

**Curriculum Vitae
Barbara Clancy Ph.D.**

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Academic website <http://faculty.uca.edu/bclancy/index.html>

Database/modeling website <http://www.translatingtime.net/>

Associate Professor, University of Central Arkansas, Department of Biology, 2001 to present
Adjunct Professor, University of Arkansas for Medical Sciences, 2003 to present
Bioinformatics Graduate Faculty, University of Arkansas at Little Rock, 2008 to present

Professional Preparation

- B.A.** Psychology, University of Texas at Dallas, 1991
M.S. Applied Cognition and Neuroscience, University of Texas at Dallas, 1993
Ph. D. Human Development/Neuroscience, University of Texas at Dallas, 1996
Rett Foundation Fellow, University of Alabama at Birmingham, 1996 to 1997
NIMH Postdoctoral Fellow, Cornell University, 1997 to 2001

Publications

- D.J. Cahalane, **B. Clancy**, M.A. Kingsbury, E. Graf, O. Sporns and B.L. Finlay (2011)
Network Structure Implied by Initial Axon Outgrowth in Rodent Cortex: Empirical
Measurement and Models PLoS ONE 6:1.
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0016113>
- R. Nagarajan, R.B. Darlington, B.L. Finlay, **B. Clancy** (2010) *ttime*: an R package for
translating the timing of brain development across mammalian species
Neuroinformatics (8:201-05) <http://www.springerlink.com/content/8434t7526u090512/>
- B. Clancy**, J. DeFelipe, A. Espinosa, A. Fairen, S. Jinno, K. Rockland, N. Tamamaki, and X.
Yan (2010) Cortical GABAergic neurons: stretching it. *Frontiers in Neuroanatomy*.
<http://frontiersin.org/neuroscience/neuroanatomy/paper/10.3389/neuro.05/007.2010/>
- B.L. Finlay, **B. Clancy** and R. B. Darlington Late Still Equals Large (2010) *Brain Behavior &
Evolution*. 75:4-6.
<http://content.karger.com/ProdukteDB/produkte.asp?Aktion=ShowPDF&ArtikelNr=295350&Ausgabe=253802&ProduktNr=223831&filename=295350.pdf>

- B. Clancy**, T.J. Teague-Ross and R. Nagarajan (2009) Cross-Species Analyses of the Cortical Gabaergic and Subplate Neural Populations. *Frontiers in Neuroanatomy* 3:20. <http://frontiersin.org/neuroanatomy/paper/10.3389/neuro.05/020.2009/>
- R. Nagarajan and **B. Clancy** (2008) Phylogenetic proximity revealed by neurodevelopmental event timings. *Neuroinformatics* 6, 71-9. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2735472/>
- B. Clancy**, B.L. Finlay, R.B. Darlington, K.J.S. Anand (2007) Extrapolating Brain Development From Experimental Species To Humans. *NeuroToxicology*, 28(5): 931–937. <http://www.ncbi.nlm.nih.gov:80/pmc/articles/PMC2077812/>
- C.L. Lowery, M.P Hardman, N. Manning, **B. Clancy**, R.W. Hall, K..J. Anand KJ (2007) Neurodevelopmental changes of fetal pain. *Seminars in Perinatology* 31: :275-82
- B.L. Finlay and **B. Clancy** (2007) Eye, Retina, and Visual System of the Mouse L. Chalupa and R.W. Williams (Eds.) *Chronology of the Development of the Mouse Visual System: Comparisons with Human Development*. MIT Press. pp 257-265.
- K.S. Anand and **B. Clancy** (2006) Fetal Pain? *Pain Clinical Updates* XIV- 2:1-3
- B. Clancy**, B. Kersh, J. Hyde, R.B. Darlington, K.J.S. Anand, B.L. Finlay (2007) Web-Based Method For Translating Neurodevelopment From Laboratory Species To Humans. *Neuroinformatics* 5-1:79-94.
- B. Clancy** (2006) Practical Use of Evolutionary Neuroscience Principles. *Behavioral and Brain Sciences* 29:14-15.
- E. Bates, D. Thal, B. L. Finlay, and **B. Clancy** (2003) Early Language Development and its Neural Correlates. In F. Boller and J. Grafman (Series Eds.), I. Rapin and S. Segalowitz (Vol. Eds.), *Handbook of Neuropsychology* (2nd ed), Elsevier: Child Neuropsychology 8:525-592.
- B.L. Finlay, **B. Clancy**, and M. Kingsbury (2003) *Advances in Infancy Research, Neurophysiology of Infant Vision*. Hopkins and S. Johnston (Eds.): The developmental neurobiology of early vision. Praeger Press 1-32.
- B. Clancy**, R.B. Darlington, and B.L. Finlay (2001) Translating Developmental Time Across Mammalian Species. *Neuroscience* 105:7-17.

