# WISE Technologist

## MEGIN Customer Training Program

**Practical considerations and hands-on practice for performing quality clinical MEG**

**W**illingness to strive for high quality
**I**ngenuity to overcome
**S**elf-sufficient
**E**ducated

MEGIN

# Practical considerations and hands-on practice

*Each workshop includes…*

Lecture led by Prof. John Mosher discussing practical quality control considerations

- video lecture with interactive Q&A session

Hands-on virtual guidance for data acquisition

- video demonstrations and live support led by MEGIN trainers and expert technologists while trainees practice at their home site

Hands-on virtual guidance for data processing and analysis

- video demonstration and live support guided by expert MEG analysts while trainees practice on their data

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|---|---|
| Workshop 1: Performing quality somatosensory mapping<br>Nichole Knott and Elizabeth Heinrichs-Graham, PhD, Boys Town National Research Hospital | January 13, 2022<br>12pm EST |
| Workshop 2: Performing quality visual mapping<br>Jeremy Gurumendi and Paul Ferrari, PhD, Helen DeVos Children's Hospital, | February 7, 2022<br>12pm EST |
| Workshop 3: Performing quality auditory mapping together with receptive language mapping (Papanicolaou protocol)<br>Teri Williard and Roozbeh Rezaie, PhD, Le Bonheur Children's Hospital | March 11, 2022<br>12pm EST |
| Workshop 4: Performing motor mapping<br>Nao Matsuda and Steven Stufflebeam, MD, Massachusetts General Hospital | April 11, 2022<br>12pm EST |
| Workshop 5: Recording quality spontaneous MEG/EEG data | TBD<br>Details coming soon. |



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## Workshop 1: Practical considerations and hands-on practice for performing quality somatosensory mapping

| | Resources | Duration |
|---|---|---|
| Lecture discussing practical quality control considerations for mapping | John Mosher, PhD | 0.5 hour |
| Trainer-led, hands-on virtual guidance for data acquisition (trainer demonstrates, trainee practices)<br>• Prepare the MEG system<br>• Prepare the patient<br>• Record magnetic evoked fields<br>• Considerations for median, tibial and ulnar nerve recordings | MEGIN trainer<br>Jeremy Gurumendi<br>NM26082A-B Guidelines to MEG Data Acquisition | 1.5 hour |
| Expert-led, hands-on virtual guidance for data processing and analysis (expert demonstrates, trainee practices)<br>• Prepare MRI and single sphere model<br>• Pre-process raw data using MaxFilter<br>• Prepare events for functional mapping<br>• Source localization of evoked fields | Elizabeth Heinrichs-Graham, PhD<br>NM25775A-B Guidelines to MEG Data Analysis Software | 1.5 hour |

Completed!

## Workshop 2: Practical considerations and hands-on practice for performing quality visual mapping

| | Resources | Duration |
|---|---|---|
| Q&A and lessons learned from SEF workshop | MEGIN Trainers, John Mosher, PhD | 0.5 hour |
| Lecture discussing practical quality control considerations for visual mapping (stimuli, timing, field of view, etc.) | Paul Ferrari, PhD | 0.5 hour |
| Trainer-led, hands-on virtual guidance for data acquisition (trainer demonstrates, trainee practices)<br>• Prepare the MEG system<br>• Prepare the patient<br>• Record magnetic evoked fields<br>• Considerations for different projector setup, screen setup, supine stimulation, different stimulus software (Stim2 vs E-Prime) | MEGIN trainer<br>Jeremy Gurumendi<br>NM26082A-B Guidelines to MEG Data Acquisition | 1.5 hour |
| Expert-led, hands-on virtual guidance for data processing and analysis (expert demonstrates, trainee practices)<br>• Prepare MRI and single sphere model<br>• Pre-process raw data using MaxFilter<br>• Prepare events for functional mapping<br>• Source localization of evoked fields | Paul Ferrari, PhD<br>NM25775A-B Guidelines to MEG Data Analysis Software | 1.5 hour |

Completed!

## Workshop 3: Practical considerations and hands-on practice for performing quality auditory mapping together with receptive language mapping (Papanicolaou protocol)

| | Resources | Duration |
|---|---|---|
| Q&A and lessons learned from VEF workshop | MEGIN Trainers, John Mosher, PhD | 0.5 hour |
| Lecture discussing practical quality control considerations for language mapping (stimuli, distractors, etc.) | Roozbeh Rezaie, PhD | 0.5 hour |
| Trainer-led, hands-on virtual guidance for data acquisition (trainer demonstrates, trainee practices)<br>• Prepare the MEG system<br>• Prepare the patient<br>• Record magnetic evoked fields<br>• Considerations for adjusting stimulus volume and patient engagement with target words | MEGIN trainer<br>Teri Williard<br>NM26082A-B Guidelines to MEG Data Acquisition | 1.5 hour |
| Expert-led, hands-on virtual guidance for data processing and analysis (expert demonstrates, trainee practices)<br>• Prepare MRI and single sphere model<br>• Pre-process raw data using MaxFilter<br>• Prepare events for functional mapping<br>• Source localization of evoked fields | Roozbeh Rezaie, PhD<br>NM25775A-B Guidelines to MEG Data Analysis Software | 1.5 hour |

Completed!

## Workshop 4: Practical considerations and hands-on practice for performing quality motor mapping

| | Resources | Duration |
|---|---|---|
| Q&A and lessons learned from LEF workshop | MEGIN Trainers, John Mosher, PhD | 0.5 hour |
| Lecture discussing practical quality control considerations for mapping | John Mosher, PhD and Matti Hamalainen, PhD | 0.5 hour |
| Trainer-led, hands-on virtual guidance for data acquisition (trainer demonstrates, trainee practices)<br>• Prepare the MEG system<br>• Prepare the patient<br>• Record magnetic evoked fields<br>• Considerations for finger tapping, self-paced or stimulus driven | MEGIN trainer<br>Nao Matsuda<br>Seppo Ahlfors, PhD<br>NM26082A-B Guidelines to MEG Data Acquisition | 1.5 hour |
| Expert-led, hands-on virtual guidance for data processing and analysis (expert demonstrates, trainee practices)<br>• Prepare MRI and single sphere model<br>• Pre-process raw data using MaxFilter<br>• Prepare events for functional mapping<br>• Source localization of evoked fields | Steven Stufflebeam, MD<br>NM25775A-B Guidelines to MEG Data Analysis Software | 1.5 hour |

## Workshop 5: Practical considerations and hands-on practice for recording quality spontaneous MEG/EEG data.

| | Resources | Duration |
|---|---|---|
| Lecture: Practical considerations and hands-on practice for recording quality spontaneous MEG/EEG data | On-site expert | 0.5 hour |
| Trainer-led, hands-on virtual guidance for data acquisition (trainer demonstrates, trainee practices)<br>• Preparing the MEG system<br>• Tuning sensors<br>• Identifying and mitigating magnetic interference and artifacts<br>• Preparing the patient (including EEG cap)<br>• Positioning the patient for comfort<br>• Recording spontaneous MEG<br>• Finalizing the measurement and managing data | MEGIN trainers<br>NM26082A-B Guidelines to MEG Data Acquisition | 1.5 hours |
| Workshop wrap-up and Q&A | | 1.5 hours |