

Stanford



Joseph (Jody) Puglisi

Jauch Professor and Professor of Structural Biology

CONTACT INFORMATION

- **Alternate Contact**

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Administration and Organizational Affairs

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Bio

ACADEMIC APPOINTMENTS

- Professor, Structural Biology
- Member, Bio-X

ADMINISTRATIVE APPOINTMENTS

- Member, Editorial Board, Proceedings of the National Academies of Science, (2017- present)
- Editor, Biophysical Journal, (2014- present)
- Member, Advisory Editorial Board, EMBO reports, (2011- present)
- Editor, Structure, (2007- present)
- Chair, Dept of Structural Biology, Stanford University School of Medicine, (2004-2014)
- Associate Chair, Dept of Structural Biology, Stanford University School of Medicine, (1997-2004)
- Director, Stanford Magnetic Resonance Laboratory, Stanford University School of Medicine, (1997- present)
- Member, Postdoctoral Affairs Committee, Stanford University School of Medicine, (2001-2002)
- Chair, Postdoctoral Affairs Committee, Stanford University School of Medicine, (2002-2005)
- Member, NIH BBCA Study Section, (2003-2007)
- Senior Editor, Structure, (2003-2007)
- Director, Int'l School of Biological Magnetic Resonance, EMFCSC, Erice, Italy, (2003- present)
- Chair, Provost's Advisory Board for Postdoctoral Affairs, Stanford University, (2005-2008)
- Chair, University Committee on Postdoctoral Affairs, Stanford University, (2008-2009)

HONORS AND AWARDS

- Member, National Academy of Sciences (2014)
- Merit Award, NIH (2011)
- NIH Director's Transformative R01 (T-R01) Program Award, NIH (2011)

- Alfred P. Sloan Research Fellow, Alfred P. Sloan Research Foundation (1997)
- David and Lucille Packard Fellow, David and Lucille Packard Fellowship in Science and Engineering (1994-99)
- Teacher Scholar, Camille and Henry Dreyfus Teacher Scholar Award (1993)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Council member, Biophysical Society (2014 - 2017)

PROFESSIONAL EDUCATION

- Ph.D., Univ of California, Berkeley , Biophysical Chemistry (1989)
- B.A., The Johns Hopkins University , Chemistry (1984)

COMMUNITY AND INTERNATIONAL WORK

- ISBMR, 16th Course: Frontiers of Biophysics, Erice, Sicily, Italy
- ISBMR, 15th Course: Biophysics and Molecular Structure, 20-28 May 2017, Erice, Sicily
- ISBMR, 14th Course: Future of Molecular Biophysics, 7-17 May 2016, Erice-Sicily, Italy
- ISBMR, 13th Course: Future of Biophysics and Structural Biology, 31 Jul-9 Aug 2014, Erice-Sicily, Italy
- ISBMR, 12th Course: Future of Biophysics, 9-19 June 2013, Erice-Sicily, Italy
- ISBMR, 11th Course: Frontiers of Biophysics and Structural Biology, 11-21 June 2012, Erice-Sicily, Italy
- ISBMR, 10th Course: Biophysics and Structure to Counter Threats and Challenges, 22 June-2 July 2010, Erice-Sicily, Italy
- ISBMR, 9th Course: Biophysics and Structure, 22 June-2 July 2009, Erice-Sicily, Italy
- ISBMR, 8th Course: Biophysics and the Challenges of Emerging Threats, 19-30 June 2007, Erice-Sicily, Italy
- ISBMR, 7th Course: Structure & Biophysics, 22 Jun-3 Jul 2005, Erice-Sicily, Italy
- ISBMR, 6th Course: Structure, Dynamics, & Function of Biological Macromolecules, 10-22 July 2003, Erice-Sicily, Italy
- ISBMR, 5th Course: Protein Structure, Dynamics, Genomics and Function, 5-15 June 2001, Erice

LINKS

- Puglisi Laboratory Homepage: <http://www.puglisilab.org>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The Puglisi group investigates the role of RNA in cellular processes and disease. Our goal is to understand RNA function in terms of molecular structure and dynamics using a variety of biophysical and biological tools. We use nuclear magnetic resonance (NMR) spectroscopy to determine structures of biological molecules, and integrate structural understanding into further mechanistic and functional studies. We investigate dynamics using single-molecule approaches. Our goal is a unified picture of structure, dynamics and function. We are currently focused on the mechanism and regulation of translation, and the role of RNA in viral infections. A long-term goal is to target processes involving RNA with novel therapeutic strategies.