- B. Clancy**, M. da Silva Filho, and M.J. Friedlander (2001) Structure and Projections of White Matter Neurons in The Postnatal Rat Visual Cortex. *Journal of Comparative Neurology* 434:233-252.
- D. Thal and **B. Clancy** (2001) Brain Development and Language Learning: Implications for Prevention of Non-Biologically Based Language-Learning Disorders. *Journal of Speech-Language Pathology and Audiology* 25:52-76.
- B. Clancy** and B. L. Finlay (2001) Essential Readings in Language Development. M. Tomasello and E. Bates (Eds.). Blackwell Publishers 307-330.
- B. Clancy**, R.B. Darlington, and B.L. Finlay (2000) The Course of Human Events: Predicting the Timing of Primate Neural Development. *Developmental Science* 3:57-66.
- B. Clancy** and L.J. Cauller (1999) Widespread Projections from Subgriseal Neurons (Layer VII) to Layer I in Adult Rat Cortex. *Journal of Comparative Neurology* 407:275-286.
- L.J. Cauller, **B. Clancy**, and B. W. Connors (1999) Backward Cortical Projections to Primary Somatosensory Cortex in Rats Extend Long Horizontal Axons in Layer I. *Journal of Comparative Neurology* 390:297-310.
- B. Clancy** and L. J. Cauller (1998) Reduction of Background Autofluorescence in Brain Sections Following Immersion in Sodium Borohydride. *Journal of Neuroscience Methods* 83:97-102.

Invited Speaker

- Anesthetic and Life Support Drugs Advisory Committee Meeting, US Food and Drug Administration, Silver Spring, MD (May, 2011) Title: Translating Developmental Time From Experimental Species to Humans: An Interdisciplinary Approach.
- 11th Annual Career Day for Biomedical Sciences, University of Arkansas for Medical Sciences Graduate School, Little Rock, AR (November, 2010) Title: The Joy of Egg Juggling: Teaching and Research at an Undergraduate Institution.
- 26th International Neurotoxicology Conference, Portland OR (June, 2010) Title: Can Comparisons of Age-Related Milestones Help Equate Maturation in Experimental Species to Human Development?

- Symposium on Anesthesia and Neurodevelopment in Children, PANDA Study, Columbia University, New York, NY (May, 2010) Title: Translating Neurodevelopmental Timing From Experimental Species to Humans.
- Symposium on Prenatal Maternal Stress and Brain Development, McGill University, Montreal, Canada (January 2009) Title: Translating Time Across Species.
- International Teratology Society Conference, Monterey CA (July 2008) Title: Prenatal Development of the Central Nervous System.
- 25th International Neurotoxicology Conference, Rochester NY (October 2008) Title: Translating The Timing Of Neurodevelopment Across Animal Models To Humans: What Works, What Doesn't, And What's Next.
- Cognitive Science Seminar, University of Memphis, TN (October 2007) Title: Of Mice and Monkeys and Men – What Might Translations From Experimental Species Tell Us About Human Brain Development?
- National Center for Toxicology Research Seminar Series, Jefferson, AR (June 2007) Title: Translating Neurodevelopmental Time Across Experimental Species to Humans.
- Arkansas Bioinformatics Symposium, Arkansas State University, Jonesboro, AR (April 2007) Title: A Neuroinformatics Approach to Equating Development Across Experimental Species to Humans
- Department of Neurobiology and Developmental Sciences Seminar Series, University of Arkansas for Medical Sciences, Little Rock, AR (February 2007) Title: Translating Neurodevelopment From Mice and Macaques to Men – And a Proposed Role for Myelin-Bound 'Remnants' of the Subplate
- University of Central Arkansas Department of Computer Science Seminar Series, University of Central Arkansas, Conway, AR (November 2006) Title: A Neuroinformatics Model: Using Math and Computer Science to Understand and Predict Brain Events via the Internet.
- Twenty-Third International Neurotoxicology Conference, Little Rock, AR (September 2006) Title: What is that in Rat Days? A Web Based Approach to the Translation of Neurodevelopmental Time Across Mammalian Species.

