Biographical Sketch

G. Marius Clore BSc, MD, PhD, DSc, MAE, FRSC, FMedSci, FRS

NIH Distinguished Investigator
Chief, Molecular and Structural Biophysics Section
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http://www.nasonline.org/member-directory/members/20033168.html (National Academy of Sciences web page)
https://royalsociety.org/people/G-Marius-Clore-25341/ (Royal Society web page)
https://acmedsci.ac.uk/fellows/fellows-directory/ordinary-fellows/fellow/G.%20Marius-Clore-0033z00002qIMnyAAG (UK Academy of Medical Sciences web page)
http://www.ae-info.org/ae/User/Clore_G._Marius (Academia Europaea web page)
https://en.wikipedia.org/wiki/G._Marius_Clore (Wikipedia profile)

Citizenship: Dual US and British

Education

1976: BSc. in Biochemistry (1st Class Honors), University College London.
1979: MD, University College Hospital Medical School, London.
1982: PhD in Physical Biochemistry, MRC National Institute for Medical Research, London.

Positions held

2021-: Chief, Molecular and Structural Biophysics Section (renamed from Protein NMR Section)
2011-: Appointed NIH Distinguished Investigator
2005-: Appointed to Title 42f, Band IV.
1996-2005: Senior Biomedical Research Service (SBRS)
1991-2021: Chief, Protein NMR Section
1988-: Senior Investigator, Laboratory of Chemical Physics, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH), Bethesda, Maryland, U.S.A.
1984-1988: Head of the Biological NMR Group, Max-Planck Institute for Biochemistry, Martinsried, Germany
1980-1984: Member of the Scientific Staff of the MRC at the National Institute for Medical Research, London, U.K.
1980: House Surgeon (general surgery), St. Charles Hospital (St. Mary's Hospital Group), London, U.K.
1979: House Physician (gastroenterology), University College Hospital, London, U.K.

Honors and Awards

2026: Stein & Moore Award of the Protein Society
2025: Elected Fellow of the American Physical Society
2024: Elected Fellow of the U.K. Academy of Medical Sciences (the U.K. equivalent of the US National Academy of Medicine)
2021: Biopolymers Murray Goodman Memorial Prize
2021: Khorana Prize of the Royal Society of Chemistry
2021: Awarded Honorary Doctor of Science (DSc.) from University College London (U.K.)
2021: NIDDK Nancy Nossal Mentorship Award
2020: Elected Fellow of the Royal Society (FRS)

Honors and Awards (cont.)

2020: NIDDK Director's Scientific Award (Scientific)
2020: Biophysical Society Innovation Award
2015: Elected Foreign Member of Academia Europaea (MAE)
2014: Elected Member, United States National Academy of Sciences
2013: Biochemical Society 2013 Centenary Award (previously known as the Jubilee Medal) and Sir Frederick Gowland Hopkins Memorial Lecture (U.K.)
2011: Royal Society of Chemistry Centenary Prize
2011: NIH Distinguished Investigator
2010: Elected Fellow of the American Academy of Arts and Sciences
2010: Hillebrand Award of the Washington Chapter of the American Chemical Society
2010: Elected Fellow of the Biophysical Society
2009: NIDDK Nancy Nossal Scientific Mentorship Award
2007: American Society for Biochemistry and Molecular Biology Citation for Distinguished Service in recognition of 10 years as a member of the Editorial Board of the Journal of Biological Chemistry.
2003: Elected Member, Lister Institute for Preventive Medicine (U.K.)
2001: Original member, Institute for Scientific Information (ISI) Highly Cited Researchers Database (Biology and Biochemistry Section and Chemistry Section)
1999: Elected Fellow of the American Association for the Advancement of Science (AAAS).
1996: The Harrington Lecture, National Institute for Medical Research (U.K.)
1993: Dupont-Merck Young Investigator Award of the Protein Society
1993: National Institutes of Health Lecture
1992: National Institutes of Health Director's Award
1991: Elected Fellow of the Washington Academy of Sciences
1990: Distinguished Young Scientist Award of the Maryland Academy of Sciences
1990: Scientific Achievement Award (Biological Sciences) of the Washington Academy of Sciences
1990: Elected Fellow of the Royal Society of Chemistry (U.K).
1982-1984: Lister Institute Research Fellow
1977: Francis Walsche Neurology Prize, University College Hospital Medical School, London.