Teaching

COURSES

2020-21

- Methods in Molecular Biophysics: BIOPHYS 242, SBIO 242 (Win)

2018-19

- Methods in Molecular Biophysics: BIOPHYS 242, SBIO 242 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Naomi Genuth, Ramya Rangan, Eduardo Tassoni Tsuchida

Postdoctoral Faculty Sponsor

Miri Krupkin, Christopher Lapointe, Michael Lawson, Jinfan Wang

Doctoral Dissertation Advisor (AC)

Betty Ha

Doctoral Dissertation Co-Advisor (AC)

Carlos Alvarado, Niki Goularte, Lynnette Jackson

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Bioengineering (Phd Program)
- Biophysics (Phd Program)
- Chemical and Systems Biology (Phd Program)
- Microbiology and Immunology (Phd Program)
- Structural Biology (Phd Program)

Publications

PUBLICATIONS

- **Pressure Effects on the Conformational Transitions of tRNA(Lys3)**
Wang, J., Harish, B., Larsen, K., Puglisi, J. D., Gillilan, R., Royer, C. A.
CELL PRESS.2021: 315A
- **N 6-Methyladenosines in mRNAs reduce the accuracy of codon reading by transfer RNAs and peptide release factors.** *Nucleic acids research*
Jeong, K., Indrisiunaite, G., Prabhakar, A., Puglisi, J. D., Ehrenberg, M.
2021
- **Dynamic competition between SARS-CoV-2 NSP1 and mRNA on the human ribosome inhibits translation initiation.** *Proceedings of the National Academy of Sciences of the United States of America*
Lapointe, C. P., Grosely, R. n., Johnson, A. G., Wang, J. n., Fernández, I. S., Puglisi, J. D.
2021; 118 (6)
- **Mechanisms that ensure speed and fidelity in eukaryotic translation termination.** *Science (New York, N.Y.)*
Lawson, M. R., Lessen, L. N., Wang, J., Prabhakar, A., Corsepius, N. C., Green, R., Puglisi, J. D.
2021; 373 (6557): 876-882
- **Structural basis for the transition from translation initiation to elongation by an 80S-eIF5B complex.** *Nature communications*
Wang, J., Wang, J., Shin, B., Kim, J., Dever, T. E., Puglisi, J. D., Fernandez, I. S.
2020; 11 (1): 5003
- **Polysomes Bypass a 50 Nucleotide Coding Gap less Efficiently than Monosomes Due to Attenuation of a 5' mRNA Stem Loop and Enhanced Drop-off.** *Journal of molecular biology*
O'Loughlin, S., Capece, M. C., Klimova, M., Wills, N. M., Coakley, A., Samatova, E., O'Connor, P. B., Loughran, G., Weissman, J. S., Baranov, P. V., Rodnina, M. V., Puglisi, J. D., Atkins, et al
2020
- **Transient Protein-RNA Interactions Guide Nascent Ribosomal RNA Folding**
Duss, O., Stepanyuk, G. A., Puglisi, J. D., Williamson, J. R.
CELL PRESS.2020: 334A

