**Shuguang Zhang, Ph.D.**

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Email: Shuguang@MIT.EDU,

Website: [Laboratory of Molecular Architecture](https://www.moleculararchitecture.org/)

[MIT Media Lab](https://www.media.mit.edu/people/shuguang/overview/)

[John Simon Guggenheim Fellow](http://www.gf.org/fellows/all-fellows/shuguang-zhang/)

Google Scholar: [Shuguang Zhang](https://scholar.google.com/citations?user=lZ-zpSsAAAAJ&hl=en&oi=ao), ORCID: [0000-0002-3856-3752](https://orcid.org/0000-0002-3856-3752),

### Positions Held

2019- Head, Laboratory of Molecular Architecture, The Media Lab, MIT

2012-2019 Head, Laboratory of Molecular Architecture, Center for Bits and Atoms, MIT

1998-2012 Associate Director, Center for Biomedical Engineering, MIT

1997-2012 Principal Research Scientist, Center for Biomedical Engineering, MIT

1995-1997 Research Scientist, Center for Biomedical Engineering, MIT

1992-1995 Research Scientist, Department of Biology, MIT

1988-1991 American Cancer Society postdoctoral fellow, Department of Biology, MIT

### Education

1988 Ph.D**.** Biochemistry & Molecular Biology

 Department of Biological Sciences

 University of California at Santa Barbara

1980 B.S. Biochemistry

 Department of Biology

 Sichuan University, China

### Honors and Fellowships

2021 [Elected to the European Academy of Science and Arts](https://members.euro-acad.eu/#memberList)

2021 [The Erwin Schrödinger Colloquium, Austrian Academy of Science](http://esg-nano.ac.at/_files/colloquia/flyer-20th-colloquium.pdf),

2021 Honorary member, the [Erwin Schrödinger Society](http://esg-nano.ac.at/?p=about), Austria

2021 Science and Innovation Award, Chinese Association for Science and Technology (CAST-USA)

2020 [Emil Thomas Kaiser Award, Protein Society](https://eurekalert.org/pub_releases/2020-03/tps-tps031220.php)

2014 Honorary Professor, Shanghai Jiaotong University, China (No compensation)

2013- [Elected to National Academy of Inventors](https://academyofinventors.org/wp/skin/search-fellows.php)

2011- [Elected to American Institute of Medical and Biological Engineering](http://aimbe.org/college-of-fellows/COF-1267/),

2010- [Elected to Austria Academy of Sciences](https://www.oeaw.ac.at/en/m/zhang-shuguang/)

2010 Honorary Professor, China University of Petroleum (No compensation)

2006 [Wilhelm Exner Medal, Austria](http://www.wilhelmexner.org/liste_001.html)

2006 [Fellow, John Simon Guggenheim Foundation](http://www.gf.org/fellows/all-fellows/shuguang-zhang/)

2004 [R& D 100 Award (R&D Magazine)](https://www.rdworldonline.com/rd-100-archive/?YEAR=2004)

2004 Top 100 Science Stories (*Discover* Magazine)

2004 Fellow, Japan Association for the Advancement of Medical Equipment

2004 Honorary Professor, Sichuan University, China (No compensation)

2003 Fellow, Japan Society for Promotion of Science (JSPS Fellow)

2001 Finalist, Innovation Award (sponsored by *Discover* Magazine & Walt Disney)

2000 “Who is Who in Science & Engineering in America”

1997 Investigator, Whitaker Foundation Biomedical Engineering

1994 Elected to New York Academy of Sciences

1993 Elected to Sigma Xi Scientific Research Society of North America

1993 A discovery selected as one of the 15 research achievements of MIT over last 25 years.

1988 American Cancer Society Postdoctoral Fellow

1986 University of California Regents Fellowship, UC Santa Barbara

1983 Graduate Mentor Fellowship, University of California at Santa Barbara

### Research Experience

Present:

Molecular design, especially protein and peptide design.

Designs of water-soluble G protein-coupled receptors and other transmembrane proteins.

Design of versatile, ultra-sensitive sensing device using biological receptors.

Interfacing biological system with non-biological system to transduce and amplify information.

Previous:

Acknowledged as [discoverer/founder of the field of self-assembling peptides](https://eurekalert.org/pub_releases/2020-03/tps-tps031220.php).

### Teaching Experience

Semester Subject number Title Role

FT 2000 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2001 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2002 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2003 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2004 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2005 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2007 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2008 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

FT 2009 20.342/442 Molecular structure of biological materials: Lecturer

 structure, function and self-assembly

ST 2019 MAS.S61 How to Grow (Almost) Anything, Guest lecturer

ST 2020 MAS.S61 How to Grow (Almost) Anything, Guest lecturer

ST 2020 MAS.S66 Molecular Architecture and Design Lecturer

ST 2021 MAS.S63 How to Grow (Almost) Anything, Guest lecturer

ST 2022 MAS.S64 How to Grow (Almost) Anything, Guest lecturer

ST 2021 MAS.S65 Molecular Architecture and Design Lecturer

ST 2022 MAS.S60 Molecular Architecture and Design Lecturer

FT 1994- 7.A12 Molecular structure of hereditary materials: Leader

Nucleic Acids

FT 1997- Biology Structure & Function Seminar Series Organizer

 2002

FT 2002- The Christmas Lecture: History of Biology Organizer

 2006

Freshman Advisor, 1994-2005, 2007-2009, 2013-Present

Graduate Ph.D. thesis committee with students for MIT Media Lab, Departments of Biology, Biological Engineering, Chemical Engineering, Electric Engineering & Computer Science, Mechanical Engineering, Materials Science & Engineering; Ph.D. Thesis committee member for Tufts University; Karolinska Institute, Sweden; Swiss Institute of Technology-Lausanne (EPFL), Switzerland.