Summary of Research Interests

My research is centered upon the development and application of nuclear magnetic resonance (NMR) to study the structure and dynamics of biological macromolecules and their complexes in solution. Particular emphasis is being placed on novel approaches to extending NMR to larger and more complex systems, especially complexes involved in signal transduction and transcriptional regulation, and exploring fundamental questions associated with protein dynamics, macromolecular interactions and recognition processes. Currently we are exploiting the unique properties of NMR to detect and characterize sparsely-populated states of macromolecules. Many important biological processes proceed through transient intermediate states that comprise only a small fraction of the overall population of a molecular system at equilibrium, and, as a result, are invisible (i.e. dark) to conventional biophysical techniques (including crystallography, cryo-electron microscopy and single molecule spectroscopies). These studies, which have provided new insights into macromolecular recognition and assembly, rely on the ability of NMR to amplify, through exchange phenomena, the effect of the invisible "dark" state on some NMR observable (generally a relaxation property) so that its footprint is readily observed in measurements on the NMR visible species. Examples of such phenomena that we have studied include the search processes whereby transcription factors locate their specific DNA binding site within an overwhelming sea of non-specific DNA; the role of encounter complexes in protein-protein association; the interplay of conformational selection and induced fit in protein-ligand interactions; transient interactions of intrinsically disordered and partially folded polypeptides with large megadalton macromolecular assemblies including highly heterogeneous aggregates involved in amyloid protofibril formation and the GroEL chaperonin molecular machine; transient interactions involving the very earliest stages in the formation of huntingtin protofibrils; and transient interdomain interactions and transient oligomerization of the Hsp40 chaperone DNAJB6b.

Membership of Editorial Boards

2026-: Member of the Editorial Board of the Journal of Biomolecular NMR
2024-: Editorial Board of Proceedings of the National Academy of Sciences
2022-2025: Co-Editor-in-Chief of Current Opinions in Structural Biology
2009-2014: Member of the Editorial Board of the Journal of Biological Chemistry
2003-: Member of the Editorial Board of PEDS (Protein Engineering, Design and Selection; previously Protein Engineering)
2003-2013: Series Editor for the Structural Biology, Chemical Biology and Informatics Section of the Royal Society of Chemistry Biomolecular Biosciences Book Series.
2002-2007: Member of the Editorial Board of the Journal of Biological Chemistry
1998-2018: Member of the Editorial Board of the Journal of Magnetic Resonance
1996-2001: Member of the Editorial Board of the Journal of Biological Chemistry
1994-1999: Member of the Editorial Board of Protein Science
1993-1997: Associate Editor of Protein and Peptide Letters
1993-: Member of the Editorial Board of Structure
1987-2003: Member of the Editorial Board of Protein Engineering

Membership of Societies

2024-: The U.K. Academy of Medical Sciences
2022-: The American Physical Society
2020-: The Royal Society
2015-: Academia Europaea
2014-: United States National Academy of Sciences
2010-: American Academy of Arts and Sciences
2008-: Biophysical Society
1991-: American Society for Biochemistry and Molecular Biology
1991-: Washington Academy of Sciences
1990-: Protein Society
1989-: American Chemical Society
1976-: Royal Society of Chemistry (U.K.)

Service

2024-: Member of the Editorial Board of Proceedings of the National Academy of Sciences.
2024-: Member of the Royal Society Research Grants Biological Sciences Panel.
2023-: Member of the NIDDK Group Structure Committee.
2023-: Member of the NIDDK Postdoctoral Recruitment Committee.
2022-: Member of the Royal Society Research System Community of Interest Working Group.
2022-2025: Co-Editor-in-Chief of Current Opinions in Structural Biology.
2022-2023: Member of the International Advisory Board of the Weizmann Institute
2021: Reviewer for the National Academies report on "Radioactive Sources: Applications and Alternative Technologies" from the National Academies' Nuclear and Radiation Studies Board.
2020: Reviewer for NIGMS National and Regional Resource (R24) Applications.
2020-: Reviewer for the National Academy of Sciences BBCSS report on "Consideration of Generational Issues in Workforce Management and Employment Practices"
2020-: NAS Reviewer Pool for Consensus Study Reports of the National Academies of Science, Engineering and Medicine.
2020-: Director, NIDDK Computational Biomolecular Magnetic Resonance Core.
2018-2020: European Science Foundation, College of Experts Reviewers
2017-2018: Member of the Macromolecular Dynamics Canvassing Committee of the Biophysics and Computational Biology Section (Class II, Section 29) of the National Academy of Sciences.
2016: Selection Committee for the Raymond and Beverley Sackler International Prize in the Physical Sciences.