- **A memory of eS25 loss drives resistance phenotypes.** *Nucleic acids research*
Johnson, A. G., Flynn, R. A., Lapointe, C. P., Ooi, Y. S., Zhao, M. L., Richards, C. M., Qiao, W. n., Yamada, S. B., Couthouis, J. n., Gitler, A. D., Carette, J. E., Puglisi, J. D.
2020
- **The energy landscape of -1 ribosomal frameshifting.** *Science advances*
Choi, J. n., O'Loughlin, S. n., Atkins, J. F., Puglisi, J. D.
2020; 6 (1): eaax6969
- **A short translational ramp determines the efficiency of protein synthesis.** *Nature communications*
Verma, M., Choi, J., Cottrell, K. A., Lavagnino, Z., Thomas, E. N., Pavlovic-Djuranovic, S., Szczesny, P., Piston, D. W., Zaher, H. S., Puglisi, J. D., Djuranovic, S.
2019; 10 (1): 5774
- **Dynamics of the context-specific translation arrest by chloramphenicol and linezolid.** *Nature chemical biology*
Choi, J., Marks, J., Zhang, J., Chen, D., Wang, J., Vazquez-Laslop, N., Mankin, A. S., Puglisi, J. D.
2019
- **Mechanism of ribosome stalling during translation of a poly(A) tail.** *Nature structural & molecular biology*
Chandrasekaran, V., Juskiewicz, S., Choi, J., Puglisi, J. D., Brown, A., Shao, S., Ramakrishnan, V., Hegde, R. S.
2019
- **Transient Protein-RNA Interactions Guide Nascent Ribosomal RNA Folding.** *Cell*
Duss, O., Stepanyuk, G. A., Puglisi, J. D., Williamson, J. R.
2019
- **RACK1 on and off the ribosome** *RNA*
Johnson, A. G., Lapointe, C. P., Wang, J., Corsepius, N. C., Choi, J., Fuchs, G., Puglisi, J. D.
2019; 25 (7): 881–95
- **Relating Structure and Dynamics in RNA Biology.** *Cold Spring Harbor perspectives in biology*
Larsen, K. P., Choi, J., Prabhakar, A., Puglisi, E. V., Puglisi, J. D.
2019; 11 (7)
- **Expanding single-molecule fluorescence spectroscopy to capture complexity in biology.** *Current opinion in structural biology*
Choi, J., Grosely, R., Puglisi, E. V., Puglisi, J. D.
2019
- **RPS25 is required for efficient RAN translation of C9orf72 and other neurodegenerative disease-associated nucleotide repeats.** *Nature neuroscience*
Yamada, S. B., Gendron, T. F., Niccoli, T. n., Genuth, N. R., Grosely, R. n., Shi, Y. n., Glaria, I. n., Kramer, N. J., Nakayama, L. n., Fang, S. n., Dinger, T. J., Thoeng, A. n., Rocha, et al
2019
- **eIF5B gates the transition from translation initiation to elongation.** *Nature*
Wang, J. n., Johnson, A. G., Lapointe, C. P., Choi, J. n., Prabhakar, A. n., Chen, D. H., Petrov, A. N., Puglisi, J. D.
2019
- **RACK1 on and off the ribosome.** *RNA (New York, N.Y.)*
Johnson, A. G., Lapointe, C. P., Wang, J. n., Corsepius, N. C., Choi, J. n., Fuchs, G. n., Puglisi, J. D.
2019
- **Single-Molecule Fluorescence Applied to Translation** *COLD SPRING HARBOR PERSPECTIVES IN BIOLOGY*
Prabhakar, A., Puglisi, E., Puglisi, J. D.
2019; 11 (1)
- **Dynamic Interplay of RNA and Protein in the Human Immunodeficiency Virus-1 Reverse Transcription Initiation Complex** *JOURNAL OF MOLECULAR BIOLOGY*
Coey, A. T., Larsen, K. P., Choi, J., Barrero, D. J., Puglisi, J. D., Puglisi, E.
2018; 430 (24): 5137–50
- **Real-time assembly of ribonucleoprotein complexes on nascent RNA transcripts.** *Nature communications*

