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Stewart Shuman, MD, PhD
Simon H. Rifkind Chair

The goal of my research is to understand the mechanisms and structures of enzymes that perform and regulate essential nucleic acid transactions. My research integrates diverse experimental approaches (including virology, biochemistry, structural biology, and genetics) and applies them to model systems ranging from viruses to bacteria to fungi to mammalian cells. An explicit aim is to identify novel enzymatic targets for treatment of human diseases.

[View Lab Overview \(https://www.mskcc.org/research/ski/labs/stewart-shuman/overview\)](https://www.mskcc.org/research/ski/labs/stewart-shuman/overview)

Research Projects

- [RNA ligases and RNA repair](#)
- [DNA Damage Recognition and Repair by DNA Ligases](#)
- [Deciphering the RNA Polymerase II CTD Code](#)



Publications Highlights

Schwer, B., Bitton, D.A., Sanchez, A.M., Bähler, J., and Shuman, S. (2014) Individual letters of the RNA polymerase II CTD code govern distinct gene expression programs in fission yeast. *Proc. Natl. Acad. Sci. USA* 111, 4185-4190.

Chakravarty, A.K., Smith, P., Jalan, R., and Shuman, S. (2014) Structure, mechanism, and specificity of a eukaryal tRNA restriction enzyme involved in self-nonsel self discrimination. *Cell Reports* 7, 339-347.

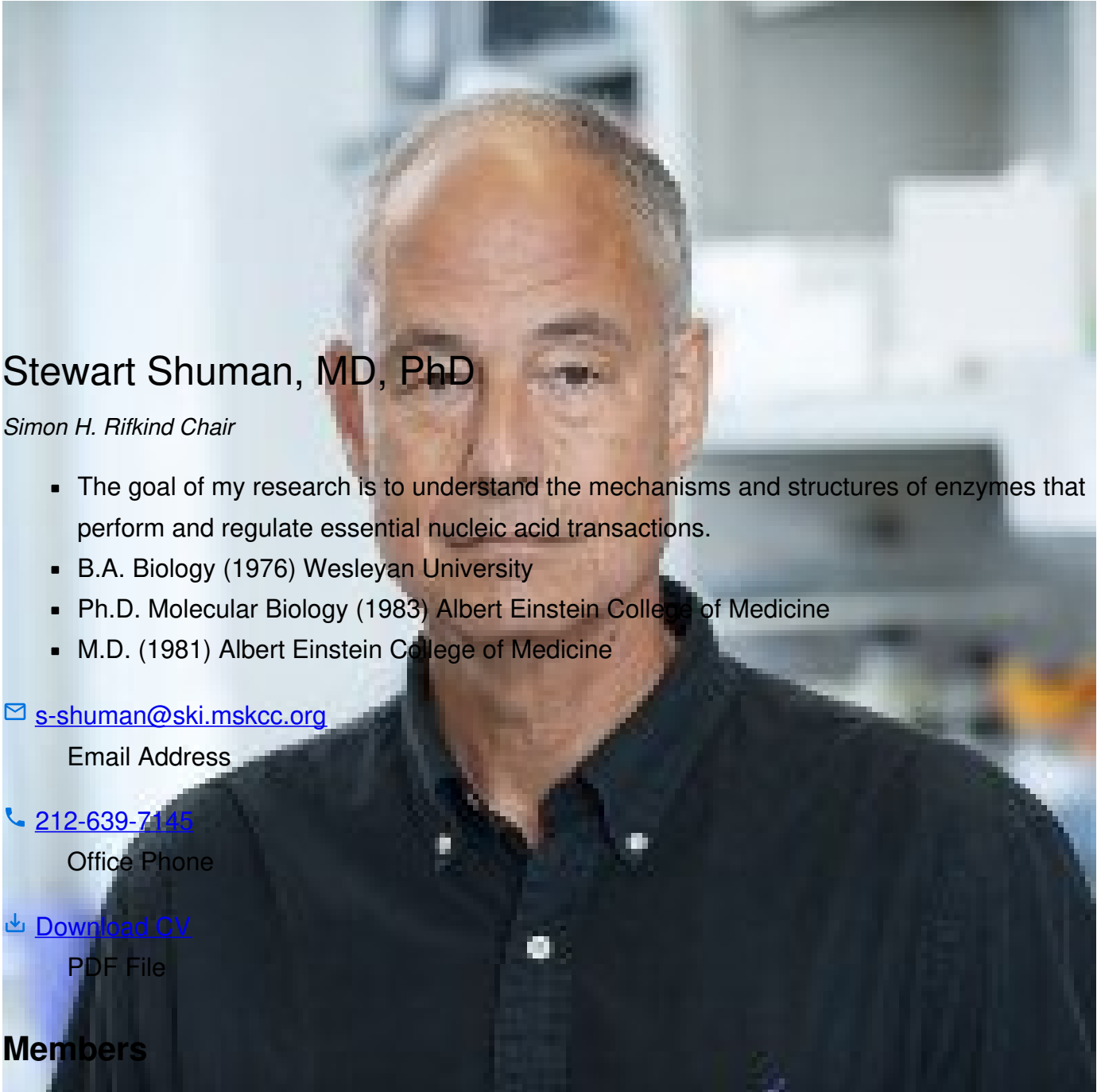
Das, U., Chauleau, M., Ordonez, H., and Shuman, S. (2014) Impact of DNA 3'pp5'G capping on repair reactions at DNA 3' ends. Proc. Natl. Acad. Sci. USA 111, 11317-11322.

