

# Curriculum vitae

## Martin Lyn Hudson

Interim Chair and Professor  
Department of Molecular and Cellular Biology  
Kennesaw State University  
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### Education:

University of Sussex, Brighton, England. Ph.D. in Neuroscience, "The Nitric Oxide - Guanylate cyclase signalling pathway in *Caenorhabditis elegans*", 1996 - 1999

University of Hertfordshire (formerly Hatfield Polytechnic), Hatfield, Hertfordshire, England. B.Sc. (Hons) 1st class in Applied Chemistry, 1987 - 1991

### Professional experience:

- 2021 - Interim Chair, Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA, 30144, USA
- 2021 - Professor of Biology, Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA, 30144, USA
- 2018 - 2021 Program Coordinator, Master of Science in Integrative Biology, Kennesaw State University, Kennesaw, GA, 30144, USA
- 2016 - 2021 Associate Professor of Biology, Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA, 30144, USA
- 2010 - 2016 Assistant Professor of Biology, Department of Biology and Physics, Kennesaw State University, Kennesaw, GA, 30144, USA
- 2008 - 2010 Research Assistant Professor, Molecular Biosciences, University of Kansas, Lawrence, KS, 66045, USA
- 2007 - 2008 Assistant Project Scientist, Department of Molecular, Cell and Developmental Biology, University of California, Santa Cruz, CA, 95064, USA
- 2006 - 2007 Post-Doctoral Research Fellow, Department of Molecular, Cell and Developmental Biology, University of California, Santa Cruz, CA, 95064, USA
- 2001 - 2006 Post-Doctoral Research Fellow, Department of Molecular, Cell and Developmental Biology, University of California, Santa Cruz, CA, 95064, USA
- 1999 - 2001 Post-Doctoral Research Fellow, Department of Biological Structure and Function, Oregon Health and Science University, Portland, OR, 97201, USA
- 1996 - 1999 Graduate Student, Sussex Centre for Neuroscience, University of Sussex, Brighton, UK
- 1995 - 1996 Research Assistant, Sussex Centre for Neuroscience, University of Sussex, Brighton, UK
- 1992 - 1995 Research Chemist, James Black Foundation, London, UK
- 1991 - 1992 Research Chemist, Merck, Sharp and Dohme Research Laboratories Ltd, Harlow, UK
- 1989 - 1990 Chemistry Intern, Merck, Sharp and Dohme Research Laboratories Ltd, Harlow, UK

### Grants and awards:

“Identifying the gene regulatory network of neurogenin.” NIH 1R15GM140472-01 (Hudson) Role: PI October 2020 – September 2023 (\$406,500)  
Kennesaw State University Mentor Protégé grant, July 2019 – June 2020 (\$4,000)  
Birla Carbon Scholarship (awarded to Tessa Jordan), May - July 2019 (\$5,000)  
Office of the Vice-President for Research Awards (Hudson) 07.01.2018 – 06.30.2019 (\$7,000)  
“In vivo assay of peptide-based anti-tauopathy therapeutics using a *C. elegans* model of Tau aggregation”. ADRx Pharmaceuticals (Hudson) Role: PI. May 2018 – October 2018 (\$15,657)  
“Interneuron shape and sensory circuit robustness.” NIH 1R15NS100632-01 (Hudson) Role: PI September 2016 – August 2020 (\$378,561)  
“MRI: Acquisition of a Nucleic Acid Analyzer for Research and Teaching.” NSF DBI-1624654 (Van Dyke, Davis, Griffin, Hudson, McNeal) Role: Co-PI. November 2016 – October 2019 (\$65,063)  
Office of the Vice-President for Research Award, July 2016 – June 2017 (\$14,000)  
Kennesaw State University Mentor Protégé grant, July 2016 – June 2017 (\$4,000)  
College of Science and Mathematics Stimulus Grant, February 2016 – June 2016 (\$12,000)  
Office of the Vice-President for Research Award, October 2015 – March 2016 (\$10,000)  
Kennesaw State University Mentor Protégé grant, May 2015 – June 2016 (\$4,000)  
Birla Carbon Scholarship (awarded to Sam Keenan), May - July 2014 (\$5,000)  
Kennesaw State University Mentor Protégé grant, August 2013 (\$2,500)  
NSF “MRI: Acquisition of a Fluorescence Assisted Cell Sorter for Research”, NSF DBI-1337791 PI. July 2013 – June 2016 (\$303,174)  
Office of the Vice-President for Research Awards, March 2013 (2 x \$2,500)  
Faculty Summer Research Program grant, June 2012 (\$5,600)  
KSU Center for Excellence in Teaching and Learning CARET grant, July 2012 – June 2013 (\$7,500)  
NSF “MRI: Acquisition of a Confocal Microscope for Multidisciplinary Research”, NSF DBI-1229237 Co-PI. July 2012 – June 2015 (\$357,360)  
Dean’s incentive award, February 2012 (\$200)  
Kennesaw State University Mentor Protégé grant, January 2012 – December 2013 (\$2,000)  
Research Integration with Biology Teaching (RiBiT) grant: July 2011 (\$900)  
Faculty Summer Research Program grant, June 2011 (\$5,600)  
Center for Excellence in Teaching and Learning MUSSS grant, March 2011 – June 2012 (\$2,500)  
Dean’s incentive award, August 2011 (\$1,000)  
Dean’s incentive award, April 2011 (\$1,000)  
Dean’s incentive award, February 2011 (\$1,000)  
Kennesaw State University Mentor Protégé grant, September 2010 – June 2011 (\$3,200)  
NIH K-INBRE Research Fellowship, September 2009 – July 2010 (\$65,000)  
California Institute of Regenerative Medicine, Post-doctoral Fellowship, December 2007 (\$120,000)  
Knights Templar Eye Foundation Inc, Pediatric Ophthalmology Research Grant, 2007 (\$30,000)  
Chair’s Fund Travel Award, Gordon Conference on Proteoglycans, Proctor Academy, NH, USA, 2004  
Ph.D. CASE Award with Pfizer Central Research, 1996-1999

### Professional memberships:

Genetics Society of America: 2000 - present  
Society for Developmental Biology: 2012 – present  
Society for Neuroscience: 2020 - present

### Honors:

John C. Salerno Memorial Symposium, people’s choice award for oral presentation, October 2019 (\$500)  
Distinguished Mentoring Award, College of Science and Mathematics, Kennesaw State University. August 12, 2016  
First prize, Birla Carbon Scholarship Symposium (awarded to Sam Keenan), August 2014 (\$2,000)  
Senior Poster Prize, Gordon Conference on Proteoglycans, Proctor Academy, NH, USA, 2010 (\$850)  
Poster prize, Gordon Conference on Proteoglycans, Proctor Academy, NH, USA, 2006  
Hatfield Polytechnic Prize for Chemistry, 1991