- Duss, O., Stepanyuk, G. A., Grot, A., O'Leary, S. E., Puglisi, J. D., Williamson, J. R.
2018; 9 (1): 5087
- **De novo computational RNA modeling into cryo-EM maps of large ribonucleoprotein complexes** *NATURE METHODS*
Kappel, K., Liu, S., Larsen, K. P., Skiniotis, G., Puglisi, E., Puglisi, J. D., Zhou, Z., Zhao, R., Das, R.
2018; 15 (11): 947-+
 - **Dynamic Interplay of RNA and Protein in the Human Immunodeficiency Virus-1 Reverse Transcription Initiation Complex.** *Journal of molecular biology*
Coey, A. T., Larsen, K. P., Choi, J., Barrero, D. J., Puglisi, J. D., Puglisi, E. V.
2018
 - **Single-Molecule Fluorescence Applied to Translation.** *Cold Spring Harbor perspectives in biology*
Prabhakar, A., Puglisi, E. V., Puglisi, J. D.
2018
 - **Structural Characterization of the HIV-1 Reverse Transcriptase Initiation Complex**
Larsen, K., Mathiharan, Y., Kappel, K., Coey, A., Chen, D., Madigan, L., Skiniotis, G., Puglisi, J., Puglisi, E.
CELL PRESS.2018: 193A
 - **How 2'-O-Methylation in mRNA Disrupts tRNA Decoding during Translation Elongation**
Choi, J., Indrisiunaite, G., DeMirci, H., Jeong, K., Wang, J., Petrov, A., Prabhakar, A., Rechavi, G., Dominissini, D., He, C., Ehrenberg, M., Puglisi, J. D.
CELL PRESS.2018: 592A
 - **2'-O-methylation in mRNA disrupts tRNA decoding during translation elongation.** *Nature structural & molecular biology*
Choi, J. n., Indrisiunaite, G. n., DeMirci, H. n., Jeong, K. W., Wang, J. n., Petrov, A. n., Prabhakar, A. n., Rechavi, G. n., Dominissini, D. n., He, C. n., Ehrenberg, M. n., Puglisi, J. D.
2018
 - **How Messenger RNA and Nascent Chain Sequences Regulate Translation Elongation** *ANNUAL REVIEW OF BIOCHEMISTRY, VOL 87*
Choi, J., Grosely, R., Prabhakar, A., Lapointe, C. P., Wang, J., Puglisi, J. D., Kornberg, R. D.
2018; 87: 421-49
 - **Architecture of an HIV-1 reverse transcriptase initiation complex.** *Nature*
Larsen, K. P., Mathiharan, Y. K., Kappel, K. n., Coey, A. T., Chen, D. H., Barrero, D. n., Madigan, L. n., Puglisi, J. D., Skiniotis, G. n., Puglisi, E. V.
2018
 - **Dynamic basis of fidelity and speed in translation: Coordinated multistep mechanisms of elongation and termination.** *Protein science*
Prabhakar, A., Choi, J., Wang, J., Petrov, A., Puglisi, J. D.
2017
 - **Dynamics of IRES-mediated translation** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*
Johnson, A. G., Grosely, R., Petrov, A. N., Puglisi, J. D.
2017; 372 (1716)
 - **Co-Transcriptional Ribosome Assembly in Real-Time**
Duss, O., O'Leary, S., Puglisi, J., Williamson, J.
CELL PRESS.2017: 178A
 - **Three tRNAs on the ribosome slow translation elongation.** *Proceedings of the National Academy of Sciences of the United States of America*
Choi, J. n., Puglisi, J. D.
2017; 114 (52): 13691-96
 - **Fluorescently-tagged human eIF3 for single-molecule spectroscopy.** *Nucleic acids research*
Johnson, A. G., Petrov, A. N., Fuchs, G. n., Majzoub, K. n., Grosely, R. n., Choi, J. n., Puglisi, J. D.
2017
 - **Post-termination Ribosome Intermediate Acts as the Gateway to Ribosome Recycling.** *Cell reports*
Prabhakar, A. n., Capece, M. C., Petrov, A. n., Choi, J. n., Puglisi, J. D.
2017; 20 (1): 161-72