Biochemistry laboratory, University of California at Santa Barbara

Genetics recitation, University of California at Santa Barbara

Trained numerous undergraduate students at MIT and University of California at Santa Barbara

### Professional Associations

Organization Date

Member, Sigma Xi Scientific Research Society of North America 1993-present

Member, New York Academy of Sciences 1994-present

Member, American Society of Biochemistry & Molecular Biology 1994-present

Member, HUGO Americas (Human Genome Organization) 1995-present

Member, Protein Society 1995-05, 2021

[Elected to Austria Academy of Sciences](https://www.oeaw.ac.at/en/m/zhang-shuguang/) 2010-present

[Elected to American Institute of Medical and Biological Engineering](http://aimbe.org/college-of-fellows/COF-1267/) 2011-present

[Elected to National Academy of Inventors](https://academyofinventors.org/wp/skin/search-fellows.php) 2013-present

Honorary member, the [Erwin Schrödinger Society](http://esg-nano.ac.at/?p=about), Austria 2021- present

[Elected to the European Academy of Science and Arts](https://members.euro-acad.eu/#memberList) 2021- present

### Scientific Advisory and Consulting Activities

Acorda Therapeutics, New York, Scientific Advisor 1995 2001

Mitsubishi Chemical Corporation Research Center, Yokohama, Japan 1998 2003

Menicon Co. Ltd., Nagoya, Japan, Scientific Advisor 2005 2007

3D Matrix, Ltd. Tokyo, Japan, Scientific Advisor 2005 present

OH2Laboratories, Berkeley, CA, USA, Scientific Consultant 2017 present

### Meetings Organized

|  |  |
| --- | --- |
| A Symposium to Honor Alexander Rich: *Alex in Wonderland*. | MIT Media Lab, June 1994 |
| International Conference on Complex Systems | Nashua NH, September 1997 |
| Self-organization in Materials Science | MIT Biology, March 1998 |
| 1st Self-assembling Peptide Systems in Biology, Engineering & Medicine | Crete, Greece, July 1999 |
| 2nd Self-assembling Peptides & Proteins in Biology, Engineering & Medicine | Crete, Greece July 2001 |
| American Chemical Society, Section of Biotechnology | Boston, July 2002 |
| 3rdSelf-assembling Peptides & Protein in Biology, Engineering & Medicine | Crete, Greece, August 2003 |
| 4th Self-assembling Peptides & Proteins in Biology, Engineering & Medicine | Crete, Greece, June 2005 |
| VI European Protein Society Symposium | Barcelona, Spain, May 2005 |
| Nanobiomedical Technology & Structural Biology | Chengdu, China, June 2006 |
| VII European Protein Society Symposium | Stockholm Sweden May 2007 |
| 3rd Molecular Frontiers Symposium | Stockholm, Sweden May 2008 |
| Mykonos Workshop on Frontiers of Membrane Biology | Mykonos, Greece May 2009 |
| A symposium to honor Alexander Rich: *Alex in Wonderland II* | MIT Media Lab, June 2014 |
| 1st Peptides & Proteins: Structure, Function & Biotechnology | Le Mans, France, July 2013 |
| 2nd Peptides & Proteins: Structure, Function & Biotechnology | Geneva, Switzerland, July 2016 |
| 3rd Peptides & Proteins: Structure, Function & Biotechnology | Geneva, Switzerland, July 2018 |
| 13th Molecular Frontiers Symposium at MIT | Media Lab, November 2018 |
| 4th Peptides & Proteins: Structure, Function & Biotechnology | Geneva, Switzerland, June 2021 |
| 15th Molecular Frontiers Symposium | Chengdu, China, September 2021 |

### Scientific Services

### Journal editorial

*Public Library of Science ONE* (An open access journal)Academic Editor, 2006-2016

*QRB Discovery*, Associate Editor, Cambridge University Press, 2020- Present

[Book series: Series in Structural biology](https://www.worldscientific.com/series/ssb), Associate Editor, 2012-Present

Declined for all other journal editorial boards

**Journal Referees for:**

*Nature*

*Nature Structural Biology*

*Nature Nanotechnology*

*Nature Chemical Biology*

*Nature Chemistry*

*Nature Materials*

*Nature Communications*

## Science

*Proceedings of National Academy of Sciences, USA*

*PLoS ONE*

*Protein Science*

*Journal of Molecular Biology*

*Journal of American Chemical Society*

## Langmuir

## Biomembranes

## Protein Engineering Design & Selection

*Nano Letters*

*Nano Today*

*Biochemistry*

*Biotechnology Advances*

*Biomacromolecules*

*Macromolecules*

*Materials Science & Engineering*

*ChemCommincation*

*QRB Discovery*

## Thin Solid Films

###### Advanced Materials

## Supramolecular Chemistry

*Several Journals of the American Chemical Society*

**Grant reviews for:**

## US National Science Foundation (NSF)

US National Institute of Health (NIH)

US Department of Energy (DoE)

US Department of Defense (DoD)

American Chemical Society (ACS)

Alzheimer’s Disease Foundation, USA

Peter Thiel Foundation, USA

The Wellcome Trust, London, UK

EPSRC, UK

## European Science Foundation

Israel Science Foundation, Jerusalem, Israel

The Royal Society of New Zealand

Austria, Canada, China, Denmark, Ireland, Czech Republic and Singapore.

**Patents and Patent Applications Pending:**

1. Zhang; Shuguang, Lockshin; Curtis, Rich; Alexander, Holmes & Todd. Stable macroscopic membranes formed by self-assembly of amphiphilic peptides and uses therefor. [US5,670,483, September 23, 1997](https://patentimages.storage.googleapis.com/a8/f0/84/78b8f10969eb28/US5670483.pdf). (Licensed Hercules Corp 1995, then transferred to 3DMatrix 2002).

2. Zhang; Shuguang, Lockshin; Curtis, Rich; Alexander, Holmes & Todd. Stable macroscopic membranes formed by self-assembly of amphiphilic peptides and uses therefor. [US Patent 6,548,630. April 15, 2003](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=6,548,630.PN.&OS=PN/6,548,630&RS=PN/6,548,630). (Licensed to 3DMatrix 2002).