- University of Central Arkansas Department of Physical Therapy Research Forum, University of Central Arkansas, Conway, AR (April 2006) Title: Does Pain Alter the Developing Brain?
- Arkansas Children's Hospital Research Institute Seminar Series, Arkansas Children's Hospital, Little Rock, AR (September 2005) Title: Translating Developmental Times Across Experimental Species to Humans.
- Biosciences and Bioinformatics Seminar Series, University of Arkansas at Little Rock, Little Rock, AR (December 2004) Title: What is that in Rat Days?
- Seminar Series in Neurophysiology, University of Arkansas for Medical Sciences, Little Rock, AR (April 2004) Title: Correlating Neurodevelopment Time Across Species.
- Seminar Series in Neurobiology, University of Arkansas for Medical Sciences, Little Rock, AR (April 2002) Title: Persisting Subplate Cells: What are They Doing and Why do We Care?
- Neuroscience Center of Harvard Medical School/ Massachusetts General, Boston, Mass (December 2002) Title: A Role for Persisting Subplate Neurons in the Cortical White Matter.

Honors and Awards

University of Central Arkansas Research, Scholarship and Creative Activity Award (2008)

University of Central Arkansas Sabbatical Award (2008-2009)

Elsevier Publishers Top 10 Most Cited Articles NeuroToxicology (2010)

Abstracts (*undergraduate students **graduate students)

- Translating” Studies from Experimental Species to Humans: A Web-based Tool for Researchers and Clinicians T. Kersh*, A. Lim* and B. Clancy (2012) Posters at the Capitol, Little Rock, AR.
- Translating time: Extending a model of the timing of early neurodevelopmental events in mammals to cross-vertebrate structural, physiological and behavioral postnatal maturation (2011) A. D Workman*, C. D Gaffney*, B.A. Choi*, R. B. Darlington*, C. A. Charvet, B. Clancy and B.L. Finlay. Society for Neuroscience Abstracts.
- Network structure contingent on initial axon outgrowth in the developing rodent cortex: empirical measurement and models (2010) D.J. Cahalane**, B. Clancy, M.A. Kingsbury**, E. Graf*, O. Sporns and B.L. Finlay Society for Neuroscience Abstracts 441.18.
- “Remnant” Cells Do Not Survive In The Brain, But Subplate Cells Do (2010) S. Baldwin*, A.L. James*, K. Erbach*, A. Kilgore,* T.J. Teague-Ross**, G. Bratton, B. Clancy. University of Central Arkansas Student Research Symposium, Conway, AR.
- Characterization of Persisting Subplate Cells in Normal Development and Parkinson’s Disease (2009) D.N. Atwood*, L. Oonthonpan*, A. Kilgore*, K.N. Erbach*, T.R. Reddick*, L. Lee*, S.L. Baldwin*, C.M. Davis*, A.L. James*, T.J. Teague-Ross**, S. Lantz*, G. Bratton, B. Clancy. University of Central Arkansas Student Research Symposium, Conway, AR.
- Rat Cortical Subplate Comparisons Across Development and Aging (2008) T. J. Teague-Ross**, S. M. Lantz*, C. M. Davis*, A. L. James*, G.N. Bratton, B. Clancy. Society for Neuroscience Abstracts 232.14.
- Ketamine therapy in newborn rats is associated with altered behavior in late adulthood (2007) S. Lantz*, G. Bratton, S. Palmer*, A. Plummer*, D. Soellner**, C.R. Rovnaghi, K.J.S. Anand, B. Clancy. Society for Neuroscience Abstracts 936:9.
- Mapping the subplate: Where does it lead us? (2007) T. Teague-Ross**, J. Hyde*, P. Sellabos*, B. Clancy. Society for Neuroscience Abstracts 241:22.
- Behavioral Effects of Ketamine at Birth are Evident at Late Adulthood (2007) S. Lantz, J. Frank**, G. Bratton, S. Palmer**, C.R. Rovnaghi, K.J.S. Anand, B. Clancy. Arkansas Chapter of Society for Neuroscience, University of Arkansas for Medical Sciences. Little Rock, AR.
- Mapping the Cortical Subplate: Where Does it Lead Us? (2007) T. Teague-Ross**, S. Lantz, J. Hyde, B. Clancy. Arkansas Chapter of Society for Neuroscience, University of Arkansas for Medical Sciences. Little Rock, AR.
- Effects of Adverse Experiences at Birth on Behavior in Late Adulthood (2007) S. Lantz*, A. Fason*, B. Clancy. University of Central Arkansas Student Research Symposium, Conway, AR.
- Mapping the Cortical Subplate: Where does it lead us? T. Teague-Ross**, J. Hyde, C. Rowe*, A. Lucas*, B. Clancy. (2007) University of Central Arkansas Student Research Symposium, Conway, AR.
- Equating neurodevelopment across mammalian species using neuroinformatics (2007) J. Hyde*, B. Kersh*, S.Rowe*, B. Clancy. McBios Annual Conference, New Orleans. LA.