## Publications:

- Aquino-Nunez, W.\* , Mielko, Z. E.\* , Dunn, T.\* , Santorella, E. M.\* , Hosea, C.\* , Leitner, L.\* , McCalla, D.\* , Simms, C.\* , Verola, W. M.\* , Vijaykumar, S.\* and **Hudson, M. L.** (2020). *cnd-1/NeuroD1* Functions with the Homeobox Gene *ceh-5/Vax2* and Hox Gene *ceh-13/labial* To Specify Aspects of RME and DD Neuron Fate in *Caenorhabditis elegans*. *Genes|Genomes|Genetics*, 10, 3071-3085. PMID: 32601060. (\*These authors contributed equally to this work. +Undergraduate researcher).
- Christensen, E. L., Beasley, A.\* , Radchuk, J.\* , Mielko, Z. E., Preston, E., Stuckett, S., Murray, J. I. and **Hudson, M. L.** (2020) *ngn-1/neurogenin* activates transcription of multiple terminal selector transcription factors in the *Caenorhabditis elegans* nervous system. 2020. *Genes|Genomes|Genetics*, 10, 1949-1962. (+Undergraduate researchers). PMID: 32273286
- Dong, B., Moseley-Allredge, M. Schwieterman, A. A., Donelson, C. J.\* , McMurry, J. L., **Hudson, M. L.**, and Chen, L. (2016). *EFN-4/Ephrin* functions in *LAD-2/L1CAM*-mediated axon guidance in *Caenorhabditis elegans*. *Development*, 143, 1182-1191 (+Undergraduate researcher). PMID: 26903502.
- Schwieterman, A. A.\* , Steves, A. N.\* , Yee, V. \* , Donelson, C. J.\* , Bentley, M. R. \* , Santorella, E. M. \* , Mehlenbacher, T.\* , Pital, A.\* , Howard, A. M.\* , Wilson, M. R.\* , Ereddia, D. E.\* , Effrein, K. S.\* , McMurry, J. L., Ackley, B. D., Chisholm, A. D., and **Hudson, M. L.** (2016). The *C. elegans* ephrin *EFN-4* functions non-cell autonomously with heparan sulfate proteoglycans to promote axon outgrowth and branching. *Genetics*, 202, 639-660. (\*These authors contributed equally to this work. +Undergraduate researcher). PMID: 26645816
- Hartin S. N., **Hudson M. L.**, Yingling C., Ackley B. D. (2015). A Synthetic Lethal Screen Identifies a Role for *Lin-44/Wnt* in *C. elegans* Embryogenesis. *PLoS One*. 2015 May 4;10(5): e0121397. PMID: 25938228
- Zimmer, M., Gray, J. M., Polaka, N., Chang, A. J., Karow, D. S., Marletta, M. A., **Hudson, M. L.**, Morton, D. B., Chronis, N. and Bargmann, C. I. (2009). Neurons detect increases and decreases in oxygen levels using distinct guanylate cyclases. *Neuron*, 61, 865-879. PMID: [19323996](#)
- Woo, W. M.\* , Berry, E. C.\* , **Hudson, M. L.**, Swale, R. E., Goncharov, A. and Chisholm, A. D. (2008). The *C. elegans* F-spondin family protein *SPON-1* maintains cell adhesion in neural and non-neural tissues. *Development*, 135, 2747-2756. (\*These authors contributed equally to this work. +Undergraduate researcher.)
- Nakao, F.\* , **Hudson, M. L.\***, Suzuki, M., Peckler, Z.\* , Kurokawa, R., Liu, Z., Gengyo-Ando, K., Nukazuka, A., Fujii, T. Suto, F., Shibata, Y., Shioi, G., Fujisawa, H., Mitani, S., Chisholm, A. D. and Takagi, S. (2007). The plexin *PLX-2* and the ephrin *EFN-4* have distinct roles in *MAB-20/semaphorin 2A* signaling in *Caenorhabditis elegans* morphogenesis. *Genetics*, 176, 1591-1607. (\*These authors contributed equally to this work. +Undergraduate researcher.)
- Hudson, M. L.**, Kinnunen, T., Cinar, H. N. and Chisholm, A. D. (2006). *C. elegans* Kallmann syndrome protein *KAL-1* interacts with syndecan and glypican to regulate neuronal cell migrations. *Developmental Biology*, 294, 352-365.
- Ackley, B. D., Harrington, R. J., **Hudson, M. L.**, Williams, L., Kenyon, C. J., Chisholm, A. D., and Jin, Y. (2005). The Two Isoforms of the *Caenorhabditis elegans* Leukocyte-Common Antigen Related Receptor Tyrosine Phosphatase *PTP-3* Function Independently in Axon Guidance and Synapse Formation. *Journal of Neuroscience*, 25, 7517-7528.
- Morton, D. B. and **Hudson, M. L.** (2002). Cyclic GMP Regulation and Function in Insects. *Advances in Insect Physiology*. 29, 1-53.

Morton, D. B, **Hudson, M. L.**, Waters, E. and O'Shea, M. (1999). Soluble guanylyl cyclases in *C. elegans* - NO is not the answer. *Current Biology*, 9: R546-547.

Carling, R. W., Leeson, P. D., Moore, K. W., Moyes, C. R., Duncton, M., **Hudson, M. L.**, Baker, R., Foster, A. C., Grimwood, S., Kemp, J. A., Marshall, G. R., Tricklebank, M. D. and Saywell, K. L. (1997). 4-substituted-3-phenylquinolin-2(1H)-ones: Acidic and nonacidic glycine site N-methyl-D aspartate antagonists with *in vivo* activity. *Journal of Medicinal Chemistry*, 40, 754-765.

Adams, B., Fowler, R., **Hudson, M.** and Pain, R. H. (1996). The role of the C-terminal lysine in the hinge bending mechanism of yeast phosphoglycerate kinase. *FEBS Letters*, 385, 101-104.

Kalindjian, S. B., Buck, I. M., Davies, J. M. R., Dunstone, D. J., **Hudson, M. L.**, Low, C. M. R., McDonald, I. M., Pether, M. J., Steel, K. I. M., Tozer, M. J. and Vinter, J. G. (1996). Nonpeptide cholecystokinin-B/gastrin receptor antagonists based on bicyclic, heteroaromatic skeletons. *Journal of Medicinal Chemistry*, 39, 1806-1815.

Kalindjian, S. B., Buck, I. M., Cushnir, J. R., Dunstone, D. J., **Hudson, M. L.**, Low, C. M. R., McDonald, I. M., Pether, M. J., Steel, K. I. M. and Tozer, M. J. (1995). Improving the affinity and selectivity of a nonpeptide series of cholecystokinin-B/gastrin receptor antagonists based on the dibenzobicyclo[2.2.2]octane skeleton. *Journal of Medicinal Chemistry*, 38, 4294-4302.

MacLeod, A. M., Baker, R., **Hudson, M. L.** James, K., Roe, M. B., Knowles, M. and MacAllister, G. (1992). Hydroxyphosphonate inhibitors of inositol monophosphatases. *Medicinal Chemistry Research*, 2, 96-101.

#### **Manuscripts in preparation:**

Nabors, T., Clearman, K. \*, Hembree, C., Francis, E. G. \*, Bales, K. L. \*, and **Hudson, M. L.** Eph receptor and ephrin expression profiles recapitulate aspects of *in vivo* cortical development in a stem cell-to-forebrain neural differentiation. Manuscript under revision. (\*Undergraduate researcher.)

#### **Patents:**

World patent WO/1995/005359, publication date 23rd February 1995

World patent WO/1995/004720, publication date 16th February 1995

#### **Teaching experience (Kennesaw State University):**

Fall 2018 – August 2021. Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 7990, Research for Master's Thesis. Course coordinator, Dr Martin Hudson. (Graduate class). Taught six times.

Fall 2016 – present. Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 7950, Directed Study. Course coordinator, Dr Martin Hudson. (Graduate class). Taught six times.

January 2016 - present. Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 4399, Neuroscience. Course coordinator, Dr Martin Hudson (co-instructor, Dr Lisa Ganser). Taught once.

January 2015 - present. Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 3300L, Genetics Lab. Course coordinator, Dr Dale Vogelien. Taught four times.

January 2015 – present. Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 7634, Cell Signaling. Course coordinator, Dr Martin Hudson. (Graduate class). Taught three times.

August 2014 – December 2014. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 4399, Molecular Biosciences Seminar. Course coordinator, Dr Martin Hudson. Taught once.

August 2014 – present. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 3410, Cell Biology. Course coordinator, Dr Martin Hudson. Taught seven times.

May 2014 – present. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 4411, Stem Cell Technology. Course coordinator, Dr Martin Hudson. Taught twice.

August 2013 – May 2014. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 4630/6630, Advanced Topics in Cell and Molecular Biology Seminar. Course coordinator, Dr Martin Hudson. Taught twice.

January 2013 – present. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 7200, Advanced Integrative Biology. Course coordinator, Dr Scott Reese. (Graduate class). Taught six times.

August 2012 – present. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 7300, Research Methods Across Biology. Course coordinator, Dr Don McGarey. (Graduate class). Taught three times.

January 2012 – May 2014. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 4410, Cell and Molecular Biology. Course coordinator, Dr Martin Hudson. Taught three times.

July 2011. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for Research in Biology Integrated with Teaching (RiBiT). One week course for high school science teachers. Course coordinator, Dr Lara Pacifici. Taught once.

August 2010 - present. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA 30144, USA. Instructor for BIOL 3300, Genetics. Course coordinator, Dr Dale Vogelien. Taught 5 times (lecture plus lab).

