

Gidi Shemer, PhD

Department of Biology
University of North Carolina at Chapel Hill

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Full Curriculum Vitae, July 2021

EDUCATION

Ph.D. in Biology, The Technion, Israel Institute of Technology, 2002
Dissertation: Cell fusion and vulva organogenesis in *Caenorhabditis elegans*

M.Sc. in Biology, The Technion, Israel Institute of Technology, 1998
Thesis: Isolation and characterization of the human reduced folate carrier gene

B.A. in Biology, Tel-Aviv University, Israel, 1992

PROFESSIONAL EXPERIENCE

Teaching Associate Professor- Advisor, Department of Biology 2017- Current
University of North Carolina, Chapel Hill

Senior Lecturer-Advisor, Department of Biology 2016- 2017
University of North Carolina, Chapel Hill

Lecturer-Advisor, Department of Biology 2009-2016
University of North Carolina, Chapel Hill

Visiting Lecturer, Department of Biology 2008-2009
University of North Carolina, Chapel Hill

Postdoctoral fellow, Department of Biology 2005-2009
University of North Carolina, Chapel Hill

Postdoctoral fellow, Department of Biology 2002-2005
Technion, Israel

Lecturer, Department of Biology 2004-2005
Technion, Israel

OTHER PROFESSIONAL EXPERIENCE

Abbey Fellow	2016- current
Director of the SMART research program University of North Carolina, Chapel Hill	2013-current
Director of Undergraduate Research in Biology University of North Carolina, Chapel Hill	2010-current
Founder and Director of the Biology Peer Tutoring program University of North Carolina, Chapel Hill	2010-2017
Summer School Administrator for the Biology Department University of North Carolina, Chapel Hill	2012

HONORS

Teaching and Advising Honors

Chapman Family award for excellence in undergraduate teaching, UNC	2019
Award for Advising Excellence, UNC	2018
Tanner award for excellence in undergraduate teaching, UNC	2016
Biology Department Instructor of the Year, UNC	2015
Spirit of Inquiry Award, Pope Foundation for Higher Education	2013
Biology Department Instructor of the Year, UNC	2013
National Outstanding New Advising Faculty Award, NACADA	2012
The Class of 1996 Award for Advising Excellence	2011
Best Lecturer Award of the Technion, Technion, Israel	2005
Teaching Assistant Technion Award, Technion, Israel	2002
Teaching Assistant Faculty Award, Technion, Israel	2001
Teaching Assistant Award, Technion, Israel	2000

Research Honors

Pagano Award for best paper by a UNC postdoctoral fellow, UNC	2012
The Teva Prize for a Young Scientist, Society of BMB, Israel	2003
Participation in the Israel delegation to the Lindau Nobel meeting	2003
Landau Award for Outstanding PhD Students, Israel	2000
The Gutwirth Award for Outstanding PhD Students, Israel	2000

BIBLIOGRAPHY AND PRODUCTS OF SCHOLARSHIP

- ¹Roh-Johnson M., ¹**Shemer G.**, Higgins CD., McClellan JH., Tulu US., Gao L., Betzig E., Kiehart DP., Werts AD., Goldstein B. Triggering a Cell Shape Change by Exploiting Pre-Existing Actomyosin Contractions (2012) *Science* 335(6073):1232-5. [A “Must Read” by The Faculty of 1000]
- Sawyer J., Glass S., Li T., **Shemer G.**, White ND., Starostina NG., Kipreos ET., Jones CD., Goldstein B. Overcoming Redundancy: an RNAi Enhancer Screen for Morphogenesis Genes in *C. elegans* (2011) *Genetics* 188: 549-56
- Suissa M., Hall DH., Treinin M, ²**Shemer G.**, ²Podbilewicz B. The fusogen EFF-1 controls sculpting of mechanosensory dendrites (2010) *Science* 328: 1285–88 [A “Must Read”-The Faculty of 1000]
- Sawyer JM., Harrell JR., **Shemer G.**, Sullivan-Brown J., Roh-Johnson M., Goldstein B. Apical constriction: a cell shape change that can drive morphogenesis (2010) *Dev Biol* 341: 5-19
- Podbilewicz B., Leikina E., Sapir A., Valansi C., Suissa M., **Shemer G.**, Chernomordik LV. The *C. elegans* developmental fusogen EFF-1 mediates homotypic fusion in heterologous cells and in vivo (2006) *Dev Cell* 11: 471-81 [Recommended by The Faculty of 1000; Editor’s choice in Science 314(2006)].
- Cassata G., **Shemer G.**, Morandi P., Donhauser R., Podbilewicz B., Baumeister R. *ceh-16/engrailed* compartmentalizes the epidermis of the roundworm *Caenorhabditis elegans* (2005) *Development* 132: 739-49 [Recommended by The Faculty of 1000]
- ¹**Shemer G.**, ¹ Suissa M, Kolotuev I., Nguyen KCQ., Hall DH., Podbilewicz B. EFF-1 is sufficient to initiate and execute tissue-specific cell fusion in *C. elegans*. (2004) *Curr Biol* 14 :1587-1591 [Recommended by The Faculty of 1000; Editor’s choice in Science 305(2004)]
- Shemer G.** and Podbilewicz B. The story of cell fusion: big lessons from little worms (2003) *BioEssays* 25: 672-682
- Shemer G.** and Podbilewicz B. LIN –39/Hox triggers cell division and represses EFF-1/Fusogen-dependent vulval cell fusion (2002) *Genes&Development* 16: 3136-3141 [Recommended- The Faculty of 1000]
- ¹Mohler WA., ¹**Shemer G.**, del Campo JJ., Valansi C., Opoku-Serebuoh E., Scranton V., Assaf N., White JG., Podbilewicz B. The type I membrane protein EFF-1 is essential for developmental cell fusion (2002) *Dev Cell* 2: 355-62 (A “Must Read” by The Faculty of 1000)
- Shemer G.** and Podbilewicz B. Fusomorphogenesis: cell fusion in organ formation. (2000) *Dev Dyn* 218: 30-51 [Recommended by The Faculty of 1000]
- Shemer G.**, Kishore R. and Podbilewicz B. Ring formation drives invagination of the vulva in *C. elegans*: Ras, cell fusion and cell migration determine structural fates (2000) *Dev Biol* 221: 233-248
- Drori S., Sprecher H., **Shemer G.**, Jansen G., Goldman ID., Assaraf YG. Characterization of a human alternatively spliced truncated reduced folate carrier increasing folate accumulation in parental leukemia cells (2000) *Eur J Biochem* 267:690-702

