
CURRICULUM VITAE

Olga A. Imas, Ph.D.

*Assistant Professor, Biomedical Engineering
Electrical Engineering and Computer Science Department
Milwaukee School of Engineering*

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Place of Birth: Minsk, Belarus

Citizenship: US Citizen

Marital Status: Married

Education:

09/95 – 05/99 Bachelor of Science
Milwaukee School of Engineering, Milwaukee, WI
Major: Biomedical Engineering

09/99-05/04 Doctor of Philosophy
Marquette University and Medical College of Wisconsin, Milwaukee, WI
Major: Biomedical Engineering and Functional Imaging
Advisors: Dr. Kristina M. Ropella and Dr. Anthony G. Hudetz
Title: *Non-parametric time-series analysis of gamma functional connectivity under general anesthesia.*

06/04-09/07 Postdoctoral Fellow, Medical College of Wisconsin, WI
Department: Anesthesiology Research
Mentor: Dr. Anthony G. Hudetz

Academic Research Experience:

- 06/99-06/03 Graduate Assistant, Department of Biomedical Engineering
Marquette University, Milwaukee, WI
- 06/03-06/04 Research Assistant, Department of Anesthesiology
Medical College of Wisconsin, Milwaukee, WI
- 06/04-08/07 Postdoctoral Fellow, Department of Anesthesiology Research
Medical College of Wisconsin, Milwaukee, WI

Industry Appointments:

- 09/09-Present CT Product Development Consultant
GE Healthcare, Waukesha, WI
- 09/07-09/09 Product Development Specialist, Molecular Imaging
GE Healthcare, Waukesha, WI
- 12/08-09/09 Instructor/Lecturer, Advanced Course/Edison Engineering Program
GE Healthcare, Waukesha, WI

Faculty Appointments and Teaching Experience:

- 09/09-Present Assistant Professor, Biomedical Engineering
Electrical Engineering and Computer Science Department
Milwaukee School of Engineering, Milwaukee, WI
- 12/08-09/09 Adjunct Assistant Professor, Department of Electrical Engineering and
Computer Science
Milwaukee School of Engineering, Milwaukee, WI
- 12/06-09/09 Instructor/Lecturer, Department of Biomedical Engineering
Marquette University, Milwaukee, WI
- 09/03-12/03 Teaching Assistant, Department of Biomedical Engineering
Marquette University, Milwaukee, WI

Awards and Honors:

- 1995 Women's Academic Scholarship, Milwaukee School of Engineering

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| 1997-1998 | National Dean's List |
| 1997-1999 | <i>Alpha Eta Mu Beta</i> – Academic Honor Society |
| 1999-2001 | Whitaker Fellowship Award, Marquette University, Milwaukee, WI |
| 2000-2003 | Richard W. Jobling Fellowship Award, Marquette University, Milwaukee, WI |
| 2001-2003 | GAANN Fellowship Award, Marquette University, Milwaukee, WI |
| 2006 | Metropolitan Who is Who, Milwaukee, WI |

Other Professional Activities:

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| 2003 | Ad hoc reviewer for <i>Neuroimage</i> |
| 2004 | Ad hoc reviewer for <i>Annals of Biomedical Engineering</i> |
| 2006 | Invited managing editor of the editorial board of the <i>Frontiers in Bioscience</i> |

Membership in Professional and Honorary Societies:

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| 1996 | Biomedical Engineering Society (BMES) |
| 1997 | IEEE-EMBS |
| 2003 | Society for Neuroscience |

Research Grants, Contracts, Awards, Projects:

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| 2006-2007 | Primary Investigator – NIH F32 GM077763 “Mapping visual evoked potentials under anesthesia.” Grant Duration: 04/01/06 to 08/30/07. |
| 2003-2007 | Co-Investigator – NIH GM-56398 “Volatile Anesthetics and Cerebral Cortical Sensory Integration.” (PI: A. G. Hudetz, PhD). This project investigates the mechanism of anesthetic-induced loss of consciousness in rats using electrophysiological techniques. Grant Duration: 07/01/03 to 06/30/07 |

Selected Invited Lectures and Seminars:

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| 2002 | “Effect of halothane on spontaneous and flash-induced gamma activity in rat primary visual cortex” – 2 nd Joint BMES-EMBS Conference, Houston, TX. |
| 2003 | “Halothane augments gamma activity upon the loss of consciousness” – Department of Anesthesiology, Medical College of Wisconsin, Milwaukee, WI. |

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- 2004 “Non-parametric time-series analysis of gamma functional connectivity under general anesthesia.” – Department of Biomedical Engineering, Marquette University.
- 2004 “Effects of anesthetics on visual evoked response” – Department of Anesthesiology, Medical College of Wisconsin, Milwaukee, WI.
- 2006 “Effects of general anesthetics on long-range functional interactions in the cerebral cortex.” University of Wisconsin, Madison, WI.
- 2006 “Isoflurane disrupts antero-posterior phase synchronization of flash-induced field potentials in the rat.” – Annual Meeting of the American Society of Anesthesiologists, Chicago, IL.

Undergraduate and Graduate Students Mentored:

- 2003 **Mentored** Megan Dooghe – Undergraduate Student, Department of Biomedical Engineering, Marquette University, Milwaukee, WI.
- 2006 **Co-mentor** Jeannette Vizuite –PhD student, Department of Biomedical Engineering, Marquette University, Milwaukee, WI.
- 2006 **Mentored** Samantha Michalski - Undergraduate Student, Research Experience for Undergraduates, Marquette University, Milwaukee, WI.