**Teaching experience (other institutions):**

April – June 2008. Department of Molecular, Cell and Developmental Biology, University of California, Santa Cruz, CA, 95064, USA. Teaching Assistant for BIOL 206L (graduate class), Current Protocols in Stem Cell Biology. Course coordinator, Dr David Feldheim.

August 2007. Department of Molecular, Cell and Developmental Biology, University of California, Santa Cruz, CA, 95064, USA. Guest Lecturer for BIOL 128L, Neural Genetics Lab. Course coordinator, Dr Benjamin Abrams.

April – June 2006. Department of Molecular, Cell and Developmental Biology, University of California, Santa Cruz, CA 95064, USA. Senior Teaching Assistant for BIOL 20A, Cell and Molecular Biology. Course coordinator, Dr John W. Tamkun.

January – March 2006. Department of Molecular, Cell and Developmental Biology, University of California, Santa Cruz, CA 95064, USA. Teaching Assistant for BIOL 120L, Development. Course coordinator, Dr Andrew D. Chisholm.

March 2001. Department of Cell and Developmental Biology, Oregon Health and Science University, Portland, OR, USA. Lecturer for Cell 615, Developmental Neurobiology (postgraduate program), 'Neurogenesis and Neuronal Determination in *C. elegans*.' Course coordinator, Dr Jan Christian.

April – June 1998. School of Biological Sciences, University of Sussex, Falmer, Brighton, UK. Teaching Assistant for Eukaryotic Genetics.

January – March 1998. School of Biological Sciences, University of Sussex, Falmer, Brighton, UK. Teaching Assistant for Introduction to Molecular Genetics.

April – June 1997. School of Biological Sciences, University of Sussex, Falmer, Brighton, UK. Teaching Assistant for Eukaryotic Genetics.

January – March 1997. School of Biological Sciences, University of Sussex, Falmer, Brighton, UK. Teaching Assistant for Introduction to Molecular Genetics.

#### **Student supervision at Kennesaw State University:**

##### *Masters students:*

Justice Brakache. "Basic-helix-loop-helix transcription factors in *Caenorhabditis elegans* neuronal fate specification" (August 2021 – present). Role: committee chair.

Will Beeson. "Optimization of growth conditions for commercial fungi production on cotton gin waste" (January 2021 – present). Role: committee member.

Amber Baldwin. "Validating *ngn-1*/neurogenin targets in *Caenorhabditis elegans*" (August 2020 – present). Role: committee chair.

Christina Talley. "A neuromuscular look into muscle atrophy that is responsible for sarcopenia" (August 2020 – present). Role: committee member.

Davron Hanley. "The impact of *muscleblind* on alternative splicing and muscle diversity" (August 2020 – present). Role: committee member.

Sidney Stuckett. "Neurogenin control of pioneer axon guidance" (August 2019 – present). Role: committee chair.

Azeeza Abdulrauf. "Comparative genomic analysis of communication in Bonobos" (August 2019 – present). Role: committee member.

Paul Clark. "Evaluating Non-Conventional Yeast Species as Bioflavorants in Beer Brewing" (August 2019 – October 2021). Role: committee member.

Aaron Aghai. "Identification of novel genes required for jump muscle homeostasis in *Drosophila*" (August 2018 – October 2020). Role: committee member.

Brandon Stewart. "Developing a zebrafish model of post-traumatic stress disorder" (August 2018 – December 2020). Role: committee member.

- Pyeongsoo Kim. "Comparative genomic analysis and identification of virulence factor genes in *Aeromonas hydrophila*" (August 2018 – July 2020). Role: committee member.
- Miranda Arnold. "Optogenetic analysis of an interneuron circuit" (August 2017 – July 2019). Role: committee chair.
- Elyse Christensen. "The role of neurogenin in nervous system development" (August 2017 – July 2019). Role: committee chair.
- Wendy Aquino-Nunez. "Analysis of a NeuroD dependent transcriptional cascade" (August 2016 – July 2018). Role: committee chair
- Kelsey Clearman. "Cellular reprogramming via cell penetrating transcription factors" (August 2016 – May 2018). Role: committee member.
- Matthew Geidd. "Muscle cell fate specification" (August 2016 – July 2018). Role: committee member.
- Sara Skiba. The role of transcription factor FOXP2 in primate communication (August 2015 – July 2017). Role: committee member.
- Crystal Smith. Nociception in zebrafish (August 2015 – July 2017). Role: committee member.
- Tyler Hill. The role EphR/ephrin pathway in governing AIY neuron morphology and physiology (August 2015 – July 2017). Role: committee chair.
- Zachary Mielko. Identification of *kal-1* transcriptional regulators by FACS (July 2015 – July 2017). Role: committee chair.
- Tasia Nabors. EphA7 control of neuroblast apoptosis during in vitro neural differentiation (January 2015 – August 2015). Role: committee chair.
- Robert Evans. The role of the AVPR1a gene in governing chimpanzee and bonobo social behavior (August 2014 – July 2016). Role: committee member.
- Alicia Schwieterman. Non-canonical ephrin-A signaling in axon outgrowth (August 2013 – July 2015). Role: committee chair.
- John Michael Metz. Delineation of *Aeromonas hydrophila* Pathotypes by Detection of Putative Virulence Factors using Polymerase Chain Reaction and Nematode Challenge Assay (August 2013 – July 2015). Role: committee member.
- Austin Michael Howard. Akirin-mediated gene regulation during cardiac development (August 2013 – July 2015). Role: committee member.
- Joseph Blake. Nitric Oxide Synthase Regulation by Phosphorylation (August 2013 – December 2015). Role: committee member.
- Undergraduate honors/senior thesis and directed study students:*
- Ashtyn Johnson. The role of EphR/ephrins in locomotor behavior (spring 2016 – July 2017)
- Tyler Nicholson. The role of neurogenin in the transcriptional regulation of *kal-1*/anosmin (spring 2014).

*Directed study students:*

Arianna Cox (Kennesaw State University). “Does *ceh-36* control *ngn-1* gene expression during nervous system development?” (October 2021 – present)

Kailen Parks (Kennesaw State University). “Does *hlh-14* control *ngn-1* gene expression during nervous system development?” (October 2021 – present)

John Marangakis (Kennesaw State University). “Bioinformatic analysis of neurogenin transcriptional controllers using the Viscello platform”. (January 2021 – May 2021)

Genevieve Doxakis (Kennesaw State University). “Control of RME neuron cell fate specification by *cnd-1/NeuroD1*”. (October 2020 – present)

Doug Taylor (Kennesaw State University). “Tissue culture model of *Aeromonas hydrophila* virulence factors”. (January 2020 – May 2020).

Ellie Dobson (Kennesaw State University). “Imaging nervous system development in the *C. elegans* ventral nerve cord”. (January 2020 – present).

Justice Brakache (Kennesaw State University). “The role of *ztf-29/PRDM16* in mitochondrial homeostasis”. (January 2020 – May 2021).

Claire Simms (Kennesaw State University). “*cnd-1/NeuroD1* and *ceh-13/labial* function redundantly in DD neuron fate specification”. (October 2019 – May 2021)

Michaela Crego (Kennesaw State University). “Predicting *ngn-1* transcriptional targets using Viscello” (October 2019 – July 2021)

Aleya Haney (Kennesaw State University). “The role of *ngn-1/Neurogenin* in post-embryonic nervous system development”. (August 2019 – December 2019)

Detavius Veal (Kennesaw State University). “Imaging mitochondrial dysfunction in *cnd-1/NeuroD1*”. (August 2019 – May 2020)

Olaitan Ifarinde (Kennesaw State University). “The role of *ztf-29/PRDM16* in nervous system development”. (August 2019 – December 2019)

Tessa Jordan (Kennesaw State University). “The role of *cnd-1/NeuroD* in mitochondrial homeostasis”. (August 2018 – May 2020)

Alejandra Lopez (Kennesaw State University). “Homeobox genes in nervous system development”. (August 2018 – May 2019)

Kerry McCardel (Kennesaw State University). “Behavioral analysis of ephrin mutants”. (May 2017 – present)

Trae Dunn (Kennesaw State University). “Transcription factors in nervous system development”. (September 2017 – May 2021)

Alexandra Beasley (Kennesaw State University). “The role of *ngn-1/neurogenin* in axon outgrowth”. (September 2017 – May 2019)