1 denotes authors that contributed equally to this work

2 denotes co-corresponding senior authors

TEACHING ACTIVITIES (in the last five years)

Fall 21

BIOL 202, Molecular Biology & Genetics, 251 students
BIOL 252, Human Anatomy & Physiology, 245 students
BIOL 395, Undergraduate Biology Research (sponsor), 3 students
BIOL 395H, Undergraduate Biology Research Honors, 8 students

Spring 21

BIOL 252, Human Anatomy & Physiology, 211 students
BIOL 445, Cancer Biology, 32 students
BIOL 395, Undergraduate Biology Research (sponsor), 2 students
BIOL 395H, Undergraduate Biology Research Honors, 8 students

Fall 20

BIOL 252, Human Anatomy & Physiology, 230 students
BIOL 445, Cancer Biology, 33 students
BIOL 395, Undergraduate Biology Research (sponsor), 3 students
BIOL 395H, Undergraduate Biology Research Honors, 13 students

Spring 20

BIOL 252, Human Anatomy & Physiology, 252 students
BIOL 445, Cancer Biology, 38 students
BIOL 395, Undergraduate Biology Research (sponsor), 2 students
BIOL 395H, Undergraduate Biology Research Honors, 16 students

Fall 19

BIOL 202, Molecular Biology & Genetics, 247 students
BIOL 252, Human Anatomy & Physiology, 247 students
BIOL 395, Undergraduate Biology Research (sponsor), 1 student
BIOL 395H, Undergraduate Biology Research Honors, 20 students

Spring 19

BIOL 252, Human Anatomy & Physiology, 247 students
BIOL 445, Cancer Biology, 34 students

BIOL 395, Undergraduate Biology Research (sponsor), 3 students
BIOL 395H, Undergraduate Biology Research Honors, 14 students

Fall 18

BIOL 202, Molecular Biology & Genetics, 252 students
BIOL 252 section 1, Human Anatomy & Physiology, 250 students
BIOL 252 section 3, Human Anatomy & Physiology, 252 students
BIOL 395, Undergraduate Biology Research (sponsor), 2 students
BIOL 395H, Undergraduate Biology Research Honors, 25 students

Spring 18

BIOL 252, Human Anatomy & Physiology, 265 students
BIOL 445, Cancer Biology, 40 students
BIOL 395, Undergraduate Biology Research (sponsor), 3 students
BIOL 395H, Undergraduate Biology Research Honors, 14 students

Fall 17

BIOL 202, Molecular Biology & Genetics, 244 students
BIOL 252 section 1, Human Anatomy & Physiology, 247 students
BIOL 252 section 3, Human Anatomy & Physiology, 240 students
BIOL 395, Undergraduate Biology Research (sponsor), 3 students
BIOL 395H, Undergraduate Biology Research Honors, 16 students

Spring 17

BIOL 252, Human Anatomy & Physiology, 246 students
BIOL 445, Cancer Biology, 35 students
BIOL 395H, Undergraduate Biology Research Honors, 13 students

TEACHING and ADVISING ACTIVITIES (full list)

Instructor

Biology 252, Human Anatomy and Physiology 2009- current
(250 students each semester)
Department of Biology, University of North Carolina, Chapel Hill

Biology 202, Molecular Biology and Genetics 2009- current
(250 students every other semester)
Department of Biology, University of North Carolina, Chapel Hill