3. Holmes; Todd, Zhang; Shuguang, Rich; Alexander, DiPersio; C. Michael & Lockshin; Curtis, Stable macroscopic membranes formed by self-assembly of amphiphilic peptides and uses therefor. [US Patent 6,800,481. October 5, 2004](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=6,800,481.PN.&OS=PN/6,800,481&RS=PN/6,800,481). (Licensed to 3DMatrix 2002).

4. Holmes; Todd, Zhang; Shuguang, Rich; Alexander, DiPersio; C. Michael & Lockshin; Curtis, Stable macroscopic membranes formed by self-assembly of amphiphilic peptides and uses therefor. [US Patent 7,098,028. August 29, 2006](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7,098,028.PN.&OS=PN/7,098,028&RS=PN/7,098,028). (Licensed to 3DMatrix 2002).

5. Zhang; Shuguang & Schwartz; John J. Modular peptide mediated intracellular delivery system and uses therefor. [US Patent 6,844,324, January 18, 2005](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=6,844,324.PN.&OS=PN/6,844,324&RS=PN/6,844,324).

6. Zhang; Shuguang, Rich; Alexander, Yan; Lin & Whitesides; George. Self-assembling peptide surfaces for cell patterning and interactions. [US Patent 6,368,877. April 9, 2002](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=6,368,877.PN.&OS=PN/6,368,877&RS=PN/6,368,877). (Licensed to Surfacelogix 2002).

7. Genove, E., Zhang S., Semino, C. Self-assembling peptides incorporating modifications and methods of use thereof. MIT Case No. 10154, [Publication No. US2015/0183828A1](https://patentimages.storage.googleapis.com/4f/27/3f/6ef40803ee7042/US20150183828A1.pdf), [US8,901,084](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=8901084.PN.&OS=PN/8901084&RS=PN/8901084) (Licensed to 3-DMatrix, 2005).

* European Patent Office EP1636250B1 issued January 6, 2016.
* Switzerland Patent 1636250 issued January 6, 2016.
* Germany Patent 1636250 issued January 6, 2016.
* Denmark Patent 1636250 issued January 6, 2016.
* Finland Patent 1636250 issued January 6, 2016.
* France Patent 1636250 issued January 6, 2016.
* United Kingdom Patent 1636250 issued January 6, 2016.
* Ireland Patent 1636250 issued January 6, 2016.
* Japan Patent 1636250 issued January 6, 2016.

8. Jacobson; Joseph M., Schwartz; John J., Hamad; Kimberly & Zhang; Shuguang. Direct, externally imposed control of polypeptides. [US Patent 6,953,656. October 11, 2005](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=6,953,656.PN.&OS=PN/6,953,656&RS=PN/6,953,656). (Licensed to EugeniOS 2002).

9. Jacobson; Joseph M., Schwartz; John J., Hamad; Kimberly & Zhang; Shuguang. Direct, externally imposed control of nucleic acids. [US Patent 6,953,659. October 11, 2005](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=6,953,659.PN.&OS=PN/6,953,659&RS=PN/6,953,659). (Licensed to EugeniOS 2002).

10. Zhang; Shuguang & Vauthey; Sylvain. Surfactant peptide nanostructures, and uses thereof. [US Patent 7,179,784. February 20, 2007](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7,179,784.PN.&OS=PN/7,179,784&RS=PN/7,179,784). (Licensed to 3DMatrix 2010).

11. Zhang; Shuguang & Vauthey; Sylvain. Surfactant peptide nanostructures, and uses thereof. [US Patent 7,671,258. March 2, 2010.](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7,671,258.PN.&OS=PN/7,671,258&RS=PN/7,671,258) (Licensed to 3DMatrix 2010).

12. Kisiday; John, Grodzinsky; Alan & Zhang; Shuguang. Macroscopic scaffold containing amphiphilic peptides encapsulating cells. [US Patent 7,449,180. November 11, 2008](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7,449,180.PN.&OS=PN/7,449,180&RS=PN/7,449,180). (Licensed to 3DMatrix 2005).

13. Ellis-Behnke; Rutledge, Schneider; Gerald & Zhang; Shuguang. Self-assembling peptides for regeneration and repair of neural tissue. [US Patent 7,846,891. December 7, 2010](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7,846,891.PN.&OS=PN/7,846,891&RS=PN/7,846,891).

14. Ellis-Behnke; Rutledge, Zhang; Shuguang, Schneider; Gerald, So; Kwok-Fai, Tay; David, Liang; Yu-Xiang. Compositions and methods for promoting hemostasis and other physiological activities. [US Patent 9,327,010. May 3, 2016](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=9,327,010.PN.&OS=PN/9,327,010&RS=PN/9,327,010). (Licensed to 3DMatrix 2006).

15. Ellis-Behnke; Rutledge, Zhang; Shuguang, Schneider; Gerald, So; Kwok-Fai, Tay; David, Liang; Yu-Xiang. Compositions and methods for promoting hemostasis and other physiological activities. [US Patent 9,364,513. June 14, 2016](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=9,364,513.PN.&OS=PN/9,364,513&RS=PN/9,364,513). (Licensed to 3DMatrix 2006).

16. Ellis-Behnke; Rutledge, Zhang; Shuguang, Schneider; Gerald, So; Kwok-Fai, Tay; David, Liang; Yu-Xiang. Compositions and methods for promoting hemostasis and other physiological activities. [European Patent EP 1 879 606 B1. 12.06.2013 Bulletin 2013/24](https://patentimages.storage.googleapis.com/fd/40/23/00d47ad414a6bc/EP1879606B1.pdf). (Licensed to 3DMatrix 2006).

17. Genove; Elsa, Zhang; Shuguang & Semino; Carlos. Self-assembling peptides incorporating modifications and methods of use thereof. [US Patent 7,713,923. May 11, 2010](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7,713,923.PN.&OS=PN/7,713,923&RS=PN/7,713,923). (Licensed to 3DMatrix 2006).