Jessica Radchuk (Kennesaw State University). “The role of *ngn-1/neurogenin* in embryonic development”. (September 2017 – May 2019)

Ben Crews (Kennesaw State University). "The role of neurogenin in nervous system development". (September 2017 – December 2018)

Elishka Holmquist (Kennesaw State University). "Transcription factor cascades in neurogenesis". (August 2017 – April 2018)

Christopher Benton (Kennesaw State University). "Rescue of axon outgrowth defects in *vab-1* mutants". (August 2016 – May 2017)

Kaylee Bronson (Kennesaw State University). "Construction of transcription factor reporter genes". (August 2016 – May 2017)

Victoria Owens (Kennesaw State University). "Transcription factor cascades in *C. elegans* embryonic development". (August 2016 – May 2017)

Dalton Carriker (Kennesaw State University). "Cell lineaging of *kal-1* expression". (August 2016 – May 2017)

Elyse Christensen (Kennesaw State University). "Genetic interactions in basic helix-loop-helix transcription factors". (August 2016 – July 2017)

Lauren Leitner (Kennesaw State University). "Genetic control of *C. elegans* homeobox genes". (August 2016 – July 2017)

Buzzy Guike (Kennesaw State University). "Bioinformatic identification of Kallmann syndrome genes in *C. elegans*", (January 2016 – July 2016).

David Tella (Kennesaw State University). "Plant toxicology" (January 2016 - July 2016). In collaboration with Heather Sutton.

Derrica McCalla (Kennesaw State University). Eph receptor function in stem cell-derived neuroblasts (spring 2016 – May 2019).

Ciara Hosea (Kennesaw State University). The role of receptor tyrosine phosphatases in locomotion (spring 2016 – May 2019).

Bening Hellriegel (Kennesaw State University). Synthesis and purification of CBP-tagged stem cell reprogramming factors (spring 2016 – July 2017).

Elise Santorella (Kennesaw State University). The role of *unc-52/perlecan* in governing AIY interneuron morphology (fall 2015 – July 2017).

Melissa Bentley (Kennesaw State University). Genetic approaches to identifying *kal-1* transcriptional regulators (fall 2014 – summer 2016).

Aaron Pital (Kennesaw State University). Probing the genetic interactions between L1CAM and ephrin-As (fall 2014 – fall 2015).

Philippe Mansour (Kennesaw State University). Embryogenesis defects in *efn-4; cnd-1* double mutants (fall 2014 – fall 2015).

Sam Keenan (Kennesaw State University). Identification of *kal-1* transcriptional regulators by FACS (summer 2014 – summer 2015).

Taylor Voyles (Kennesaw State University). The role of *cnd-1*/NeuroD in the transcriptional regulation of *kal-1*/anosmin (spring 2014 – fall 2014).

Joy Chibuzo (Kennesaw State University). The role of *alr-1*/Aristaless in the transcriptional regulation of *kal-1*/anosmin (fall 2013 – summer 2014).

Bryan Lynn (Kennesaw State University). ezRNAi knock down of EphA7 to assay EphA7 function during forebrain development (fall 2013 – summer 2014).

Cory Donelson (Kennesaw State University). Epidermal rescue of ephrin function in a *C. elegans* model of axon outgrowth (Fall 2013 – summer 2015).

Danielle Ereddia (Kennesaw State University). The role of ephrin function in a *C. elegans* model of axon outgrowth (Fall 2012 – Fall 2013).

Allyse Steves (Kennesaw State University). Investigation of fecundity loss in *C. elegans* glypican mutants (Fall 2012 – summer 2014).

Katherine Cheatham (Kennesaw State University). Analysis of thermotactic behavior in a KAL-1 axon branching model (Fall 2012).

Paul Hanna (Kennesaw State University). Analysis of thermotactic behavior in a KAL-1 axon branching model (Fall 2012).

Colin King (Kennesaw State University). Developing an in vitro differentiation of mouse embryonic stem cells into dorsal mid-brain structures (Summer 2012 – Fall 2013).

Amelia King (Kennesaw State University). The role of EphA7 in cell cycle control during forebrain development (Summer 2012 – Summer 2013).

Mohamed Zaidi (Kennesaw State University). Analysis of GFP and EphA7 expression by in situ hybridization (Summer 2012 – fall 2013).

Christina Homer (Kennesaw State University). Analysis of GFP and EphA7 expression by in situ hybridization (summer 2012 – summer 2013).

Teresa Smith (Kennesaw State University). Developing an in vitro differentiation of mouse embryonic stem cells into dorsal mid-brain structures (Fall 2011 - Spring 2012).

Katie Bales (Kennesaw State University). Investigation of EphA7 expression in day five neuroblasts (Summer 2011 – Spring 2012).

Katie Rhoades (Kennesaw State University). Genetic determination of embryo size in the nematode *C. elegans* (Summer 2011 – Spring 2012).

Erica Francis (Kennesaw State University). Immunohistochemical characterization of EphA7 and ephrin-B2 in the context of layer specific markers of forebrain differentiation (Summer 2011 – Fall 2012).

Saeideh Sarraf-Mamouri (Kennesaw State University). Characterization of KAL-1/anosmin and plasminogen interactions by biolayer interferometry (CHEM 4410 student, 2011).

Melissa Ponce (Kennesaw State University). Characterization of KAL-1/anosmin genetic interactions with TRY-2/plasminogen and LON-2/glypican (Fall 2010 – Fall 2011).

Austin Howard (Kennesaw State University). Rescue of LON-2 dependent axon branching by tissue-specific transgene expression (Fall 2010 – Fall 2012).

Scott Hearn (Kennesaw State University). Immunohistochemical characterization of EphA7 and ephrin-B2 expression in an in vitro forebrain differentiation model (Fall 2010 – Summer 2011).

Clay Hembree (Kennesaw State University). qRT-PCR analysis of layer specific genes in an in vitro forebrain differentiation model (Fall 2010 – Summer 2012).

#### *High school student interns*

Val Barnhart (Kennesaw Mountain High School). “Bioinformatic identification of candidate *ngn-1*/neurogenin transcriptional controllers”. (August 2020 – July 2021)

Anisha Haldar (Wheeler High School). “Validation of *ngn-1*/neurogenin transcriptional targets”. (August 2019 – May 2020)

Alexa Hurston (Kennesaw Mountain High School). “Validation of *ngn-1*/neurogenin transcriptional targets”. (August 2019 – December 2019)

Coco Chan (Kennesaw Mountain High School). “Validation of *ngn-1*/neurogenin transcriptional targets”. (August 2019 – December 2019)

Sarabeth McClure (Walker High School). “Association between the A91V variant in the PRF1 gene and anaphylaxis due to food allergies”. (October 2018 – December 2018)

Abhi Pipliani (Wheeler High School). “Does NeuroD control *ceh-13* expression in *C. elegans*?”. (August 2018 – December 2018)

Asheton Arnold (Kennesaw Mountain High School). “Does neurogenin control *fox-1* gene expression”. (August 2018 – December 2018)

Shawn Doss (Wheeler High School). “Do *rol-1* mutants facilitate analysis of  $Ca^{2+}$  signaling in AIY neurons?”. (August 2017 – December 2017)

Dhananjay Khazanchi (Wheeler High School). “Can pan-neural expression of *efn-1* rescue the locomotor defects of ephrin mutants”. (August 2017 – December 2017)

Makda Mulugeta (Wheeler High School). “*cnd-1* control of ubiquitin pathway components”. (January 2017 – May 2017)

Monisha Subedi (Tucker High School). “Construction and verification of *C. elegans* transgenic lines”. (January 2017 – May 2017)

Alizeh Sheikh (The Walker School). “A correlation study between myopia and the codon 10 polymorphism on the TGFB1 gene”. (December 2016 – January 2017)

Wilber Clonts (The Walker School). “Is a single nucleotide polymorphism in the GIT1 gene associated with ADHD?”. (October 2016 – November 2016)

Emma Osborne (Woodstock High School). “Epithelial stem cells for tissue transplant”. (August 2015 – May 2016)

Briana Delvasto (Woodstock High School). “Do anti-depressants modify *C. elegans* food-seeking behavior?”. (August 2014 – May 2015)

### **Student supervision at other institutions:**

#### *Ph.D. rotation students:*

Matthew Eckler (University of California, Santa Cruz). Analysis of Ephs and ephrins in stem cell forebrain differentiation (Spring 2008).