- Equating neurodevelopment across mammalian species using neuroinformatics (2006) J. Hyde*, B.M. Kersh*, B. Clancy. Arkansas Chapter of the Society for Neuroscience Conference, Little Rock, AR.
- A web based approach to the translation of neurodevelopmental time across mammalian species (2006) J. Hyde*, B. Kersh*, B. Clancy. Twenty-Third International Neurotoxicology Conference, Little Rock, AR.
- A web-based approach to equating time across species (2006) B. Kersh*, J. Hyde*, B. Clancy. First Bi-Annual IDEA Research Conference National IDEA Symposium of Biomedical Research Excellence, Washington, DC.
- Adverse effects of neonatal experiences are retained throughout adulthood (2006) A. Plummer*, J. Frank**, B. Bowden*, K. Street*, S. Palmer*, K.J.S. Anand, B. Clancy. Arkansas Children's Hospital/ National Center for Toxicology Research Retreat, Jefferson, AR.
- Web-based statistical algorithm for calculating comparative neurodevelopmental ages (2006) B. Kersh*, J. Hyde*, B.L. Finlay, R.B. Darlington, K.J.S. Anand, B. Clancy. Arkansas Children's Hospital/ National Center for Toxicology Research Retreat, Jefferson, AR.
- Adverse effects of neonatal pain occur during a critical window and are retained throughout adulthood (2006) S. Palmer*, H. Delahunt*, P. Seballos*, S. Isbell*, J. Talburt*, A. Lucas*, K.J.S. Anand, B. Clancy. INBRE Student Undergraduate Research Conference, Fayetteville, AR.
- Can the development of cortical connectivity be modeled mathematically? (2006) J. Torrence*, P. Covington*, D. Arrigo, B. Clancy. INBRE Undergraduate Research Conference, Fayetteville, AR.
- Translating neurodevelopmental time across mammalian species using a web based statistical algorithm (2006) J. Hyde*; B. Kersh*, R.B. Darlington, B. Clancy. INBRE Student Undergraduate Research Conference: University of Arkansas, Fayetteville, AR.
- Adverse effects of neonatal experiences are retained throughout adulthood (2005) A. Plummer*, J. Frank**, B. Bowden**, K. Street*, S. Palmer*, K.J.S. Anand, B. Clancy. Society for Neuroscience Abstracts 824.11.
- Web-based statistical algorithm for calculating comparative neurodevelopmental ages (2005) B. Kersh*, J. Hyde*, B.L. Finlay, R.B. Darlington, K.J.S. Anand, B. Clancy. Society for Neuroscience Abstracts 570.8.
- Guinea pig neural development predicted using a statistical model (2005) J.L. Staudinger**, R.B. Darlington, B. Clancy. Society for Neuroscience Abstracts 147.10.
- Long-term effects of adverse neonatal experiences linked to a critical window of development (2005) H. Delahunt*, J. Talburt*, S. Isbell*, B. Bowden**, J. Frank**, K.J.S. Anand, B. Clancy. Arkansas Chapter of the Society for Neuroscience Conference, Little Rock, AR.
- Effects of neonatal pain are retained throughout adulthood (2005) S. Palmer*, B. Bowden**, K. Street*, A. Plummer*, J. Talburt*, S. Isbell*, H. Delahunt*, J. Hyde*, K.J.S. Anand, B. Clancy. BRIN Research Conference, Little Rock, AR.
- A web-based approach to equating time across species (2005) J. Hyde*, B. Kersh*, J. Staudinger. Arkansas BRIN Research Conference. Little Rock, AR.