18. Horii; Akihiro, Zhang; Shuguang, Wang; Xiumei & Gelain; Fabrizio. Modified self-assembling peptides. [US Patent 8,022,178. September 20, 2011](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=8,022,178.PN.&OS=PN/8,022,178&RS=PN/8,022,178). (Licensed to Olympus 2007).

* Japan Patent JP5,496,671B2 issued May 21, 2014
* Japan Patent Applications JP2013229859A, JP2015158226A, and JP2017129570A.
* Spain ES 2,709 125T3 Granted

19. Kumada; Yoshiyuki & Zhang; Shuguang. Self-assembling peptides incorporating modifications and methods of use thereof. [US Patent 8,741,833. June 3, 2014](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=8,741,833.PN.&OS=PN/8,741,833&RS=PN/8,741,833). (Licensed to Olympus 2010, transferred to 3DMatrix, 2014).

20. Kumada; Yoshiyuki & Zhang; Shuguang. Self-assembling peptides incorporating modifications and methods of use thereof. [US Patent 9,481,713. November 1, 2016](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=9,481,713.PN.&OS=PN/9,481,713&RS=PN/9,481,713). (Licensed to Olympus 2010, transferred to 3DMatrix, 2014 ).

21. Koutsopoulos; Sotirios & Zhang; Shuguang. Multi-layered injectable self-assembling peptide scaffold hydrogels for long-term sustained release of human antibodies. [US Patent 9,700,521. July 11, 2017](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=9,700,521.PN.&OS=PN/9,700,521&RS=PN/9,700,521).

* Japan Patent JP6134050B2 issued May 24, 2017
* European Patent Office EP2968135A4 published October 26, 2016.
* WIPO Patent Application WO2014152751A1 filed September 25, 2014.
* China Patent Application CN 201480014835 filed March 14, 2014; CN105228592A published January 6, 2016.

22. Mershin; Andreas, Cook; Brian, Kaiser; Liselotte, Bikker; Johanna F., Miura; Yoshikatsu, Niwa; Daisuke, Ohnishi; Dai, Tazuke; Atsushi & Zhang; Shuguang. Multiplexed olfactory receptor-based microsurface plasmon polariton detector. [US Patent 8,748,111. June 10, 2014](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=8,748,111.PN.&OS=PN/8,748,111&RS=PN/8,748,111).

23. Mershin; Andreas, Wassie; Asmamaw, Maguire; Yael, Kong; David, Zhang; Shuguang, Moran; Patrick, & Corin; Karolina. Methods and apparatus for artificial olfaction. [US Patent 9,140,677. September 22, 2015](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=9,140,677.PN.&OS=PN/9,140,677&RS=PN/9,140,677).

24. Mershin; Andreas, Wassie; Asmamaw, Maguire; Yael, Kong; David, Zhang; Shuguang, Moran; Patrick, & Corin; Karolina. Methods and apparatus for artificial olfaction. [US Patent 9,377,447. June 28, 2016](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=9,377,447.PN.&OS=PN/9,377,447&RS=PN/9,377,447).

25. Zhang; Shuguang, Mershin; Andreas, Kaiser; Liselotte, Cook; Brian, Graveland-Bikker; Johanna F., Prakash; Manu, Kong; David, Maguire; Yael. Bio-sensing nanodevice. [US Patent 9,714,941. July 25, 2017](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=9,714,941.PN.&OS=PN/9,714,941&RS=PN/9,714,941).

26. Mershin; Andreas, Cook; Brian & Zhang; Shuguang. Bio-sensitized solar cells (BSSC). [US Patent 8,796,544. August 5, 2014](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=8,796,544.PN.&OS=PN/8,796,544&RS=PN/8,796,544).

27. Zhang; Shuguang, Rich; Alexander, Corin; Karolina, & Tegler; Lotta T. Water soluble membrane proteins and methods for the preparation and use thereof. [US Patent 8,637,452. January 28, 2014](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=8,637,452.PN.&OS=PN/8,637,452&RS=PN/8,637,452). (Licensed to OH2LAboratories 2014).

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29. Zhang; Shuguang, Rich; Alexander, Corin; Karolina, & Tegler; Lotta T. Water soluble membrane proteins and methods for the preparation and use thereof. [US Patent 10,035,837. July 31, 2018](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=10,035,837.PN.&OS=PN/10,035,837&RS=PN/10,035,837). (Licensed to OH2LAboratories 2014).

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* OH2Laboratories LLC, Cambridge, MA, USA
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**Invited Lectures and Seminars:**

(Invited lectures at some of the same institutions are multiple times)