Jake Kirkland (University of California, Santa Cruz). Analysis of Ephs and ephrins in stem cell forebrain differentiation (Winter 2008).

Kristofor Langlais (Oregon Health and Science University). Cloning and characterization of *C. elegans* guanylate cyclases (Winter 2000).

#### *Undergraduate honors/senior thesis students:*

Kelsie-Sue Effrein (University of Kansas). Genetic interactions of synaptogenesis genes (Spring - Summer, 2009).

Michelle Bhaskar (University of Kansas). Mapping *ptp-3*; *sdn-1* synthetic-lethal suppressors (Spring - Summer, 2009).

Abigail Bockus (University of Kansas). Mapping *ptp-3*; *sdn-1* synthetic-lethal suppressors (Fall 2009).

Rowena Kumar (University of California, Santa Cruz). Characterizing ephrinA5 expression in transfected 293T cells and stem cell forebrain differentiation assays (MARC/MBRS student, 2007-2008).

Vivian Yee (University of California, Santa Cruz). The role of heparan sulfate proteoglycans in a *C. elegans* KAL-1 over-expression axon branching model (2006 - 2007).

Zachary Peckler (University of California, Santa Cruz). Analysis of neuroblast migration in the *C. elegans* semaphorin/plexin pathway (2006 - 2007).

Emily Berry (University of California, Santa Cruz). The role of F-spondin in epithelial morphogenesis and axon pathfinding (ACCESS student, Summer 2005).

Caroline Benn (University of Sussex, UK). The role of *C. elegans* guanylate cyclases in neuronal function (1997 - 1998).

Alice Davies (University of Sussex, UK). The role of *C. elegans* guanylate cyclases in neuronal function (1998 - 1999).

### **Student advising:**

Graduate students: approximately 12 per year

Undergraduate students: approximately 50 per year

### **Platform sessions and invited talks:**

Invited lecture, Department of Neuroscience, University of Georgia, Athens, GA. November 5, 2020.

MSIB/MSCB recruitment talk, "Finding novel Kallmann Syndrome genes with the help of a worm," Truett McConnell College, Cleveland, GA. April 8, 2016.

Invited speaker, Graduate Seminar Series, Georgia State University, Atlanta, GA, USA, 10.16.2015

Invited speaker, Rejuvenation + Stem Cells Symposium, University of California at Santa Cruz, USA, 9.29.2015

Invited speaker, Society for Developmental Biology, SE Regional Meeting, Clemson, SC, USA, 2015 (talk presented by Alicia Schwieterman)

Invited lecture, University of North Georgia, Dahlonega, GA, USA, 2015

Invited lecture, Brenau University, Gainesville, GA, USA, 2014  
Invited speaker, Society for Developmental Biology, SE Regional Meeting, Pine Mountain, GA, USA, 2014 (talk presented by Alyse Steves – recipient of prize for best talk)  
Invited lecture, San Francisco State University, San Francisco, CA, USA, 2013  
Invited lecture, Eastern Washington University, Spokane, WA, USA, 2011  
Invited speaker, Gordon Conference on Proteoglycans, Andover, NH, USA, 2010.  
Invited lecture, University of Colorado at Denver, CO, USA, 2009.  
Invited lecture, Wright State University, OH, USA, 2009.  
Invited lecture, University of Northern Colorado, CO, USA, 2009.  
Invited lecture, University of Nebraska at Omaha, NE, USA, 2009.  
Invited lecture, Montclair State University, NJ, USA 2007.  
Invited speaker, Society for Glycobiology Annual Meeting, Boston, USA, 2005.  
Invited speaker, International *C. elegans* Meeting, University of California, Los Angeles, CA, USA, 2005.

### **Selected poster presentations:**

Karunambigai S. Kalichamy, Joel Tuomaala, **Martin L. Hudson** and Päivi J. Koskinen. "C. elegans *prk* mutants exhibit pleiotropic defects." Presented at the International Worm Meeting, Los Angeles, CA (June 20-24, 2021)

Karunambigai Kalichamy, Miranda Arnold, Tyler Hill, Kerry McCardel, and **Martin L. Hudson**. "Behavioral studies, responses and chemical synapses on Eph/ephrin deficient mutants." Presented at the International Worm Meeting, Los Angeles, CA (June 20-24, 2021)

Tessa Jordan and **Martin L. Hudson**. "The role of *cnd-1* in mitochondrial biogenesis during *Caenorhabditis elegans* nervous system development". Presented at the Fall MCB Research Symposium, Kennesaw, GA (December 4, 2019).

Anisha Haldar, Alexa Hurston, Coco Chan, Tessa Jordan and **Martin L. Hudson**. "Mechanisms of transcription activation and repression of transcription factors related to *ngn-1* in *Caenorhabditis elegans*". Presented at the Fall MCB Research Symposium, Kennesaw, GA (December 4, 2019).

Trae Dunn, Wendy Aquino Nunez, Ciara Hosea, Derrica McCalla and **Martin L. Hudson**. "The basic-helix—loop-helix (bHLH) transcription factor *cnd-1* controls expression of homeobox transcription factor *ceh-5*". Presented at the SACNAS conference, Honolulu, HI. (November 1, 2019).

Ciara Hosea, Wendy Aquino Nunez, Zachery Mielko, Elise Santorella, Lauren Leitner, Derrica McCalla, Trae Dunn, and **Martin L. Hudson**. "*cnd-1*/NeuroD1 controls transcription of multiple genes required for nervous system development and function. Presented at the International Worm Meeting, Los Angeles, CA (June 20-24, 2019)

Elyse Christensen, Alexandra Beasley, Jessica Radchuk, and **Martin L. Hudson**. "Investigating the proneural transcription factor NGN-1 via comparative transcriptomics." Presented at the Society for Developmental Biology SE Regional Meeting, Birmingham, AL. (May 15-17, 2019)

Alexandra Beasley, Elyse Christensen, and **Martin L. Hudson**. "Axon guidance control by the transcription factor *ngn-1*/neurogenin." Presented at the NCUR conference, Kennesaw, GA. (April 11-13, 2019)

Jessica Radchuk, Elyse Christensen, and **Martin L. Hudson**. "Is the Expression of *cnd-1* in *Caenorhabditis elegans* Controlled by Neurogenin?" Presented at the NCUR conference, Kennesaw, GA. (April 11-13, 2019)

Kerry McCardel, Miranda Arnold, **Martin L. Hudson**. "Validating a *C. elegans* Model of Tau Neuropathy." Presented at the NCUR conference, Kennesaw, GA. (April 11-13, 2019)