Service (cont.)

2016-2018: Member of the NIH Intramural AIDS Targeted Antiviral Program Scientific Review Committee.
2009: Member of the UCLA-DOE Institute for Genomics and Proteomics Cooperative Agreement Review Panel.
2009: Member of Ad Hoc NIH Review Panel for High End NMR Shared Instrumentation Grants.1989- Adviser in the U.S. National Research Council (NRC) Research Associateship Program.
2007-: Member, Executive Committee of the NIH/Oxford/Cambridge Scholars Program.
2006-2011: Member of the Scientific Advisory Board of the Institute of Biotechnology at the University of Helsinki, Finland.
2005-2010: Member, RCSB (PDB-BMRB) Task Group on NMR
2002: Member, Special Emphasis Panel on 900 MHz NMR Spectrometers, Center for Scientific Review, NIGMS, NIH.
1998-2003: Member of NMR Task Force of the Research Collaboratory for Structural Bioinformatics.
1998-2004: Reviewer for the quinquennial assessment of the MRC Center for Protein Engineering at the University of Cambridge, U.K.
1998-2001: Co-Chair, Intramural NIH-Wide Structural Biology Interest Group.
1997-: Member of Review Panel for the John Sealy Memorial Endowment Fund for Biomedical Research.
1997: NIH Special Emphasis Panel on Structural Biology of AIDS Related Proteins.
1996-: Preceptorship in the Pharmacology Research Associate (PRAT) Program of the National Institute for General Medical Sciences.
1996-1998: Member, Membership Committee, Protein Society
1994-2000: Chairman, NIH-Wide Tenure and Promotions Committee for Computer Scientists.
1994: Special Reviewer, Biophysical Chemistry (BBCB) Study Section, NIH
1992: Subcommittee on Structural Biology of the Health and Environmental Research Advisory Committee of the Department of Energy.
1989: Special Study Section of the Division of Research Resources, Biomedical Research Technology Program, NIH.

Grant peer review for the following agencies:

National Science Foundation, National Institutes of Health, Medical Research Council (U.K.), Biotechnology and Biological Sciences Research Council (U.K.), Welcome Trust (U.K.), Cancer Research U.K., Royal Society (U.K.), Swiss National Foundation for the Advancement of Scientific Research, Belgium Incentive Program for Fundamental Research in the Life Sciences, Swedish Natural Science Research Council, Australian Research Council, Israel Science Foundation, United States-Israel Binational Science Foundation, Life Sciences Research Division of the Israeli Ministry, Science and Technology, ACS Petroleum Research Fund, French National Research Agency (ANR), European Research Council, Japanese Society for the Promotion of Science.

Mentoring

My overarching goal is to train my post-doctoral fellows to successfully make the transition from graduate student to fully independent principal investigator capable of running a successful and productive research group in academia or industry. Of my 54 former trainees, 30 are currently principal investigators (at the full, associate and assistant professor levels) at major research universities or institutions (both in the US and Europe), one was recently elected a Fellow of the Royal Society and another a Member of Academia Europeae. The remainder hold either senior positions in pharma/biotech (9), are staff scientists at the NIH or in Academia (11), science administrators (3) or work for National Public Radio as chief science editor (1).

Competitive Grants

1985-1989: Deutsche Forschungsgemeinschaft (DFG) Grant No. Gr 658/3-1 and Gr 658/3-2. Protein engineering: biochemical and molecular approaches in the study of DNA-protein interactions at the atomic level - The cAMP receptor protein (CRP or CAP) of *Escherichia coli*.

Competitive Grants (Cont.)