Unciuleac, M.C., Goldgur, Y., and Shuman, S. (2015) Structure and two-metal mechanism of a eukaryal nick-sealing RNA ligase. Proc. Natl. Acad. Sci. USA 112, 13868-13873.

Unciuleac, M.C., Goldgur, Y., and Shuman, S. (2017) Two-metal versus one-metal mechanisms of lysine adenylylation by ATP-dependent and NAD⁺-dependent polynucleotide ligases. Proc. Natl. Acad. Sci USA 114, 2592-2597.

[View All Publications](#)

People



Stewart Shuman, MD, PhD

Simon H. Rifkind Chair

- The goal of my research is to understand the mechanisms and structures of enzymes that perform and regulate essential nucleic acid transactions.
- B.A. Biology (1976) Wesleyan University
- Ph.D. Molecular Biology (1983) Albert Einstein College of Medicine
- M.D. (1981) Albert Einstein College of Medicine

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Members



Jill Babor



Keith Bartlett
Administrative Assistant

Lab Affiliations

Achievements

- Member of the American Academy of Arts and Sciences (2015)
- Fellow of the American Academy of Microbiology (2013)
- NIH MERIT Award (2007)



Shreya Ghosh
Senior Research Scientist



Aleksei Innokentev
Research Scholar

- American Cancer Society Research Professor (2005 -)
- American Society for Virology, Wolfgang Joklik Lectureship (2004)

Open Positions

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Ana M. Sanchez
GSK Graduate Student



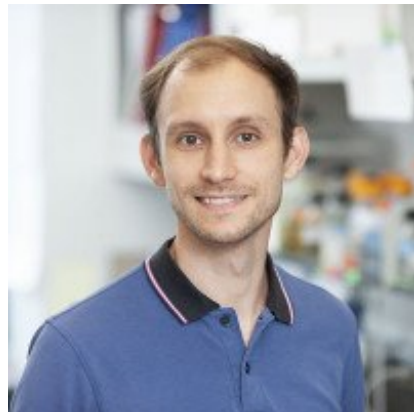
Apurba Sarkar
Research Scholar

To learn more about compensation and benefits for postdoctoral researchers at MSK, please visit [Resources for Postdocs](#)

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Disclosures

Members of the MSK Community often work with pharmaceutical, device, biotechnology, and life sciences companies, and other organizations outside of MSK, to find safe and effective cancer treatments, to improve patient care, and to educate the health care community. These activities outside of MSK further our mission, provide productive collaborations, and promote the practical application of scientific discoveries.

MSK requires doctors, faculty members, and leaders to report (“disclose”) the relationships and financial interests they have with external entities. As a commitment to transparency with our community, we make that information available to the public. Not all disclosed interests and

relationships present conflicts of interest. MSK reviews all disclosed interests and relationships to assess whether a conflict of interest exists and whether formal COI management is needed.

Stewart Shuman discloses the following relationships and financial interests:

- Cymba X, LLC
Equity; Professional Services and Activities (Uncompensated)
- Thermo Fisher Scientific, Inc
Intellectual Property Rights

The information published here is a complement to other publicly reported data and is for a specific annual disclosure period. There may be differences between information on this and other public sites as a result of different reporting periods and/or the various ways relationships and financial interests are categorized by organizations that publish such data.

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