- Tessa Jordan and **Martin L. Hudson**. "The role of *cnd-1* in mitochondrial biogenesis during *Caenorhabditis elegans* nervous system development". Presented at the Birla Carbon Research Symposium, Kennesaw, GA. (August 30, 2018).
- Trae Dunn, Ciara Hosea and **Martin L. Hudson**. "The transcription factor *ztf-29* is required for *C. elegans* nervous system development". Presented at the Birla Carbon Research Symposium, Kennesaw, GA. (August 30, 2018).
- Wendy Aquino Nunez, Zachary Mielko, Derrica McCalla, Ciara Hosea, and **Martin L. Hudson**. "Using RNA-Seq to identify downstream targets of the basic helix-loop-helix transcription factor *CND-1*." Presented at the *C. elegans* Neurobiology meeting, Madison, WI. (June 25-28, 2018)
- Miranda Arnold, Tyler Hill, Ashtyn Johnston, Brian D. Ackley and **Martin L. Hudson**. "EphR/ephrin impact on food-seeking behavior through dissection of the thermosensory/chemosensory neuronal circuit." Presented at the *C. elegans* Neurobiology meeting, Madison, WI. (June 25-28, 2018)
- Elyse Christensen, Alexandra Beasley, Ben Crews, Omar Daouk, Jessica Radchuk, Sharanya Vijaykumar, and **Martin L. Hudson**. "Investigating the basic-helix-loop-helix transcription factor *NGN-1* during embryogenesis and neural development". Presented at the *C. elegans* Neurobiology meeting, Madison, WI. (June 25-28, 2018)
- McCalla, D. (Presenter & Author), Aquino Nunez, W. (Author Only), **Hudson, M. L.** (Author Only), Presented at the Society for Developmental Biology SE Regional Meeting, Athens, GA. "srw-85 expression is controlled by the basic-helix-loop-helix transcription factor *cnd-1/NeuroD1*" (May 23-25, 2018).
- Hosea, C. (Presenter & Author), Aquino Nunez, W. (Author Only), **Hudson, M. L.** (Author Only), Presented at the Society for Developmental Biology SE Regional Meeting, Athens, GA. "The transcription factor *ztf-29* is required for *C. elegans* nervous system development" (May 23-25, 2018).
- Verola, W. (Presenter & Author), Aquino Nunez, W. (Author Only), **Hudson, M. L.** (Author Only), MCB/EEOB Fall Research Symposium, "Mapping the breakpoints of a novel *C. elegans* CAMSAP/patronin allele" MCB/EEOB departments, KSU Kennesaw Campus. Completed. (April 19, 2018)
- Daouk, O. (Author and Presenter), Christensen, E. (Author Only), **Hudson, M. L.** (Author Only). MCB/EEOB Spring Research Symposium. "Does Neurogenin regulate *vab-1* during neurogenesis?" (April 19, 2018)
- Radchuk, J. (Author and Presenter), Christensen, E. (Author Only), **Hudson, M. L.** (Author Only). MCB/EEOB Spring Research Symposium. "Does Neurogenin Control the Expression of *cnd-1* in *Caenorhabditis elegans*?" (April 19, 2018)
- Crews, B. (Author and Presenter), Christensen, E. (Author Only), **Hudson, M. L.** (Author Only). MCB/EEOB Spring Research Symposium. "Does *ngn-1* regulate the expression of *efn-4* in the context of AIY axonal outgrowth?" (April 19, 2018)
- Beasley, A. (presenter and Author), Christensen, E. (Author Only), **Hudson, M. L.** MCB/EEOB Spring Research Symposium. "Does *ngn-1* regulate the expression of *daf-18* in the context of AIY axonal outgrowth?" (April 19, 2018)
- McCalla, D. (Presenter & Author), Aquino Nunez, W. (Author Only), **Hudson, M. L.** (Author Only), Presented at the National Council for Undergraduate Research Conference, Norman, OK. "srw-85 expression is controlled by the basic-helix-loop-helix transcription factor *cnd-1/NeuroD1*" (April 4-7, 2018).

- Hosea, C. (Presenter & Author), Aquino Nunez, W. (Author Only), **Hudson, M. L.** (Author Only), Presented at the National Council for Undergraduate Research Conference, Norman, OK. "The transcription factor ztf-29 is required for C. elegans nervous system development" (April 4-7, 2018).
- Verola, W. (Presenter & Author), Aquino Nunez, W. (Author Only), **Hudson, M. L.** (Author Only), MCB/EEOB Fall Research Symposium, "Identification of a novel C. elegans CAMSAP/patronin allele via RNAseq," MCB/EEOB departments, KSU Kennesaw Campus. Completed. (November 30, 2017).
- Hosea, C. (Presenter & Author), Aquino Nunez, W. (Author Only), Mielko, Z. (Author Only), Hudson, M. L. (Author Only), MCB/EEOB Fall Research Symposium, "The impact of transcription factors sea-1 and ztf-29 on kal-1 gene expression," MCB/EEOB departments, KSU Kennesaw Campus. Completed. (November 30, 2017).
- McCalla, D. (Presenter & Author), Aquino Nunez, W. (Author Only), Hudson, M. L. (Author Only), MCB/EEOB Fall Research Symposium, "The role of cnd-1 in neuronal cell fate specification," MCB/EEOB departments, KSU Kennesaw Campus. Completed. (November 30, 2017).
- Aquino Nunez, W. (Presenter & Author), Christensen, E. (Author Only), Hudson, M. L. (Author Only), Atlanta-Area Worm Club, "The roles of cnd-1 and ngn-1 in regulating C. elegans nervous system development," Emory University, Atlanta, GA. Completed. (November 13, 2017).
- Clearman, K. R. (Presenter & Author), Parks, E. K. (Author Only), Hudson, M. L., McMurry, J. L., GA Bio Innovation Summit, "Novel Cell Penetrating Peptide-Adaptor System Effectively Induces Pluripotency in Multiple Cell Types," GA Bio (Georgia Biosciences Industry Group), Marietta, GA. Completed. (October 24, 2017).
- Parks, E. K. (Presenter & Author), Clearman, K. R. (Author Only), Hudson, M. L. (Author Only), McMurry, J. L. (Author Only), GA Bio Innovation Summit, "Optimization of dose-dependence in Reprogramming Mouse Embryonic Fibroblasts to Induced Pluripotent Stem Cells," GA Bio (Georgia Biosciences Industry Group), Marietta, GA. Completed. (October 24, 2017).
- Clearman, K. R. (Presenter & Author), Hudson, M. L. (Author Only), McMurry, J. L. (Author Only), Emory Laney Graduate School STEM Symposium, "Functional cell assays in the validation of cell penetrating peptide-induced pluripotent stem cells," Emory Graduate School, Atlanta, GA. Completed. (October 3, 2017).
- Mielko, Z. (Presenter & Author), Leitner, L. (Author Only), Carriker, D. (Author Only), Santorella, E. (Author Only), Hudson, M. L. (Author Only), 21st International C. elegans conference, "Bioinformatic and genetic approaches to understanding the cnd-1 regulatory network," Genetics Society of America, University of California, Los Angeles. Completed. (June 21, 2017).
- Aquino Nunez, W. (Presenter & Author), Mielko, Z. (Presenter & Author), McCalla, D. (Author Only), Christensen, E. (Author Only), Hosea, C. (Author Only), Bronson, K. (Author Only), Owens, V. (Author Only), Hudson, M. L. (Author Only), 21st International C. elegans conference, "Bioinformatic and genetic approaches to understanding the cnd-1 regulatory network," Genetics Society of America, University of California, Los Angeles. Completed. (June 21, 2017).
- Hill, T. (Author Only), Johnston, A. B. (Presenter & Author), Santorella, E. M. (Presenter & Author), Bentley, M. R. (Author Only), Benton, C. (Author Only), Hudson, M. L. (Author Only), 21st International C. elegans conference, "The Eph receptor/ephrin pathway is required for AIY interneuron development and food-seeking behavior," Genetics Society of America, University of California, Los Angeles. Completed. (June 21, 2017).