|  |  |
| --- | --- |
| Swiss Institute of Technology (ETH) | Zürich, Switzerland, 1993, 1995, 2000, 2019 |
| Karolinska Institute | Stockholm, Sweden, 1999, 2003, 2004, 2005, 2006, 2019 |
| University of Uppsala | Uppsala, Sweden, 2004, 2008 |
| University of Oslo | Oslo, Norway, 1995, 2003 |
| Norwegian University of Science & Technology | Trondheim, Norway, 2003 |
| University of Padova | Padova, Italy 2001 |
| University of Camerino | Camerino, Italy, 2002, 2003 |
| Freie University | Berlin, Germany, 1993, 1995, 1998, 2007 |
| Germany, Hans-Knoll Institute | Jena, Germany, 1995 |
| Technical University of Munich | Munich, Germany, 2006 |
| Polish Academy of Sciences | Warsaw, Poland, 1995, 2006 |
| University of Cambridge, Department of Biochemistry | Cambridge, UK, 2006 |
| University of Cambridge, Department of Chemistry | Cambridge, UK, 2007 |
| MRC-Laboratory of Molecular Biology | Cambridge, UK, 2007 |
| MRC-Protein Engineering Center | Cambridge, UK, 2007 |
| Roslin Institute | Roslin, Scotland, UK, 2003 |
| University of Edinburgh | Edinburgh, Scotland, UK, 2003, 2007 |
| Center for Self-organization Systems, University of Leeds | Leeds, UK 1997, 2003 |
| University of Sheffield, Department of Biochemistry | Sheffield, UK, 2001 |
| University of York | York UK, 2000 |
| University of Essex, Department of Biochemistry | Essex, UK 2007 |
| University of Manchester, Department of Materials | Manchester UK 2007 |
| Department of Biochemistry, CNRS | Gif-sur-Yvett, France 1996 |
| Service de Chimie Moléculaire, C.E.A. | Saclay, France, 2004  |
| UNITE INSERM  | Paris, France, 1996 |
| Ludwig Boltzmann Institute for Experimental & Clinical Traumatology  | Vienna, Austria 2006, 2008 |
| Departments of Biological Chemistry, The Weizmann Institute  | Rehovot, Israel, 1998 |
| Structural Biology, The Weizmann Institute  | Rehovot, Israel, 1995, 2008  |
| Hebrew University of Jerusalem | Jerusalem, Israel 1995 |
| Ben-Gurion University of the Negev  | Beer Sheva, Israel, 1997, 1998, 2000, 2005, 2008  |
| Protein Research Institute, Osaka University  | Osaka Japan, 1997  |
| Tokyo Institute of Technology  | Tokyo, Japan, 2000 |
| Department of Chemical Engineering, University of Tokyo | Tokyo, Japan, 2001 |
| Electrical Engineering, University of Tokyo  | Tokyo, Japan, 2005 |
| Department of Materials, University of Kyoto  | Kyoto, Japan, 2002 |
| Japan International Center of Medical Science  | Tokyo, 1998, 2003 |
| Department of Biology, Waseda University  | Tokyo, Japan, 1997, 2000 |
| Department of Materials, Nagoya Institute of Technology  | Nagoya Japan, 2001 |
| Department of Materials, Tohoku University  | Sendai, Japan, 2006, 2008 |
| Osaka National Research Institute | Ikeda, Japan, 1997  |
| National University of Singapore  | Singapore, 2000 |
| Qinghua University | Beijing, China, 1998-2004  |
| Beijing University | Beijing China, 2004  |
| Chinese Academy of Medical Sciences |  Beijing, China, 1991, 1996, 1998, 2002, 2004 |
| Sichuan University | Chengdu, China, 1986, 1991, 1996-2006 |
| Hong Kong University of Science & Technology | Hong Kong 2002, 2007 |
| Knight Fellows Lecture Series | MIT, MA, 2004, 2005, 2006 |
| MIT-various Departments, Centers, Labs, Groups | Cambridge, MA, 1989-2020 |
| Harvard University | Cambridge MA 1994 |
| Harvard Medical School | Boston MA 1997 |
| Tufts University | Medford, MA 2005 |
| Tufts University Medical School | Boston, MA, 1996, 2002, 2004 |
| Boston University | Boston, MA, 1996, 2003 |
| California Institute of Technology | Pasadena CA, 2001 |
| Stanford University | Stanford, CA 2002 |
| Scripps Research Institute | La Jolla CA, 1999 |
| University of California at San Francisco | San Francisco CA, 1996, 2002, 2018 |
| University of California at Santa Barbara  | Santa Barbara, CA, 1991, 1996, 2001, 2006, 2023 |
| University of California at Davis | Davis, CA, 1996 |
| University of Washington | Seattle, WA, 1999  |
| University of Toronto | Toronto, Canada, 2000 |
| University of Waterloo | Waterloo, Canada, 2000 |
| McMaster University | Canada 2006 |
| Vanderbilt University | Nashville, Tenn. 2005 |
| Lehigh University | Pennsylvania 2006 |
| Naval Research Laboratories | Washington, D.C. 1999, 2003 |
| Defense Advanced Research Project Agency | Arlington, VA, 2000-2003, 2011  |
| Intel Corporation | Santa Clara, CA, 2001, 2003 |
| Intel Corp. Research Center | Hillsboro, OR, 2004 |
| Novartis Institute for Biomedical Research | Cambridge, MA. USA, 2004 |
| Johnson & Johnson | New Jersey, 1995 |
| Du Pont, & Co. | Wilmington, DE, 2001, 2003 |
| Hercules, Inc. | Wilmington, DE, 1995 |
| Institute of Human Virology | Baltimore, MD, 2001, 2004 |
| BioWhittaker | Walkersville, MD, 2004 |
| Biosurface Technology | Cambridge, MA, 1995 |
| Convatec | Chester, UK, 1999 |
| Convatec, Skillman | New Jersey, USA, 1996 |
| Beckton-Dickinson  | Bedford, MA, 1995, 1998 |
| Acorda Therapeutics | New York, 1996-2001 |
| EngeneOS | Waltham, MA, 2001 |
| Mitsubishi Chemical Corp. | Yokohama, Japan, 1996-2005  |