Equating time across species (2005) B. Kersh*, J. Staudinger**, J. Harrison*, B. Clancy. Undergraduate Research Symposium: Henderson State University, Arkadelphia, AR.

Behavior effects of neonatal pain retained into adulthood (2005) B. Bowden**, A. Plummer*, S. Palmer*, K. Street*, J. Frank**, S. Isbell*, H. Delahunt*, J. Hyde*, J. Talburt*. B. Clancy. Undergraduate Research Symposium: Henderson State University, Arkadelphia, AR.

Consequences of pain on brain development (2004) A. Plummer*, B. Bowden*, K. Street*, J. Carter*, K. Street*, S. Palmer*, J. Frank**, K.J.S. Anand, B. Clancy, Undergraduate Research Symposium: University of Arkansas at Little Rock, Little Rock, AR.

Translating time across developing species using a mathematical model (2004) J. Staudinger**, J. Harrison*, B. Kersh*, B. Clancy. Midsouth Computational Biology and Bioinformatics Society.

Distribution and connectivity of persisting subplate cells in mature and aging mammalian cortex (2003) J. Fetcher*, B. Bowman*, J. Carter*, H. Killingsworth*, J. Frank**, B. Clancy. Society for Neuroscience Abstracts 596.16 .

Initial establishment of intracortical connectivity is modulated by thalamic input (2003) J.C. Yost**, K.S. Greenidge*, M. J. Lipan*, B. Clancy, B. L. Finlay. Society for Neuroscience Abstracts 884.9.

Surviving subplate cells in Swiss Webster mice (2003) B. Bowman*, J. Fetcher*, J. Carter*, J. Frank**, B. Clancy. Arkansas Academy of Science Annual Meeting.

Effects of Adverse Neonatal Experience on Cortical Neurons (2003) B. Clancy, C. R. Rognavagni, S. Baker**, R. Jackson*, M. Reid*, J. Frank**, J. Carter*, B. Bowden*, D. Soellner*, B. Bowman*, J. Fetcher*, K.J.S. Anand. University of Arkansas for Medical Sciences (UAMS) BRIN Conference.

Does Adverse Neonatal Experience Alter Cortical Development? (2003) J. Frank**, B. Bowden*, J. Carter*, D. Glassman*, A. Plummer*, D. Soellner*, K. Street*, C. R. Rognavagni, K.J.S. Anand, B. Clancy. Undergraduate Research Symposium: University of Arkansas, Fayetteville, AR.

Distribution and connectivity patterns of surviving subplate neurons in the cortex of young and old Swiss Webster mice (2002) B. Clancy, B. Bowman*, A. Brewer*, J. Fetcher*. Society for Neuroscience Abstracts 849.11.

Development of axonal projections from different areas of neonatal hamster isocortex. (2001) B. Clancy, M. Kingsbury**, M. Lipan*, E. Graf*, J. Yost*, A. Sung*, M. Parsons*, B. L. Finlay. Society for Neuroscience Abstracts 26.