Biology 445, Cancer Biology 2009- current
(35 students every other semester)
Department of Biology, University of North Carolina, Chapel Hill

Biology 395H, Honors Research in Biology 2010- current
(15-18 students each semester)
Department of Biology, University of North Carolina, Chapel Hill

Biology 296, Directed Reading 2010
(1student)
Department of Biology, University of North Carolina, Chapel Hill

Biology 205, Cell and Developmental Biology 2008
(200 students)
Department of Biology, University of North Carolina, Chapel Hill

Biology 069, Developmental Biology 2004
(50 students)
Department of Biology, Technion, Israel

Biology Faculty Advisor

Advising 2300 majors each year (including more than 1000 annual individual
advising contact sessions), organizing info session, workshops 2009- current

Leading the Biology summer advising orientations 2009- current

GRANTS AND FELLOWSHIPS

- NSF-NCLASMAP (involved in the grant writing as the director of SMART) 2019-2024
- Human Frontier Science Program (HFSP) Long-term Postdoct Fellowship 2005-2008
- Cottrell Postdoctoral Fellowship 2005-2007
- The Israel Science Foundation Grant, Co-PI and author of the grant 2004-2005

PROFESSIONAL SERVICE

Department Service

Biology Curriculum Reform	2019- current
Biology Teaching awards Committee (Chair)	2015- current
Undergraduate Research Honors Awards Committee	2015- current
Coordinator of the Biology Student-Faculty Forum	2018- current
Coordinator of the Bio Ambassadors Program	2018- current
Biology Website	2015- current
<i>Responsible for the undergraduate section of the website</i>	
Biology Department Undergraduate Studies Committee	2009-current
<i>The group advises the faculty on undergraduate policies. Approves courses</i>	
Biology Department Advising Committee	2009-current
Biology Department Graduation Committee	2009-current
<i>Help organize event for 500 students and their families, prepare program</i>	
Faculty sponsor for Undergraduate Research students	2009-current
<i>Sponsor 3-6 students every year. Support their research in non-departmental labs and evaluate their papers</i>	
Organizer of Biology Academic days	2010-current
<i>Meet and organize departmental lab tours to science prospective students</i>	
Biology STEM Lecturer search committee	2012, 2014. 2017, 2018, 2020
Student Services Manager search committee	2010

University Service- Committees

UNC Transfer Student Success Committee	2020-current
UNC General Education Curriculum Implementation- Transfer	2019-2020
UNC General Education Curriculum Reform- Transfer	2018
Search committee- University Registrar	2017
Independent Studies Task Force	2017
<i>Revisiting and providing recommendations on the university policy</i>	

QEP (quality enhancement plan) <i>Leading the undergraduate research team</i>	2016-2017
UNC Education Policy committee <i>Advisory to the Faculty Council on educational policy issues</i>	2012-2019
UNC Classroom Modernization Advisory Group <i>Set recommendations to optimize classrooms for educational needs</i>	2011-current
UNC Transfer Student Success Committee <i>Set recommendations to promote success of incoming transfer students</i>	2010-2013
Search committee- Advising Senior Assistant Dean	2012
 <u>Other University Service Activities</u>	
Faculty mentor to GlaxoSmithKline (GSK) transfer scholars	2019- current
UNC Explore Carolina/Admitted students Day Program <i>Conduct group meetings with prospective science students</i>	2009-current
More Than A Major summer sessions for incoming students	2018-current
UNC- Office for Undergraduate Research Advisory Board <i>Provides guidance to the Associate Dean of the OUR</i>	2014-2019
Faculty Advisor to <i>Carolina Scientific</i> student organization <i>Advise the students who run Carolina Scientific, UNC's premier research magazine</i>	2014-2021
C-STEP Scholars mentor <i>Serve as a one-on-one mentor for 5 students per year in this program</i>	2013-current
Carolina Firsts advocate <i>Provide advocacy for first generation college students</i>	2013-current
Covenant Scholars mentor <i>Serve as a one-on-one mentor for 15 students per year in this program</i>	2012-current
UNC Transfer Student Living-Learning Community Advisory Board <i>Advised on the design and development of the first transfer LLC</i>	2010-2012
UNC HHMI-FSC research Advisory Board <i>Advised on the design and development of the summer research program for covenant scholars. Played active role in the annual selection process</i>	2010-2014

PROFESSIONAL DEVELOPMENT and LEADERSHIP in TEACHING (last 6 years)

Faculty Showcase, Center for Faculty Excellence	2021
Presented "Writing higher order questions is correlated with higher order performance."	
Scholarship of Teaching and Learning, Faculty Learning Community	2021
Carolina-Biology Education Research Group (CBERG Journal Club)	2020
Biology Department, Haifa University, Israel	2018-2019
Delivered workshops on modern teaching approaches to a curriculum committee and faculty and instructors	
UNC Bus Tour	2019
AAU STEM project	2014-2018
Mentoring research faculty in implementing evidence-based teaching practices in large courses	