| Takeda Pharmaceuticals | Osaka, Japan, 1999  |
| Menicon, Co. LTD | Nagoya, Japan, 1999-2007 |
| Teijin, Ltd. Hino | Tokyo, Japan, 2003, March 2010 |
| Mitsui Chemical Corp.  | Tokyo, Japan, 2007 |
| Dai Nippon Printing | Tokyo, Japan, 2007 |
| Perspective in Protein Engineering |  Montpelier, France, April 1996 |
| Perspective in Protein Engineering | Norwich, UK, June 1997 |
| Condensed Soft Matter Symposium | Tel Aviv, Israel, April 1997 |
| Peptide Engineering Symposium | Ikeda, Japan Oct. 1997 |
| Peptide Science & Technology | Kyoto, Japan Oct. 1997 |
| Active & Functional Biopolymers Symposium | Jerusalem, Israel, July 1998 |
| The Era of Biotechnology | Beer Sheva, Israel Oct. 2000 |
| Materials Research Society Fall Meeting | Boston, MA Dec. 2001 |
| Stem Cell & Progenitors: Biology and Applications | Cold Spring Harbor, Sept. NY 2001 |
| Fourth World Congress on Brian Injury | Torino, Italy, May 2001 |
| Engineering Tissue Growth International Conference | Pittsburgh, PA, May 2001 |
| The Frontier of Biomaterials, University of Delaware | Wilmington, DE, Oct. 2002 |
| Self-assembly: The Future | Massa Marittima, Italy, May 2002 |
| American Chemical Society Symposium, Biotechnology Section | Boston MA July 2002 |
| Third Conference on Regenerative Medicine | Washington, D.C. November 2002 |
| Biology of Chirality | Modena, Italy, April 2003 |
| Second International Conference on Biomaterials | Cardiff, Wales, UK April 2003 |
| Royal Society of Chemistry: Frontier of Chemical Biology | Manchester, UK, September 2003 |
| Glaucoma Foundation Think Tank Meeting | Boston, Sept. 2003, 2004, 2005, 2007 |
| Materials Research Society Fall Meeting | Boston, Dec. 2003 |
| Ophthalmology Annual Meeting | New York, January 2004  |
| Materials Research Society Spring Meeting |  San Francisco, CA March 2004 |
| 3rd General Congress of Japan Society of Regenerative Medicine,  | Tokyo March 2004  |
| 43rd Polymer Biomaterials: Biomimetic & Bioanalogous Systems | Prague, Czech July 2004, 2009 |
| 1st Nanobiotechnology Symposium | Singapore, Sept. 2004 |
| 7th New Jersey Biomaterials Conference, Rutgers University | New Jersey, Oct. 2004  |
| Glaucoma Foundation Think Tank Meeting  | New York, 2004, 2005 & 2007 |
| Observatoire des Micro & Nano Technologies – OMNT | Paris, France, Dec. 2004 |
| Shell Corporation, Amsterdam, The Netherlands | Dec. 2004 & January 2006 |
| American Chemical Society Spring Meeting | San Diego March 2005  |
| American Chemical Society Summer Meeting  |  Washington, D.C. August 2005 |
| Materials Research Society Spring Meeting | San Francisco, March 2005 |
| The Schrödinger Society Lecture | Vienna, Austria, April 2005 |
| 6th European Protein Society | Barcelona, Spain, May 2005 |
| *Protein Design* Workshop | Jerusalem, Israel, May 2005 |
| 4th Multidiscipinary workshop: *Self-assembling peptides & proteins* | Crete, Greece, June 2005 |
| The Nobel Symposium: "*Molecular oncology-from bench to bedside*” Karolinska Institute | Stockholm, Sweden, June 2005. |
| International Symposium on *Molecular Nanotechnology* | Nara, Japan, Nov. 2005 |
| European Synchrotron Radiation Facility | Grenoble, France, January 2006 |
| Shell Oil Research Center, Amsterdam | The Netherlands, January 2006 |
| Institute of Bioengineering & Nanotechnology | Singapore, Feb. 2006 |
| University of Indonesia | Jakarta, Indonesia. Feb. 2006 |
| 5th Annual Japan Society of Regenerative Medicine | Okayama, Japan, March 2006 |
| 29th Annual Japan Society for Future of Medicine | Tokyo, Japan, March 2006 |
| Nanotech 2006 | Boston, MA, USA, May 2006 |
| The Nobel Workshop “*Chemical Origins of Life*”  | Stockholm, Sweden, June 2006 |
|  “*What Is Life*?” Lecture Series, Karolinska Institute | Stockholm, Sweden, June 2006 |
| 1st International Conference of Nanobiomedical Technology & Structural Biology | Chengdu, China, 6/2006 |
| 29th European Peptide Symposium | Gdansk, Poland, Sept. 2006 |
| University of Cambridge, Department of Materials Science & Metallurgy  | Cambridge, UK, Oct. 2006 |
| University of Cambridge, Department of Biochemistry | Cambridge, UK, Oct. 2006 |
| Ludwig Boltzmann Inst. Experi. & Clinical Traumatology | Vienna, Austria, Nov. 2006 |
| MRC-Laboratory of Molecular Biology | Cambridge, UK, Jan. 2007  |
| University of Cambridge, Department of Chemistry | Cambridge, UK, Feb. 2007 |
| Nobel Workshop: “*Molecular Frontiers*”  | Stockholm, Sweden, February 2007 |
| Northern European Nanotechnology Conference | Helsinki, Finland, March 2007 |
| Department of Virology, University of Helsinki  | Helsinki, Finland, March 2007 |
| Helsinki Biomedical Graduate School, Univer. of Helsinki | Helsinki, Finland, March 2007 |
| Drug Delivery Technology Center, University of Helsinki | Helsinki, Finland, March 2007 |
| MIT Alumni Club-Florida Chapter | Tampa, FL, April 2007 |
| 7th European Protein Society | Stockholm-Uppsala, Sweden, May 2007 |
| High Content Analysis Conference | Vienna, Austria, June 2007 |