1985-1987: Deutsche Forschungsgemeinschaft (DFG) Grant No. Cl 86/1-1. Determination of three-dimensional structures of oligonucleotides and proteins in solution by NMR spectroscopy: refinement using restrained least squares minimization and restrained molecular dynamics.

1986-1988: Deutsche Forschungsgemeinschaft (DFG) Grant No. Gr 658/4-1. Stereochemistry and conformational flexibility of the binding of peptide inhibitors to serine and aspartyl proteases: combined use of two-dimensional transferred nuclear Overhauser enhancement spectroscopy, restrained molecular dynamics and computer graphics.

1987-1989: Bundesministerium fur Forschung und Technologie (BMFT) Grant No. 321-4003-0318909A (30/3003/68327). Eureka Project: Determination of three-dimensional structures of proteins, nucleic acids and their complexes in solution (DM 6.712 million).

1987-1990: AIDS Intramural Program of the Office of the Director of the NIH: Structural studies of viral proteins and their complexes with drugs and ligands by nuclear magnetic resonance ($1.0 million).

1991-1992: AIDS Intramural Program of the Office of the Director of the NIH: Structural Studies of AIDS proteins and other related proteins by Nuclear Magnetic Resonance ($1.0 million).

1993-1994: AIDS Intramural Program of the Office of the Director of the NIH: Structural Studies of AIDS proteins and other related proteins by Nuclear Magnetic Resonance ($1.1 million).

1995-1996: AIDS Intramural Program of the Office of the Director of the NIH: Structural Studies of AIDS proteins and other related proteins by Nuclear Magnetic Resonance ($2.15 million).

1997-1998: AIDS Intramural Program of the Office of the Director of the NIH: Structural Studies of AIDS proteins and other related proteins by Nuclear Magnetic Resonance ($1.225 million).

1999-2000: AIDS Intramural Program of the Office of the Director of the NIH: NMR Structural Studies of HIV Proteins Related to Fusion and Integration ($1.064 million).

2001-2002: AIDS Intramural Program of the Office of the Director of the NIH: NMR Structural Studies of HIV Proteins Related to Fusion and Integration ($890,000).

2003-2004: AIDS Intramural Program of the Office of the Director of the NIH: Structural and Biophysical Studies Aimed at Targeting HIV-1 gp41 and Integrase ($600,000).

2005-2006: AIDS Intramural Program of the Office of the Director of the NIH: Structural, Biophysical and Biochemical Studies Related to HIV-1Fusion, HIV-1 Protease and HIV-1 Integrase ($520,000).

2007-2008: AIDS Intramural Program of the Office of the Director of the NIH: Structural and Biophysical Studies of AIDS and AIDS Related Systems. ($877,200).

2009-2010: AIDS Intramural Program of the Office of the Director of the NIH: Structural and Biophysical Studies of AIDS and AIDS Related Systems. ($1.077 million).

2011-2012: AIDS Intramural Program of the Office of the Director of the NIH: NMR, EPR and X-ray scattering studies of HIV and HIV related proteins ($701,000)

2013-2014: AIDS Intramural Program of the Office of the Director of the NIH: NMR, EPR and X-ray scattering studies of HIV and HIV related proteins ($434,000)

2015-2016: AIDS Intramural Program of the Office of the Director of the NIH: NMR, EPR and X-ray scattering studies of HIV-1 Gag, reverse transcriptase and gp41 ($880,225)

2017-2018: AIDS Intramural Program of the Office of the Director of the NIH: Structure, dynamics and interactions of HIV-1 proteins by NMR and EPR ($929,000).

2019-2020: Office of AIDS Research NIH Strategic Funds: Structure, dynamics and interactions of HIV-1 reverse transcriptase and mechanism of viral entry by NMR and EPR spectroscopy ($2.6 million)

2022: Office of AIDS Research NIH Innovation Funds: Structure and dynamics of transient, sparsely-populated states of HIV-1 proteins as novel targets for drug design ($605,000)

2023: Office of AIDS Research NIH Innovation Funds: Mechanism and kinetics of liquid-liquid phase separation of HIV-1 nucleocapsid studied by pressure-jump NMR spectroscopy ($1.455 million)

Invited lectures
Over 200 invited lectures at national and international conferences.

