio@wisc.edu](mailto:sangiorgio@wisc.edu)

CvsInstructions (last edited 2010-02-04 20:57:28 by KarstenHeeger)