Is lateral entorhinal area essential for discrimination of individual odors?, D.J. Mayeaux, R.E., Johnston, B. Clancy, B. 2000. Society for Neuroscience Abstracts, 30

Translating time across species: What is that in rat days? (1999) B. Clancy, B. L. Finlay, R. B. Darlington. Society for Neuroscience Abstracts 25:503.

Development of callosal and corticocortical projections in neonatal hamster isocortex (1999) D. Prasad*, E. Graf*, M. A. Kingsbury**, B. Clancy, B.L. Finlay. Society for Neuroscience Abstracts 25:504.

Development of intrahemispheric axonal connections in neonatal hamster isocortex (1998) M. A. Kingsbury**, B. Clancy, B. L. Finlay. Society for Neuroscience Abstracts 24:58.

Structure, function and connectivity of white matter neurons in mammalian visual cortex (1997) B. Clancy, M. da Silva Filho, F. Hester, M. J. Friedlander. Society for Neuroscience Abstracts 23:1268.

- Widespread projections from layer VII (Vib, mature subplate) neurons to layer I in adult rat cortex revealed selectively with fluorescent tracers (1996) B. Clancy and L. J. Cauller. Society for Neuroscience Abstracts 22:107.
- Thalamocortical afferents to layer I of rat sensory-motor cortex (1996) B. D. Mitchell*, B. Clancy, L. J. Cauller. Society for Neuroscience Abstracts 22 :084.
- Anatomy and physiology of cortico-tectal projections from the somatosensory neocortex of the rat: Golgi-like retrograde labeling using dextranamine (1996) R. Brown**, G. Paschall*, M. Burton*, D. Geron*, B. Clancy, L. J. Cauller. Society for Neuroscience Abstracts 22:96.
- Reciprocal "top down" projections to neocortical layer I of rat primary somatosensory and auditory cortices converge from higher cortical areas with afferents from interareal neurons of layer VII upon the distal dendrites of corticobulbar neurons (1995) B. Clancy, R. Brown**, L. J. Cauller. Society for Neuroscience Abstracts 21:112.
- Neuroanatomical evidence in SI neocortex of rats that widespread backward projections in layer I from SII and MI converge with layer VII projections upon the distal dendrites of cortico-bulbar neurons: Reduction of background fluorescence by sodium borohydride enhances detection of axons in layer I (1994) B. Clancy and L. J. Cauller. Society for Neuroscience Abstracts 20:985.
- Cortico-control projections between primary and secondary somatosensory areas of rats: Backward projections label layer I most heavily (1993) B. Clancy and L. J. Cauller. Society for Neuroscience Abstracts 19:1211.

Extramural Grant Funding

2009-2012 National Science Foundation (NSF) Advances In Bioinformatics. Collaborative Research: A Web-based system for modeling and predicting neurodevelopment across mammalian species.

2005-2010 Arkansas IDeA Network of Biomedical Research Excellence (Arkansas INBRE). National Center for Research Resources (NCRR), Institutional Development Award (IDeA) Program of the National Institutes of Health (NIH). Effects of Adverse Perinatal Experience on Cortical Neurons.

2003-2005 Biomedical Research Infrastructure Network. Effects of Adverse Perinatal Experience on Cortical Neurons.

Ad Hoc Reviewer

National Science Foundation Review Panel 2011
National Institutes of Health Review Panel 2010, 2009
Frontiers in Neuroanatomy
Journal of Comparative Neurology
Behavioral and Brain Sciences
Brain Research
Brain, Behavior, and Evolution
Journal of Cytology and Histochemistry
Bioinformatics and Biological Sciences
Brain Research Bulletin
Student Undergraduate Research Fellowship (SURF), Arkansas
INBRE Summer Mentored Research Program, Arkansas

Professional Societies

National Society for Neuroscience	1992- present
International Society for Neuroscience	2002-present
Arkansas Chapter Society for Neuroscience	2002-present
Arkansas Academy of Sciences	2002-present
Faulty for Undergraduate Neuroscience	2001-present
Midsouth Computational Biology & Bioinformatics Society	2003 - present