25 most significant publications (out of a total of 566 publications)
Total citation count: > 95,300 (Google scholar)
***h* index (number of papers *h* cited *h* or more times): 145 (Google Scholar)**

Oschkinat, H., Griesinger, C., Kraulis, P.J., Sørensen, O.W., Ernst, R.R., Gronenborn, A.M. & **Clore, G.M.** (1988) Three-dimensional NMR spectroscopy of a protein in solution. *Nature 332*, 374-376.

Clore, G.M. & Gronenborn, A.M. (1991) Structures of larger proteins in solution: three- and four-dimensional heteronuclear NMR spectroscopy. *Science 252*, 1390-1399.

Lodi, P.J., Garrett, D.S., Kuszewski, J., Tsang, M.L.S., Weatherbee, J.A., Leonard, W.J., Gronenborn, A.M. & **Clore, G.M.** (1994) High resolution solution structure of the β chemokine hMIP-1β by multi-dimensional NMR. *Science 263*, 1762-1767.

Garrett, D.S., Seok, Y.-J., Peterkofsky, A., Gronenborn, A.M. & **Clore, G.M.** (1999) Solution structure of the 40,000 M_r phosphoryl transfer complex between Enzyme I and HPr. *Nature Struct. Biol. 6*, 166-173.

Williams, D.C., Cai, M. & **Clore, G.M.** (2004) Molecular basis for synergistic transcriptional activation by Oct1 and Sox2 revealed from the solution structure of the 42 kDa Oct1·Sox·*Hoxb1*-DNA ternary transcription factor complex. *J. Biol. Chem. 279*, 1449-1457.

Iwahara, J. & **Clore, G. M.** (2006) Detecting transient intermediates in macromolecular binding by paramagnetic NMR. *Nature 440,* 1227-1230.

Iwahara, J., Zwecksetter, M. & **Clore, G.M.** (2006) NMR structural and kinetic characterization of a homeodomain diffusing and hopping on non-specific DNA. *Proc. Natl. Acad. Sci. U.S.A. 103*, 15062-15067.

Tang, C., Iwahara, J. & **Clore, G.M.** (2006) Visualization of transient encounter complexes in protein-protein association. *Nature 444*, 383-386.

Tang, C., Schwieters, C.D. & **Clore, G.M.** (2007) Open to closed transition in apo maltose-binding protein visualized by paramagnetic NMR. *Nature 449,* 1878-1882.

Tang, C., Louis, J.M., Aniana, A., Suh, J.-Y. & **Clore, G.M.** (2008) Visualizing transient events in amino-terminal auto-processing of HIV-1 protease. *Nature 455,* 693-696.

Clore, G.M. & Iwahara, J. (2009) Theory, practice and applications of paramagnetic relaxation enhancement for the characterization of transient low-population states of biological macromolecules and their complexes. *Chem. Rev. 109*, 4108-4139.

Schwieters, C.D., Suh, J.-Y., Grishaev, A., Ghirlando, R., Takayama, Y. & **Clore, G.M.** (2010) Solution structure of the 128 kDa Enzyme I dimer from *Escherichia coli* and its 146 kDa complex with HPr using residual dipolar couplings and small and wide angle X-ray scattering. *J. Am. Chem. Soc. 133,* 13026-13045.

Fawzi, N.L., Doucleff, M., Suh, J.-Y. & **Clore, G.M.** (2010) Mechanistic details of a protein-protein association pathway revealed by paramagnetic relaxation enhancement titration measurements. *Proc. Natl. Acad. Sci. U. S. A. 107*, 1379-1384.

Fawzi, N.L., Ying, J., Ghirlando, R, Torchia, D.A. & **Clore, G.M.** (2011) Atomic resolution dynamics on the surface of amyloid β protofibrils probed by solution NMR. *Nature 480,* 268-272.

Libich, D.S, Tugarinov, V. & **Clore, G.M.** Intrinsic unfoldase/foldase activity of the chaperonin GroEL directly demonstrated using multinuclear relaxation-based NMR. (2015) *Proc. Natl. Acad. Sci. U. S. A. 112,* 8817-8823.

Schmidt, T. Wälti, M.A., Baber, J.L., Hustedt, E.J. & **Clore, G.M.** (2016) Long distance measurements up to 160 Å in the GroEL tetradecamer using Q-band DEER EPR spectroscopy. *Angewandte Chemie Int. Ed. 55*, 15905-15909.