- **Heterogeneous structures formed by conserved RNA sequences within the HIV reverse transcription initiation site** *RNA*
Coey, A., Larsen, K., Puglisi, J. D., Puglisi, E. V.
2016; 22 (11): 1689-1698
- **Amino acid sequence repertoire of the bacterial proteome and the occurrence of untranslatable sequences** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Navon, S. P., Kornberg, G., Chen, J., Schwartzman, T., Tsai, A., Puglisi, E. V., Puglisi, J. D., Adir, N.
2016; 113 (26): 7166-7170
- **The molecular choreography of protein synthesis: translational control, regulation, and pathways** *QUARTERLY REVIEWS OF BIOPHYSICS*
Chen, J., Choi, J., O'Leary, S. E., Prabhakar, A., Petrov, A., Grosely, R., Puglisi, E. V., Puglisi, J. D.
2016; 49
- **Multiple Parallel Pathways of Translation Initiation on the CrPV IRES.** *Molecular cell*
Petrov, A., Grosely, R., Chen, J., O'Leary, S. E., Puglisi, J. D.
2016; 62 (1): 92-103
- **The Dynamic Pathways of Prokaryotic Translation Termination and Recycling**
Prabhakar, A., Chen, J., Puglisi, J. D.
CELL PRESS.2016: 351A–352A
- **N(6)-methyladenosine in mRNA disrupts tRNA selection and translation-elongation dynamics.** *Nature structural & molecular biology*
Choi, J., Jeong, K., Demirci, H., Chen, J., Petrov, A., Prabhakar, A., O'Leary, S. E., Dominissini, D., Rechavi, G., Soltis, S. M., Ehrenberg, M., Puglisi, J. D.
2016; 23 (2): 110-115
- **The noncoding RNAs SNORD50A and SNORD50B bind K-Ras and are recurrently deleted in human cancer.** *Nature genetics*
Siprashvili, Z., Webster, D. E., Johnston, D., Shenoy, R. M., Ungewickell, A. J., Bhaduri, A., Flockhart, R., Zarnegar, B. J., Che, Y., Meschi, F., Puglisi, J. D., Khavari, P. A.
2016; 48 (1): 53-58
- **The molecular choreography of protein synthesis: translational control, regulation, and pathways.** *Quarterly reviews of biophysics*
Chen, J. n., Choi, J. n., O'Leary, S. E., Prabhakar, A. n., Petrov, A. n., Grosely, R. n., Puglisi, E. V., Puglisi, J. D.
2016; 49: e11
- **Concentric-flow electrokinetic injector enables serial crystallography of ribosome and photosystem II.** *Nature methods*
Sierra, R. G., Gati, C. n., Laksmono, H. n., Dao, E. H., Gul, S. n., Fuller, F. n., Kern, J. n., Chatterjee, R. n., Ibrahim, M. n., Brewster, A. S., Young, I. D., Michels-Clark, T. n., Aquila, et al
2016; 13 (1): 59–62
- **The noncoding RNAs SNORD50A and SNORD50B bind K-Ras and are recurrently deleted in human cancer** *NATURE GENETICS*
Siprashvili, Z., Webster, D. E., Johnston, D., Shenoy, R. M., Ungewickell, A. J., Bhaduri, A., Flockhart, R., Zarnegar, B. J., Che, Y., Meschi, F., Puglisi, J. D., Khavari, P. A.
2016; 48 (1): 53-?
- **Concentric-flow electrokinetic injector enables serial crystallography of ribosome and photosystem II** *NATURE METHODS*
Sierra, R. G., Gati, C., Laksmono, H., Dao, E. H., Gul, S., Fuller, F., Kern, J., Chatterjee, R., Ibrahim, M., Brewster, A. S., Young, I. D., Michels-Clark, T., Aquila, et al
2016; 13 (1): 59-?
- **Probing the Translation Dynamics of Ribosomes Using Zero-Mode Waveguides.** *Progress in molecular biology and translational science*
Tsai, A., Puglisi, J. D., Uemura, S.
2016; 139: 1-43
- **Coupling of mRNA Structure Rearrangement to Ribosome Movement during Bypassing of Non-coding Regions.** *Cell*
Chen, J., Coakley, A., O'Connor, M., Petrov, A., O'Leary, S. E., Atkins, J. F., Puglisi, J. D.
2015; 163 (5): 1267-1280
- **Cotranslational Protein Folding inside the Ribosome Exit Tunnel** *CELL REPORTS*
Nilsson, O. B., Hedman, R., Marino, J., Wickles, S., Bischoff, L., Johansson, M., Mueller-Lucks, A., Trovato, F., Puglisi, J. D., O'Brien, E. P., Beckmann, R., Von Heijne, G.