- Mielko, Z. (Presenter & Author), Aquino Nunez, W. (Presenter & Author), Christensen, E. (Author Only), Hudson, M. L. (Author Only), Atlanta-Area Worm Club, "Bioinformatic and genetic approaches to understanding the *cnd-1* regulatory network," Emory University, Atlanta, GA. Completed. (June 19, 2017).
- Zachery Mielko, Elise Santorella, Lauren Leitner, Dalton Carriker, and **Martin L. Hudson**. "Identification of novel *kal-1* transcriptional regulators." Society for Developmental Biology, Southeast Regional Meeting, Kennesaw, GA. (May 18, 2017).
- Kelsey Clearman, **Martin L. Hudson**, and Jonathan McMurry. "Reprogramming Somatic Cells into iPSCs by Novel Cell Penetrating Peptide-Adaptors." Society for Developmental Biology, Southeast Regional Meeting, Kennesaw, GA. (May 18, 2017).
- Wendy Aquino Nunez, Zachery Mielko, Derrica McCalla, Elyse Christensen, Ciara Hosea, Kaylee Bronson, Victoria Owens, and **Martin L. Hudson**. "Bioinformatic and genetic approaches to understanding the *cnd-1* regulatory network." Society for Developmental Biology, Southeast Regional Meeting, Kennesaw, GA. (May 18, 2017).
- Derrica McCalla, Ciara Hosea, Wendy Aquino Nunez, Zachery Mielko and **Martin L. Hudson** "Does the Transcription Factor, *cnd-1*, Controls *ceh-13* Gene Expression?" Society for Developmental Biology, Southeast Regional Meeting, Kennesaw, GA. (May 18, 2017).
- Lauren Leitner, Zachery Mielko and **Martin L. Hudson** "Is *eor-1* a transcriptional regulator of *kal-1*/anosmin?" Kennesaw State University Undergraduate Research Symposium, Kennesaw, GA. (April 20, 2017).
- Kaylee Bronson, Victoria Owens, Wendy Aquino Nunez, and **Martin L. Hudson** "Do the transcription factors *sea-1* and *ztf-29* control *kal-1* gene expression?" Kennesaw State University Undergraduate Research Symposium, Kennesaw, GA. (April 20, 2017).
- Elyse Christensen, Zachery Mielko and **Martin L. Hudson** "Do neurogenin and NeuroD1 function redundantly in neuronal cell fate specification?" Kennesaw State University Undergraduate Research Symposium, Kennesaw, GA. (April 20, 2017).
- Dalton Carriker, Zachery Mielko and **Martin L. Hudson** "Cell Lineaging as a Tool to Identify Novel *kal-1* Transcriptional Regulators." Kennesaw State University Undergraduate Research Symposium, Kennesaw, GA. (April 20, 2017).
- Christopher Benton, Tyler Hill and **Martin L. Hudson** "Ephrin signaling in *C. elegans* interneuron development." Kennesaw State University Undergraduate Research Symposium, Kennesaw, GA. (April 20, 2017).
- Ashtyn B. Johnston (Presenter & Author), Tyler Hill (Author Only) and **Martin L. Hudson** (Author Only), "Why the worm turned: Eph receptor function in *C. elegans* locomotion." Kennesaw State University Undergraduate Research Symposium, Kennesaw, GA. (April 20, 2017).
- Santorella, E. M. (Presenter & Author), Mielko, Z. (Author Only), **Hudson, M. L.** (Author Only), Student Research Symposium, "Analysis of the *kal-1* promoter region," Department of Molecular and Cellular Biology, Kennesaw, GA. (November 30, 2016).
- Leitner, L. (Presenter & Author), Mielko, Z. (Author Only), **Hudson, M. L.** (Author Only), Student Research Symposium, "Analysis of the *kal-1* promoter region," Department of Molecular and Cellular Biology, Kennesaw, GA. (November 30, 2016).

- Johnson, A. (Presenter & Author), Hill, T. (Author Only), **Hudson, M. L.** (Author Only), Student Research Symposium, "Is the EphR/ephrin pathway required for food seeking behavior in *C. elegans*?" Department of Molecular and Cellular Biology, Kennesaw, GA. (November 30, 2016).
- Hill, T. (Presenter & Author), Pital, A. C. (Author Only), Bentley, M. R. (Author Only), **Hudson, M. L.** (Author Only), Emory STEM Symposium, "The role of EphR signaling in interneuron structure, physiology, and behavior," Emory University, Atlanta, GA. (September 19, 2016).
- Mielko, Z. (Presenter & Author), Steves, A. (Author Only), Mehlenbacher, T. (Author Only), **Hudson, M. L.** (Author Only), Emory STEM Symposium, "Transcriptional regulation of *kal-1* during *C. elegans* embryogenesis," Emory University, Atlanta, GA. (September 19, 2016).
- Hill, T. (Presenter & Author), Mielko, Z. (Presenter & Author), **Hudson, M. L.** (Author Only), Atlanta-Area Worm Club, "The role of *cnd-1*/NeuroD in regulating the expression of *kal-1*/anosmin and other target genes," Emory University, Atlanta, GA. (June 20, 2016).
- Zachery Mielko, Alyse Steves, Taylor Mehlenbacher and **Martin Hudson** (2016). The role of *cnd-1*/NeuroD in regulating the expression of *kal-1*/anosmin and other target genes. Presented at the Society for Developmental Biology SE Regional Meeting, St. Augustine, FL, USA
- Tyler Hill, Aaron Pital, Melissa Bentley, and **Martin Hudson** (2016). The role of EphR signaling in interneuron structure, physiology, and behavior. Presented at the Society for Developmental Biology SE Regional Meeting, St. Augustine, FL, USA
- Kelsey Clearman, Tasia Nabors and **Martin Hudson** (2016). Role of EphA7 and ephrin-A5 in apoptosis of stem cell-derived neuroblasts. Presented at the Society for Developmental Biology SE Regional Meeting, St. Augustine, FL, USA
- Sam Keenan, Alyse Steves, Taylor Voyles, Joy Chibuzo, Alicia Schwieterman and **Martin Hudson** (2015). Identification of novel Kallmann syndrome genes by fluorescence-activated cell sorting and expression profiling. Presented at the 2015 International Worm Meeting, UCLA, CA, USA.
- Alicia Schwieterman, Alyse Steves, Cory Donelson, Taylor Voyles, Melissa Bentley, and **Martin Hudson** (2015). The A-class ephrin, *efn-4*, functions non-cell autonomously to regulate axon outgrowth in *Caenorhabditis elegans*. Presented at the Society for Developmental Biology SE Regional Meeting, Clemson, SC, USA
- Sam Keenan, Taylor Voyles, Alyse Steves and **Martin Hudson** (2014). Identifying novel Kallmann syndrome genes by cell sorting and expression profiling. Presented at the Birla Carbon Scholars Symposium, Kennesaw State University, Kennesaw, GA, USA. (Awarded first prize).
- Cory Donelson, Alicia Schwieterman, Alyse Steves, Danielle Ereddia and **Martin Hudson** (2014). The A-class ephrin *efn-4* is required for axon outgrowth. Presented at the Society for Developmental Biology SE Regional Meeting, Pine Mountain, GA, USA
- Alyse Steves, Alicia Schwieterman, Austin Howard and **Martin Hudson** (2014). *kal-1* dependent axon branching is controlled by multiple heparan sulfate proteoglycans. Presented at the Society for Developmental Biology SE Regional Meeting, Pine Mountain, GA, USA (Also presented as a talk, which was awarded Best Overall Talk prize)
- King, A. and **Hudson, M. L.** (2013). Understanding the role of EphA7 in neuroblast cell division. Presented at the Society for Developmental Biology SE Regional Meeting, Nashville, TN, USA

- King, C., Smith, T. and **Hudson, M. L.** (2013). Modeling dorsal midbrain neurogenesis in vitro. Presented at the Society for Developmental Biology SE Regional Meeting, Nashville, TN, USA
- King, A and **Hudson, M. L.** (2013). Understanding the role of EphA7 in neuroblast cell division. Presented at the Emory University STEM Research and Career Symposium, Atlanta, GA, USA
- Bales, K .L., Hembree, C., Francis, E. G., Smith, T. and **Hudson, M. L.** (2012). Expression analysis of EphR/ephrin family members in a stem cell-to-forebrain differentiation model. Presented at the EMBL Stem Cells in Cancer and Regenerative Medicine meeting, Heidelberg, Germany
- Bales, K .L., Hembree, C., Francis, E. G., Smith, T. and **Hudson, M. L.** (2012). Expression analysis of EphR/ephrin family members in a stem cell-to-forebrain differentiation model. Presented at the SE regional Society for Developmental Biology meeting, Memphis TN, USA
- Howard, A., Ponce, M., Yee, V., Chisholm, A. D., Ackley, B. D and **Hudson, M. L.** (2012). *C. elegans* axon branch formation is regulated by multiple heparan sulfate proteoglycans. Presented at the SE regional Society for Developmental Biology meeting, Memphis TN, USA
- Ponce, M., Howard, A., Sarraf-Mamouri, S., **Hudson, M. L.** (2011). A possible role for TRY-2/plasminogen during *C. elegans* embryonic development. Presented at the 2011 International Worm Meeting, UCLA, CA, USA.
- Hudson, M. L.**, Yee, V., Chisholm, A. D. and Ackley, B. D. (2010). *C. elegans* axon branch formation is regulated by multiple proteoglycans. Presented at the 2010 Gordon Research Conference on Proteoglycans, Proctor College, NH, USA.
- Hudson, M. L.**, and Ackley, B. D. (2008). A strategy for identifying small molecules that interact with specific signaling pathways in *Caenorhabditis elegans*. Presented at the 2008 Higuchi Biosciences Center Science Talks, University of Kansas, Lawrence, KS, USA.
- Hudson, M. L.** and Feldheim, D. A. (2008) Exploring the roles of Eph receptors and ephrins during neuronal differentiation of embryonic stem cells. Presented at the 2008 California Institute for Regenerative Medicine Grantees Conference, San Francisco, CA, USA.
- Hudson, M. L.**, Kinnunen, T., Cinar, H. N. and Chisholm, A. D. (2006) *C. elegans* syndecan and glypican function redundantly with the Kallmann syndrome protein KAL-1 to regulate neuronal cell migrations. Presented at the 2006 Gordon Research Conference on Proteoglycans, Proctor College, NH, USA.
- Hudson, M. L.** and Chisholm, A. D. (2004). Functions of Kallmann syndrome protein KAL-1 and heparan sulfate proteoglycans in *C. elegans* embryogenesis. Presented at the 2004 Gordon Research Conference on Proteoglycans, Proctor College, NH, USA.
- Hudson, M. L.** and Chisholm, A. D. (2003). Functions of ephrins in embryonic and post-embryonic development: exploring connections with Kallman syndrome protein and cadherins. Presented at the 2003 International Worm Meeting, UCLA, CA, USA.
- Hudson, M. L.** and Chisholm, A. D. (2002). A role for ephrin signaling in vulval development? Presented at the 2002 West Coast Worm Meeting, UC San Diego, CA, USA.
- Hudson, M. L.**, Karow, D. S., Reviere, K., Marletta, M. A. and Morton, D. B. (2001) A possible role for *gcy-31* in embryogenesis. Presented at the 2001 International Worm Meeting, UCLA, CA, USA.
- Hudson, M. L.**, Karow, D. S., Marletta, M. A. and Morton, D. B. (2000). Characterization of the Soluble Guanylyl Cyclase Gene Family in *Caenorhabditis elegans*. Soc. Neurosci. Abstracts 26, 920.