Kotler, S.A, Tugarinov, V., Schmidt, T., Ceccon, A., Libich, D.S., Ghirlando, R., Schwieters, C.D. and **Clore, G.M.** (2019) Probing initial transient oligomerization events facilitating Huntingtin fibril nucleation at atomic resolution by relaxation-based NMR. *Proc. Natl. Acad. Sci. U. S. A. 116*, 3562-3571.

Karamanos, T.K., Tugarinov, V. & **Clore, G.M.** (2019) Unraveling the structure and dynamics of the human DNAJB6b chaperone by NMR reveals insights into Hsp40-mediated proteostasis. *Proc. Natl. Acad. Sci. U.S.A. 116*, 21529-21538.

Ceccon, A., Tugarinov, V., Ghirlando, R. & **Clore, G.M.** (2020) Abrogation of pre-nucleation, transient oligomerization of the Huntingtin exon-1 protein by human profilin-I. *Proc. Natl. Acad. Sci. U.S.A. 117*, 5844-5852.

Okuno, Y., Yoo, J., Schwieters, C.D., Best, R.B.. Chung, H.-S., **Clore, G.M.** (2021) Atomic view of cosolute-induced protein denaturation probed by NMR solvent paramagnetic relaxation enhancement. *Proc. Natl. Acad. Sci. U.S.A. 118,* e2112021118.

Schmidt, T., Heon, J., Ya, W.M., Schwieters, C.D., Tycko, R. & **Clore, G.M.** (2022) Time-resolved DEER EPR and solid-state NMR afford kinetic and structural elucidation of substrate binding to Ca^{2+}-ligated calmodulin. *Proc. Natl. Acad. Sci. U.S.A. 119*, e2122308119.

Ceccon, A., Tugarinov, V., Torricella, F. & **Clore, G.M.** (2022) Quantitative NMR analysis of the kinetics of prenucleation oligomerization and aggregation of pathogenic huntingtin exon-1 protein. *Proc. Natl. Acad. Sci. U.S.A. 119*, e2207690119

Ghosh, S., Tugarinov, V. & **Clore, G.M.** (2023) Quantitative NMR analysis of the mechanism and kinetics of chaperone Hsp104 action on amyloid Aβ42 aggregation and fibril formation. *Proc. Natl. Acad. Sci. U.S.A. 120*, e2305823120

Torricella, F., Tugarinov, V. & **Clore, G.M.** (2024) Nucleation of Huntingtin aggregation proceeds via conformational conversion of pre-formed, sparsely-populated tetramers. *Sci. Adv.* e2309217.

Cai, M., Ying, J., Lopez, J.M., Huang, Y. & **Clore, G.M.** (2025) Unraveling structural transitions and kinetics along the fold switching pathway of the RfaH C-terminal domain using exchange-based NMR. *Proc. Natl. Acad. Sci. U.S.A. 122*, e2506441122.

Former Trainees

- **Francesco Torricella, PhD** (Post-doc 2023-2025): Member of the Scientific Staff, Instituto Italiano di Tecnologia, Genoa, Italy.
- **Nina Kubatova, PhD** (Post-doc 2020-2025): Staff Scientist, Laboratory of Chemical Physics, NIDDK, NIH
- **Yusuke Okuno, PhD** (Post-doc, 2018-2023, Nancy Nossal Fellow): Assistant Professor, Department of Chemistry, Washington University, St Louis
- **Alberto Ceccon, PhD** (Post-doc, 2015-2022, Nancy Nossal Fellow): Associate Professor, Department of Chemistry, Free University of Bozen-Bolzano, Italy.
- **Marielle Wälti, PhD** (Post-doc, 2015-2021, Nancy Nossal Fellow and K99 Awardee): Assistant Professor, Department of Chemistry and Biochemistry, University of Arizona, Tucson (from Jan 2022).
- **Thomas Schmidt PhD** (Post-doc, 2015-2020): Staff Scientist, Laboratory of Chemical Physics, NIDDK, NIH.
- **Theodoros Karamanos PhD** (Post-doc and Nancy Nossal Fellow, 2017-2020): Assistant Professor and Welcome Trust/Royal Society Sir Henry Dale Fellow, Department of Life Sciences, Imperial College London (U.K.)
- **Sam Kotler, PhD** (Post-doc and PRAT Fellow, 2015-2018): Staff Scientist, National Centre for Advancing Translational Sciences (NCATS), National Institutes of Health.
- **Lalit Deshmukh PhD** (Post-doc and Nancy Nossal Fellow, 2011-2017): Associate Professor, Department of Chemistry, University of California San Diego (UCSD).
- **David Libich PhD** (Post-doc and Nancy Nossal Fellow 2011-2017): Asociate Professor, Department of Biochemistry, University of Texas Health Science Center at San Antonio.
- **Vincenzo Venditti PhD** (Post-doc 2009-2014): Associate Professor, Department of Chemistry, Iowa State University.
- **Nicholas Anthis, PhD** (Post-doc and Nancy Nossal Fellow, 2009-2014): Program Officer, University of California Research Initiatives, Research Grants Program Office, University of California Office of the President (2016-). Previously, AAAS Science and Technology Policy Fellow, US Agency for International Development, Washington DC (2014-2016);