| Depart Cell Biology & Biophysics, University of Athens | Athens, Greece, July 2007 |
| Ipsen-Biomeasure, Inc. | Milford, MA, Oct. 2007 |
| MRS-Fall Symposium,  | Boston, November 2007 |
| Department of Chemistry, EPFL,  | Lausanne, December 2007 |
| *2nd Molecular Frontiers Symposium* | Singapore, January 2008 |
| University of Indonesia | Jakarta, January 2008 and August 2011 |
| MIT-Japan Symposium | Tokyo, 1-2008 |
| The Katzir Workshop: *The Unbearable Complexity of Life*, | Tel Aviv, Israel, 2-2008  |
| *Surfaces & Interfaces in Soft Matter & Biology*, Institute Laue-Langevin | Grenoble, France, 5-2008 |
| Karolinska Institute | Stockholm, Sweden, May 2008 |
| Uppsala University, Department of Pathology | Uppsala, Sweden, May 2008 |
| *Frontiers of Membrane Biology* | Mykonos, Greece, May 28-June 1, 2009 |
| *10th Cell-Biomaterials Interactions* | Porto, Portugal, June 22-26, 2009 |
| 73rd Prague Meeting on Macromolecular Science | Prague, Czech Republic, 5-9 July 2009 |
| *1st Nano Today Conference*, Singapore | August 2-5, 2009 |
| *56th Benzon Symposium: Funct & Pathog protein aggregation*,  | Copenhagen, 8/24-27, 2009 |
| *3rd Biomaterials Research & Development in South Africa*  | September 20-22, 2009 |
| Molecular Foundry Distinguished Lecture, Lawrence Berkeley National Laboratory | 3-2-2010 |
| European Materials Research Society | Strasbourg, France, June 6-10, 2010 |
| 2nd Conference on Chemical & Molecular Bioengineering | Singapore, 8-2010 |
| University of Århus | Århus, Denmark, September 2010 |
| International Workshop on Synthetic Biology | Copenhagen, Denmark, 8/25-27, 2010 |
| Workshop BOKU-Austrian Institute of Technology | Vienna, September 12-15, 2010 |
| President’s Lecture Series, CSIR | Pretoria, South Africa,9-2010 |
| US State Department Sponsored Lect at Univ. of Mauritius | Port Louis, Mauritius 9-2010 |
| Forschungszentrum Juelich | Juelich, Germany 5-2011 |
| Givandan AG | Dubendorf, Switzerland 6-2011 |
| China Biotechnology Vista | Taicang, China 7-2011 |
| Nanjing University | Nanjing, China 7-2011 |
| Bioengineering and Biotechnology Workshop | China University of Petroleum, 7-2011 |
| Harvard and Stanford Club and @America |  Jakarta, Indonesia, 8-2011 |
| Austrian Institute of Technology Nanobiotechnology  | Vienna, Austria, 9-2011 |
| Genomic Symposium | Rome, Italy, 10-2011 |
| Protein Engineering Symposium | Boston, MA 4-2012 |
| Nanyang Technological University | Singapore 5-2012 |
| China University of Petroleum | Qingdao, China, 7-2012 |
| University of Catania | Catania, Italy, 8-2012  |
| Gen9 | Cambridge, MA, 12-2012 |
| Membrane Proteins: Functions, Structures and Diseases | Taiwan, 5-2013 |
| Peptides & Proteins: Structure, Function & Biotechnology | Le Mans, France, 7-2013 |
| Alex in Wonderland II, MIT Media Lab | Cambridge, MA, 6-2014 |
| 10th Nanoscience & Nanotechnology of Conference | Istanbul, Turkey, 6-2014 |
| MIT ILP Wuxi Symposium | Wuxi, China, 5-2015 |
| MIT Sloan School Executive Education | Cambridge, MA, 8-2105 |
| Technology Forum 2015 | Alpbach, Tyrol, Austria |
| MIT Sloan School-Boeing Education for China | Cambridge, MA, 11-2015 |
| Tosoh Corporation | Tokyo, Japan, 11-2015 |
| University of Lund | Lund, Sweden, 6-2016 |
| Institute of Science & Technology | Vienna, Austria, 6-2017 |
| Austrian WKO, MIT ILP | Vienna, Austria, 6-2017 |
| MIT LIP Symposium | Shanghai, China, 10-2017 |
| Weizmann Institute of Science | Rehovot, Israel, 12-2017 |
| Tel Aviv University | Tel Aviv, Israel, 12-2017 |
| Israel Arts and Science Academy | Jerusalem, Israel, 12-2018 |
| Austrian WKO Symposium | Vienna, Austria, 4-2018 |
| Sanofi-Paris, France | Paris, France, 4-2018 |
| Louis Pasteur Institute | Paris, France, 4-2018 |
| 3rd Proteins and Peptides Conference | Geneva, Switzerland, 7-2018 |
| Proteins & Interfaces, University of Catania, | Catania, Sicily, Italy, 9-2018 |
| Beijing Zhongguancun Biotechnology Center MIT ILP | Beijing, China, 11-2018 |
| Shanghai Science and Technology Office special lecture | Shanghai, China, 11-2018 |
| Molecular Frontiers Symposium, MIT Media Lab | Cambridge, MA, 11-2018 |
| Russian Academy of Sciences, Institute of Bioorganic Chemistry | Moscow, Russia, 12-2018 |
| Russian Academy of Sciences, Institute of Protein Research | Pushchino, Russia, 12-2018 |
| Boston Asian Biomedical Association | Waltham, MA, 1-2019 |
| Baidu Internet Search Company, MIT ILP | Beijing, China, 4-2019 |
| China High Speed Train Company Research, MIT ILP | Liuzhou, China, 4-2019 |
| Wuhan University Alum Club, MIT  | Cambridge, MA, 4-2019 |
| Karolinska Institute, Sweden | Stockholm, Sweden, 5-2019 |
| Lund University, Sweden | Lund, Sweden, 5-2019 |
| ASST Niguarda Ca’Granda Hospital, | Milan, Italy, 6-2019 |
| ETH-Swiss Institute of Technology | Zürich, Switzerland, 6-2019 |
| Tongrentang Traditional Chinese Medicine, MIT ILP | Beijing, China 10-2019 |
| Defond Electech Co. Ltd, Hong Kong, MIT ILP | Hong Kong, 10-2019 |
| Midea Group, MIT ILP | Songde, China, 1-2020 |