**Hudson, M. L.**, Karow, D. S., Marletta, M. A. and Morton, D. B. (2000). Analysis of *gcy-31*, a putative soluble guanylyl cyclase gene in *Caenorhabditis elegans*. Presented at the 2000 West Coast Worm Meeting, UCLA, CA, USA.

**Hudson, M. L.** and O'Shea, M. (1998). Towards a characterisation of the soluble guanylate cyclases in *C. elegans*. Presented at the European *C. elegans* Meeting, Hinxton, Cambridge, UK.

**Professional service:**

*Committees:*

- January 4, 2021 – May 2021. Committee Member, Molecular and Cellular Biology Department Chair Search Committee, approximately 40 hours spent per year. Identified and interviewed chair candidates for the vacant chair position. Identified two outstanding candidates. Search failed after the lead candidate's negotiations with the Dean stalled.
- August 2019 – May 2020. Committee Member, Department Promotion and Tenure Committee, approximately 20 hours spent per year.
- August 2018 – May 2020. Committee Member, College Safety Committee, approximately 20 hours spent per year. Responsible for reviewing and implementing safety policy in the college, including training, review of lab accidents, and recommendations for changes to procedure.
- July 2018 – July 2021. Coordinator: Master of Science in Integrative Biology program. Manage student recruitment, training, program development, program funding, and program assessment.
- May 18 – 20, 2017. Member of the organizing committee: Society for Developmental Biology, SE Regional Meeting, held at Kennesaw State University. Coordinated catering for the conference, judging, selection of keynote speakers, selection of session chairs, and back-stage session management.
- November 7, 2016 – May 2018. Committee Member, Centers and Institutes Committee, approximately 24 hours spent per year. The KSU Centers and Institutes Committee is charged with drawing up operational guidelines, then reviewing on-going center/institute function on campus, and also reviewing new applications for center/institute status based on the intellectual merit, broader impacts and the financial structure of the center or institute. Operational guidelines drafted and approved. Application materials for new centers/institutes drafted.
- August 9, 2016 – February 1, 2017. Committee Member, Cell Biology Faculty Search Committee, approximately 20 hours spent per year. Identified and interviewed faculty candidates for an open Tenure-Track Cell Biology faculty position. Identified four outstanding candidates, with a deep selection of second tier candidates.
- March 30, 2016 – May 2019. Committee Member, Strategic Planning Committee, approximately 12 hours spent per year. Goal: to draft a departmental mission statement and vision, and identify strategic goals to achieve the department's mission. Mission statement written with feedback from faculty. Strategic goals set. Implementation strategy under development.
- August 2014 – July 2016. Departmental representative of the Graduate Policy Curriculum Committee (Campus-wide service). Responsible for reviewing graduate curriculum revisions. Participated in a sub-committee to develop a standardized graduate curriculum template.
- November 2013 – May 2016. Coordinator of the Biosciences Student Research Symposium. Responsible for advertising the event every Fall and Spring semester, booking rooms, organizing refreshments, scheduling talks and poster sessions, and organizing judges.
- August 2012 – July 2021. Member of the Masters of Science in Integrative Biology steering committee. Responsible for reviewing MS applications, program development, MS student recruitment.
- August 2011 – July 2012. Member of the Masters of Science in Integrative Biology development committee. Responsible for program development, drafting curricula, curricula approval.
- August 2011 – July 2013. Member of the Department Faculty Council.
- September 2010 – December 2010. Ad hoc committee member. Responsible for developing the BIOL2110/3110 Directed Methods courses.
- September 2010 – present. Ad hoc committee member, BIOL4400 Directed Study courses.

*Other activities:*

November 2012 – May 2013. Organizer of the Molecular Biosciences Interest Group seminar series. <http://science.kennesaw.edu/mbig.html>. Responsible for inviting local and national speakers to give seminars in the College of Science and Mathematics. Requires organizing the seminar schedule, entertaining speakers, arranging accommodations, organizing conversations with faculty, and facilitating prompt payment of travel expenses.

**Administration:**

*Interim Department Chair.* Department of Molecular and Cellular Biology. Manage recruitment and retention of full-time faculty, part-time faculty, and lecturers, manage travel and operations budget, and other department-related tasks as necessary.

Highlights:

- Collaborated with KSU's Division of Diverse and Inclusive Excellence to run the Intercultural Development Inventory for the MCB department. These data are the baseline for on-going inclusion and equity and intercultural training for the department.
- Used a combination of department overheads and operating budget to address a capital equipment purchase shortfall.
- Coordinated external reviewer site visits for SACSCOC accreditation purposes.
- Started a conversation with Emory University's Cancer Cytogenetics Screening laboratory to develop a post-graduate clinical cytogenetics training program.
- Mentored new hires (tenure-track faculty and lecturers) in how to use the Watermark information management platform
- Mentored faculty in how to use the Curriculog curriculum management system to make changes in published course materials.

**Professional development:**

*Courses attended:*

Zeiss LSM900 confocal microscopy training session (September 28, 2021, Kennesaw State University, GA).

"Question, Persuade, Refer" suicide-prevention training (August 13, 2021, Kennesaw State University, GA)

Graduate Program Coordinator Professional Development Series. "Strategic Marketing Workshop". (September 7, 2018, Kennesaw State University, GA)

Institute for Electronics and Nanotechnology: "Soft Lithography for Microfluidics" Short Course (April 13 & 14, 2017, GA Institute of Technology)

Preparing a Portfolio for Tenure and/or Promotion (April 2015, Kennesaw State University, GA)

Sony SH800 cell sorter training session (May 2014, Kennesaw State University, GA)

Digital Measures training workshop (January 2014, Kennesaw State University, GA)

Tenure-Track T&P Portfolio Workshop (May 2012, Kennesaw State University, GA)

Adding VALUE to your Teaching workshop (April 2012, Kennesaw State University, GA)

Zeiss LSM700 confocal microscopy training session (March 2012, Kennesaw State University, GA).

National Science Foundation grant writing seminar (January 2011, University of San Diego, CA).

*C. elegans* genetics residential course (July – August, 2000, Cold Spring Harbor Labs, NY).

**Reviewing and judging:**

Society for Developmental Biology SE Regional Meeting, Kennesaw GA (2017). Poster judge coordinator.

PLOS Genetics (2017-2018). Manuscript reviewer.

Society for Developmental Biology SE Regional Meeting, Clemson SC (2015). Poster judge.

*Genetics* journal (2009). Manuscript reviewer.

Austrian Academy of Sciences: doctoral fellowship program (DOC-fFORTE Women in Science). (2009). Grant reviewer.