Former trainees (cont.)

- **Nicolas Fawzi PhD** (Post-doc 2008-2012 and Nancy Nossal Fellow): Full Professor, Department of Molecular Pharmacology, Physiology and Biotechnology, Brown University.
- **Yuki Takayama PhD** (Post-doc 2009-2012): Senior Scientist, Kyowa Kirin Company, Japan; previously Assistant Professor, Department of System Sciences, Kyoto University, Japan.
- **Young-Sang Jung PhD** (Post-doc 2006-2010): Senior Scientist, Department of Medicinal Chemistry, Chong Kun Dang Pharmaceutical Corporation, South Korea; previously Assistant Professor, Korea Basic Science Institute, South Korea.
- **Michaeleen Doucleff, PhD** (Post-doc and Nancy Nossal Fellow, 2007-2009): Editor and reporter for the Science Desk at National Public Radio (2011-), and New York Times best-selling author. Previously, Scientific Editor, Cell, Cambridge, MA (2009-2011).
- **Jeong-Yong Suh, PhD** (Post-doc 2003-2008): Associate Professor, Seoul National University, Korea.
- **Kaifeng Hu, PhD** (Post-doc 2004-2008): Full Professor, Kunmin Institute of Botany, Chinese Academy of Sciences, Yunnan, China.
- **Jun Hu, PhD** (Post-doc 2004-2007): Senior Scientist, AstraZeneca, Waltham, Massachusetts.
- **Chun Tang, PhD** (Post-Doc 2003-2008): Distinguished Professor, Peking University and Chinese Academy of Sciences; previously Full Professor and HHMI International Scholar, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China.
- **Junji Iwahara, PhD** (Post-Doc 2002-2006): Full Professor, Department of Biochemistry and Molecular Biology, University of Texas Medical Branch, Galveston, Texas.
- **David Williams, MD, PhD** (Post-doc and PRAT Fellow, 2001-2005): Full Professor, Department of Pathology and Laboratory Medicine, University of North Carolina School of Medicine, Chapel Hill
- **Michal Komlosh, PhD** (Post-doc, 2001-2004): Staff scientist, NICHD, NIH.
- **Gabriel Cornilescu, PhD** (Post-doc and PRAT Fellow, 2000-2002): Senior Scientist, Leidos Biomedical Research Inc. at Frederick National Laboratory for Cancer Research; previously Associate Researcher, Nuclear Magnetic Resonance Facility (NMRFAM), University of Wisconsin, Madison.
- **Gus Wang, PhD** (Post-doc 1998-2002): Full Professor, Department of Pathology and Microbiology, Eppley Cancer Institute, University of Nebraska Medical Center.
- **Elliott Gozansky, MD, PhD** (Post-Doc, 1998-2000): Clinical Associate Professor in Cardiothoracic Radiology at NYU Langone Health.
- **Demetrios Braddock, MD, PhD** (Post-doc and Pathology Resident, NCI 1997-2000): Full Professor, Department of Pathology, Yale University.
- **Elizabeth Murphy, PhD** (Graduate student 1995-1999): Chief, Clinical Informatics Section, Office of the Clinical Director, National Eye Institute, NIH.
- **Kai Huang, PhD** (Post-doc 1997-1999): NMR facility manager, Structural Biology NMR Facility, Northwerstern University.
- **Michael Caffrey, PhD** (Post-doc, 1996-1999) Full Professor, University of Illinois at Chicago.
- **Carole Bewley, PhD** (Post-doc and Cancer Research Institute Fellow, 1995-1999): Senior Investigator, Section Chief and Laboratory Chief, Laboratory of Bioorganic Chemistry, NIDDK.
- **Silke Schumaker, PhD** (Post-doc 1995-1997): CEO, Anadys Pharmaceuticals GmBH, Heidelberg, Germany.
- **Mats Wikström, PhD** (Post-doc 1995-1997): Senior Scientist, Amgen, Thousand Oaks, California; previously Full Professor, Faculty of Health Sciences, University of Copenhagen.
- **Mary Starich, PhD** (Post-doc 1995-1998): Staff scientist, Laboratory of Structural Biophysics, NHLBI.
- **John Kuszewski, PhD** (graduate student 1994-1998, Post-doc 1998-2001): Staff scientist, Center for Information Technology, NIH.