PATENTS

Docket # 231068: Method of automated detection of brain aneurysms/lesions, arterio-venous malformations.

Docket # 2344413: Method of model-based temporal smoothing of dynamic datasets.

Docket # 8081452: Algorithm to relax the sampling frequency of CT perfusion.

PUBLICATIONS

Refereed Journal Papers

Imas OA, Ropella KM, Wood JD, Hudetz AG. Halothane augments event-related gamma oscillations in rat visual cortex. *Neuroscience*. Vol. 123, p.269-78, 2004.

Imas OA, Ropella KM, Ward BD, Wood JD, Hudetz AG. Volatile anesthetics enhance flash-induced gamma oscillations in rat visual cortex. *Anesthesiology*. Vol. 102(5), p.937-947, 2005 .

Imas OA, Ropella KM, Ward BD, Wood JD, Hudetz AG. Volatile anesthetics disrupt frontal-posterior recurrent information transfer at gamma frequencies in the rat. *Neuroscience Letters*. Vol. 387, p. 145-150, 2005.

Jugovac I, **Imas OA**, Hudetz, AG. Supraspinal anesthesia and electroencephalographic effects of intraventricularly infused pentobarbital, propofol, fentanyl and midazolam. *Anesthesiology*. Vol. 105(4), p.764-778, 2006.

Imas OA, Ropella KM, Wood JD, Hudetz AG. Isoflurane disrupts antero-posterior phase synchronization of flash-induced field potentials in the rat. *Neuroscience Letters*. Vol. 402(3), p.216-21, 2006.

Hudetz AG, **Imas OA**. Burst activation of the cerebral cortex by flash stimuli under deep isoflurane anesthesia in the rat. *Anesthesiology*. Vol. 107(6), p. 983-992, 2008.

Hudetz AG, Vizuetta, JA, **Imas OA**. Desflurane selectively suppresses long-latency cortical neuronal response to flash in the rat. *Anesthesiology*. Accepted, 2009.

Book Chapters:

Ropella KM and **Imas OA**. Coherence. Wiley Encyclopedia of Biomedical Engineering. Vol. 2, Wiley Publishers Inc. 2005. pp. 914-925.

Abstracts:

Olson LE, **Yakubovich (Imas) OA**, Clough AV, Dawson CA. A fast algorithm for predicting transit times through arterial trees. *FASEB J*. 14:A168, 2000.

Imas OA, Ropella KM, Hudetz AG. Quantifying dose-dependent changes in visual flash-induced evoked response during halothane and isoflurane anesthesia. *Proc. Second Joint EMBS-BMES Conference*. Houston, TX. 2002.

Imas OA, Ropella KM, Wood JD, Hudetz AG. Effects of halothane and isoflurane on flash-evoked potentials in rat visual cortex. *Proc. Society for Neuroscience 32nd Annual Meeting*. Orlando, FL. 2002.

Imas OA, Ropella KM, Wood JD, Ward DB, Hudetz AG. Mutual information from gamma field potentials – the index of functional connectivity among primary visual and association cortices, is disrupted by halothane in rat. *Proc. Society for Neuroscience 33rd Annual Meeting*. New Orleans, LA. 2003.

Hudetz AG, **Imas OA**, Ropella KM, Wood JD. Anesthesia impairs the front of the brain seeing the back of the brain. *Toward The Science of Consciousness Meeting*. Tuscan, AZ. 2004.

Hudetz AG, **Imas OA**, Ropella KM, Wood JD. Anesthetics may suspend consciousness by reducing recurrent information flow at gamma frequency in rats. *Proc. Society for Neuroscience 34th Annual Meeting*. San Diego, CA. 2004.

Jugovac I, **Imas OA**, Hudetz AG. State of consciousness following cerebroventricular infusion of anesthetic agents in rats. *Proc. Society for Neuroscience 34th Annual Meeting*. San Diego, CA. 2004.

Imas OA, Ropella KM, Wood JD, Ward DB, Hudetz AG. Volatile anesthetics augment flash-induced gamma oscillations in rat visual cortex. *Proc. Society for Neuroscience 34th Annual Meeting*. San Diego, CA. 2004.

Hudetz AG, **Imas OA**, Wood JD. Effect of volatile anesthetics on flash-evoked cortical field potential and multiunit responses in the rat. *IARS Meeting*. Honolulu, Hawaii. 2005.

Hudetz AG, **Imas OA**, Ropella KM. Neural correlates of unawareness: theory and experimental results. *ASA Meeting*. 2005.

Imas OA, Wood JD, Ward DB, Hudetz AG. Isoflurane disrupts frontoparietal coherence during visual flash stimulation in rat. *Proc. Society for Neuroscience 35th Annual Meeting*. Washington D.C, 2005.

Imas OA, Ropella KM, Wood JD, Hudetz AG. Isoflurane disrupts antero-posterior phase synchronization of flash-induced field potentials in the rat. *ASA Annual Meeting*. Chicago, IL, 2006.

Hudetz AG, **Imas OA**, Wood JD. Cortical Burst Activation by Visual Flash Stimuli during Isoflurane-Suppressed EEG in Rats. *American Society of Anesthesiology*. 2007

Hudetz AG, Vizuite JA, **Imas OA**. Desflurane suppresses long-latency visual cortical unit response in the rat. *Society for Neuroscience*. Accepted. 2008.