

NICK V. CHERNY

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Education

- The Pennsylvania State University – State College, PA
Ph.D. Engineering Science – Electromagnetic Theory Specialization – 2010 (Expected)
- George Mason University – Fairfax, VA
B.S. Computer Engineering – 2004

Professional Experience

- **Center for Neural Engineering**—State College, PA
Research Engineer: 2004–present
 - Developed robust techniques to facilitate neurological recording during ongoing electrical stimulation. Designed instrumentation to study feedback-enabled control of epileptic seizures and navigation-related brain rhythms. Implemented a system for electrochemical deposition and characterization of iridium oxide thin films for improved implantable electrodes.
- **Center for Neural Dynamics**—Fairfax, VA
Undergraduate Research Assistant: 2003–2004
 - Designed a complete set of novel instrumentation for chronic neurological recording in freely-behaving animals.
- **Dataprise Inc.**—Rockville, MD
Senior Network Engineer: 1999–2001
 - Carried out on-site installation of and upper-tier support for Cisco-brand network equipment.
- **Sysnet Inc.**—Silver Spring, MD
Network Engineer: 1998–1999
 - Maintained core infrastructure for a medium-sized internet service provider consisting of BSD UNIX servers and various network equipment.
- **Cyber-U.S. Inc.**—Alexandria, VA
System Administrator: 1995–1996
 - Maintained office computer equipment and aided office staff.

Distinctions

- Dr. Sabih and Mrs. Güler Hayek Graduate scholarship winner (2007)
- Engineering Science and Mechanics Exhibition (2007, 2008) runner-up
- TBII engineering honorary society member, former web-development officer
- Naturalized citizen of the U.S.A.

Research Interests

- Treatment of epilepsy, Parkinson's disease and other neurological disorders
- Feedback-enabled control of neuronal systems
- Novel electrode coatings for neuronal stimulation
- Implantable medical devices
- Frequency-domain signal analysis
- High performance amplifier design
- Analog integrated circuit design

Publications

- Sunderam S, **Chernyy N**, Peixoto N, Mason JP, Weinstein SL, Schiff SJ, Gluckman BJ. *Seizure entrainment with polarizing low frequency electric fields in a chronic animal epilepsy model" J Neural Engineering*. 2009
- **Chernyy N**, Schiff SJ, Gluckman BJ. *Multi-taper transfer function estimation for stimulation artifact removal from neural recordings" Conf Proc IEEEEng Med Biol Soc*. 2008;1:2772-6
- Sunderam S, **Chernyy N**, Peixoto N, Mason JP, Weinstein SL, Schiff SJ, Gluckman BJ. *Improved sleep-wake and behavior discrimination using MEMS accelerometers*. J Neurosci Methods. 2007 Jul 30;163(2):373-83. 2007 Mar 15.
- Sunderam S, **Chernyy N**, Mason J, Peixoto N, Weinstein SL, Schiff SJ, Gluckman BJ. *Seizure modulation with applied electric fields in chronically implanted animals*. Conf Proc IEEE Eng Med Biol Soc. 2006;1:1612-5

Presentations

- **Chernyy N**, Sunderam S, Mason J, Weinstein SL, Schiff SJ, Gluckman BJ. *Multi-taper spectral analysis of stimulation artifact and epileptiform seizure entrainment data American Epilepsy Society Meeting, (Abst. 3.165;) , 2007*
- Sunderam S, **Chernyy N**, Mason J, Weinstein SL, Schiff SJ, Gluckman BJ. *A Markov-source model for seizure progression American Epilepsy Society Meeting, (Abst. C.14;) , 2007*
- **Chernyy N**, Sunderam S, Mason J, Peixoto N, Weinstein SL, Schiff SJ, Gluckman BJ. *Seizure modulation with applied electric fields in chronically implanted animals American Epilepsy Society Meeting, (Abst. BS.17) , 2006*
- **Chernyy N**, Peixoto N, Sunderam S, Mason J, Weinstein SL, Schiff SJ, Gluckman BJ. *Multichannel recording and isolated stimulation system for chronic electric field stimulation in rats. Epilepsia 46 Suppl. 8 :283 (Abst. 3.028) , 2005*
- Peixoto N, **Chernyy N**, Weinstein SL, Parekh R, Mason J, Schiff SJ, Gluckman BJ. *Electrochemical evaluation of electrodeposited iridium-oxide electrodes for low-frequency, non-pulsatile stimulation in chronically implanted animals Epilepsia 46 Suppl. 8 :297 (Abst. 3.065) , 2005*
- Sunderam S, Peixoto N, **Chernyy N**, Mason J, Weinstein SL, Schiff SJ, Gluckman BJ. *Sleep-wake stage and behavior discrimination in rats using a combination of EEG and head acceleration measurements Epilepsia 46 Suppl. 8 :303 (Abst. 3.081) , 2005*

- Berzhanskaya J, **Chernyy N**, Ziburkus J, Gluckman BJ, Schiff SJ. *Effect of electric fields on neural excitability in hippocampal CA1 in vitro* Society for Neuroscience Annual Meeting, 2005
- Peixoto N, Spencer RG, **Chernyy N**, Johnson K, Rubin G, Richardson K, Lovell R, Weinstein SL, Schiff SJ, Gluckman BJ. *Automated wake-sleep state discrimination in chronically implanted animals using electrophysiological and kinematic variables* American Epilepsy Society Meeting, 2004