Former trainees (cont.)

- **Logan Donaldson, PhD** (Post-doc 1996-1998): Full Professor, Department of Biology, York University, Toronto, Canada.
- **Mengli Cai, PhD** (Post-doc, 1996-1998): Staff scientist, Laboratory of Chemical Physics, NIDDK (2001-); senior scientist, Abbott Laboratories (1999-2001).
- **Jeff Huth, MD, PhD** (Post-doc, 1994-1997): Founder and CEO of ScopiaRx, LLC, Ohio. Previously, Senior Scientist, Abbott Laboratories.
- **Wm. Dexter Kennedy, MD** (Post-doc 1994-1996): Senior Director, Alios BioPharma, San Francisco.
- **James Ernst, PhD** (Pre-doctoral student, 1994-1995): Senior Scientist, Genentech, San Francisco.
- **Robert Clubb, PhD** (Post-doc and Leukemia Society of America Fellow, 1993-1996): Full Professor, Department of Chemistry and Biochemistry, UCLA, Los Angeles.
- **Jun Qin, PhD** (Post-doc, 1993-1996): Full Professor of Molecular Medicine, Lerner Research Institute, Cleveland Clinic Foundation, Cleveland.
- **Milton Werner, PhD** (Post-doc, 1991-1996): Founder, President and CEO, Inhibikase Therapeutics, Inc, Atlanta, Georgia (2008-present). Previously, Associate Professor, Rockefeller University (1996-2007); and Vice President, Discovery Research, Celtaxsys Inc, Georgia (2007-2008).
- **Patricia Lodi LiWang**, PhD (Post-doc and Cancer Research Institute Fellow, 1991-1995): Full Professor, University of California Merced.
- **Bruce Grasberger, PhD** (Post-doc, 1989-1993): Senior Scientist, Johnson & Johnson, New Brunswick, Pennsylvania.
- **James Omichinski, PhD** (Post-doc, Staff fellow and Senior Staff fellow, 1989-1997): Full Professor, University of Montreal, Canada.
- **Dan Garrett, PhD** (Post-doc 1990-1995): Staff scientist, Laboratory of Chemical Physics, NIDDK.
- **Bob Powers, PhD** (Post-doc 1990-1993): Full Professor, University of Nebraska.
- **Mark Robien, MD** (Howard Hughes medical student, 1990-1992): Medical Officer, Division of Allergy, Immunology and Transplantation, NIAID, NIH.
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- **Total citation count for articles published during the period Jan 1977 to June 2026: >94,000 from Google Scholar (https://scholar.google.com/citations?user=5KmWmkEAA AAJ&hl=en).**

- ***h*-index: 145** from Google Scholar [the *h*-index is defined as the number of papers *h* having ≥*h* citations; J. E. Hirsch (2005) *Proc. Natl. Acad. Sci. U.S.A. 102*, 16569-16572; P. Ball (2005) *Nature 436*, 900].

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B. Highly Cited Publications (≥ 100 citations)

Greater than 1000 citations

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