World Stem Cell Summit Online 6-2021

Protein Society Symposium Online 7-2021

Chinese American Biotechnology Summit Online 10-2021

20th Erwin Schrödinger Colloquium, Austrian Academy of Sciences, Vienna, Austria 12-2021

Austrian Chamber of Commerce (WKO) Vienna, Austria 12-2021

Austrian Academy of Sciences Vienna, Austria 7-2022

Hebrew University Jerusalem, Israel 1-2023

Weizmann Institute of Science Rehovot, Israel 1-2023

Tel Aviv University Tel Aviv, Israel 1-2023

University of California at Los Angeles Los Angeles, California 2-2023

22. Invited special participant or session chair

|  |  |
| --- | --- |
| The Joint Nobel Symposia: *Energy in Cosmos, Molecules & Life*  |  Stockholm, 18-22 June 2005 |
| 1st Molecular Frontiers Symposium: *Nanotechnology* |  Stockholm, Sweden, 2-3/2/2007 |
| 3rd Molecular Frontiers Symp.: *Catalysis & Solar Energy*  | Stockholm, 3-5 June 2008 |
| 4th Molecular Frontiers Symposium: *Of Molecules & Mind* | Stockholm, 5-6 June 2009 |
| 5th Molecular Frontiers Symp.: *Alternative Energy & Molecules* | Stockholm, 2-4 June 2010 |
| 6th Molecular Frontiers Symp.: *The Chemical Origin of Life*  | Stockholm, 23-25 May 2011 |
| 7th Molecular Frontiers Symposium: *How Chemical Cycles Shape Our Planet*  | Stockholm, 5-2012 |
| 8th Molecular Frontiers Symposium: *The Extremes of Life*  | Stockholm, 5-2013 |
| 9th Molecular Frontiers Symposium: *The Brain: Achievements & Challenges* | Stockholm, 5-2014 |
| 10th Molecular Frontiers Symposium:  | Göteborg, Sweden 5-2015 |
| Future of Tumor Biology, Karolinska Institute,  | Stockholm, Sweden, June 16-18, 2015 |
| 11th Molecular Frontiers Symposium: *Water* | Tokyo, November 7-8, 2016 |
| 12th Molecular Frontiers Symposium: *Man-Tailored Biology*  | Stockholm, Sweden, May 22-23, 2017 |
| 14th Molecular Frontiers Symposium: *Planet Earth* | Stockholm, Sweden, May 9-10, 2019 |

**Other selected information from MIT**

1)[MIT Institutional Research Highlights](https://ir.mit.edu/research-highlights)(**Office of the Provost**, see 1993 & 2004)

2) [Peptide plus salt makes membrane](http://news.mit.edu/1993/peptide-0428)

3) [A new material for tissue engineering?](http://news.mit.edu/1994/lab-notes-0209)

4) [Self-assembling peptides](http://news.mit.edu/1997/scinews-1119)

5) [Researchers zero in on cell malfunction causing Alzheimer's](http://news.mit.edu/1998/alzheimers-0225)

6) [New biomaterial is able to support living nerve cells](http://news.mit.edu/2000/peptide-0607)

7) [Peptide/protein self-assembly applications touted at conference](http://news.mit.edu/2001/peptide-0912)

8) [New nanomaterial could slide into future soap](http://news.mit.edu/2002/nanosoap-0403)

9) [Technique could improve cartilage repair](http://news.mit.edu/2002/cartilage2)

10) [Cartilage technique holds promise for injuries, arthritis](http://news.mit.edu/2002/cartilage-0717)

11) [MIT senior lands story in journal, trip to D.C.](http://news.mit.edu/2003/dna-0514)

12) [A serendipitous discovery](http://news.mit.edu/2003/peptides-zhang)

13) [Special bond links scientists and their peptides: New scientific field poised for widespread applications](http://news.mit.edu/2003/peptides)

14) [Biology: the ultimate robotics](http://news.mit.edu/2003/peptides-sawyer)

15) [Green, leafy spinach may soon power more than Popeye's biceps](http://news.mit.edu/2004/green-leafy-spinach-may-soon-power-more-popeyes-biceps)

16) [Three at MIT conceive cell-shaped building](http://news.mit.edu/2006/cellbuilding)

17) [MIT researchers restore vision in rodents blinded by brain damage](http://news.mit.edu/2006/brainfix)

18) [MIT creates 3D scaffold for growing stem cells](http://news.mit.edu/2006/scaffold)

19) [Austrian honor for Zhang](http://news.mit.edu/2006/exner)

20) [Leading MIT scientists join effort to mentor youth](http://news.mit.edu/2006/frontiers-0927)

21) [Awards and Honors: Guggenheim Fellowship](http://news.mit.edu/2006/aandh-0524)

22) [MIT material stops bleeding in seconds: MIT unveils new treatment for wounds](http://news.mit.edu/2006/hemostasis)

23) [NMR advance relies on microscopic detector](http://news.mit.edu/2007/microdetector)

24) [Sniffing out success](http://news.mit.edu/2008/smell-0929)

25) [Preventing forest fires with tree power: Sensor system runs on electricity generated by trees](http://news.mit.edu/2008/trees-0923)

26) [New gel offers controlled drug delivery: Self-assembling hydrogel could help treat cancer and diabetes, among other diseases](http://news.mit.edu/2009/drug-delivery-0309)

27) [Zhang inducted into Austrian Academy of Sciences](http://news.mit.edu/2010/zhang-ah)

28) [Teaching algae to make fuel: New process could lead to production of hydrogen using bioengineered microorganisms.](http://news.mit.edu/2011/algae-fuel-0524)

29) [Harnessing nature’s solar cells: Photovoltaic panels made from plant material could become a cheap, easy alternative to traditional solar cells](http://news.mit.edu/2012/biosolar-0203).

30) [Growing a business, from the lab: MIT researcher Shuguang Zhang’s nanofiber-scaffold technology became the foundation for a biotech company.](http://news.mit.edu/2014/growing-a-business-from-the-lab-0203)

# 31) [Scientists alter membrane proteins to make them easier to study](http://news.mit.edu/2018/scientists-alter-membrane-proteins-make-them-easier-study-0827)

# 32) [Following a code for swapping amino acids makes membrane proteins water soluble](https://cen.acs.org/analytical-chemistry/structural-biology/Following-code-swapping-amino-acids/96/i35)

# 33) [Making chimeric versions of chemokine receptors](https://cen.acs.org/materials/inorganic-chemistry/Making-chimeric-versions-chemokine-receptors/97/i47)

# 34) [Proteins may halt the severe cytokine storms seen in Covid-19 patients](http://news.mit.edu/2020/proteins-cytokine-storms-covid-19-0416)

# 35) [Truncated immune system receptors may regulate cellular activity](https://news.mit.edu/2020/truncated-immune-system-receptors-may-regulate-cellular-activity-1028)

# 36) [New research transforms glucose transporter proteins to water-soluble form](https://www.eurekalert.org/news-releases/957063).