2015; 12 (10): 1533-1540

- **SYNTHETIC BIOLOGY Ribosomal ties that bind** *NATURE*
Puglisi, J. D.
2015; 524 (7563): 45-46
- **Protein synthesis. The delicate dance of translation and folding.** *Science*
Puglisi, J. D.
2015; 348 (6233): 399-400
- **RNA dances to center stage** *RNA-A PUBLICATION OF THE RNA SOCIETY*
Puglisi, J. D.
2015; 21 (4): 712-713
- **A simple real-time assay for in vitro translation.** *RNA (New York, N.Y.)*
Capece, M. C., Kornberg, G. L., Petrov, A., Puglisi, J. D.
2015; 21 (2): 296-305
- **Single-Molecule Profiling of Ribosome Recoding Phenomena**
Chen, J., Puglisi, J. D.
CELL PRESS.2015: 391A
- **Kinetic pathway of 40S ribosomal subunit recruitment to hepatitis C virus internal ribosome entry site.** *Proceedings of the National Academy of Sciences of the United States of America*
Fuchs, G., Petrov, A. N., Marceau, C. D., Popov, L. M., Chen, J., O'Leary, S. E., Wang, R., Carette, J. E., Sarnow, P., Puglisi, J. D.
2015; 112 (2): 319-325
- **Real-time observation of signal recognition particle binding to actively translating ribosomes** *ELIFE*
Noriega, T. R., Chen, J., Walter, P., Puglisi, J. D.
2014; 3
- **Dynamic pathways of -1 translational frameshifting.** *Nature*
Chen, J., Petrov, A., Johansson, M., Tsai, A., O'Leary, S. E., Puglisi, J. D.
2014; 512 (7514): 328-332
- **Dynamic pathways of -1 translational frameshifting** *NATURE*
Chen, J., Petrov, A., Johansson, M., Tsai, A., O'Leary, S. E., Puglisi, J. D.
2014; 512 (7514): 328-?
- **Signal Recognition Particle-ribosome Binding Is Sensitive to Nascent Chain Length.** *journal of biological chemistry*
Noriega, T. R., Tsai, A., Elvekrog, M. M., Petrov, A., Neher, S. B., Chen, J., Bradshaw, N., Puglisi, J. D., Walter, P.
2014; 289 (28): 19294-19305
- **The Dynamics of SecM-Induced Translational Stalling** *CELL REPORTS*
Tsai, A., Kornberg, G., Johansson, M., Chen, J., Puglisi, J. D.
2014; 7 (5): 1521-1533
- **Sequence-Dependent Elongation Dynamics on Macrolide-Bound Ribosomes** *CELL REPORTS*
Johansson, M., Chen, J., Tsai, A., Kornberg, G., Puglisi, J. D.
2014; 7 (5): 1534-1546
- **Single-Molecule Profiling of Ribosome Translational Phenomena**
Chen, J., Petrov, A., Johansson, M., Tsai, A., O'Leary, S. E., Puglisi, J. D.
CELL PRESS.2014: 239A
- **RNA Structural Rearrangements during Reverse Transcription Initiation in HIV**
Coey, A., Mpossi, M., Viani-Puglisi, E., Puglisi, J.
CELL PRESS.2014: 280A
- **High-throughput platform for real-time monitoring of biological processes by multicolor single-molecule fluorescence** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

- Chen, J., Dalal, R. V., Petrov, A. N., Tsai, A., O'Leary, S. E., Chapin, K., Cheng, J., Ewan, M., Hsiung, P., Lundquist, P., Turner, S. W., Hsu, D. R., Puglisi, et al
2014; 111 (2): 664-669
- **Real-time observation of signal recognition particle binding to actively translating ribosomes.** *eLife*
Noriega, T. R., Chen, J., Walter, P., Puglisi, J. D.
2014; 3
 - **Sequence-dependent elongation dynamics on macrolide-bound ribosomes.** *Cell reports*
Johansson, M. n., Chen, J. n., Tsai, A. n., Kornberg, G. n., Puglisi, J. D.
2014; 7 (5): 1534-46
 - **The Dynamics of SecM-Induced Translational Stalling.** *Cell reports*
Tsai, A. n., Kornberg, G. n., Johansson, M. n., Chen, J. n., Puglisi, J. D.
2014; 7 (5): 1521-33
 - **Dynamic Recognition of the mRNA Cap by *Saccharomyces cerevisiae* eIF4E** *STRUCTURE*
O'Leary, S. E., Petrov, A., Chen, J., Puglisi, J. D.
2013; 21 (12): 2197-2207
 - **Involvement of protein IF2 N domain in ribosomal subunit joining revealed from architecture and function of the full-length initiation factor** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Simonetti, A., Marzi, S., Billas, I. M., Tsai, A., Fabbretti, A., Myasnikov, A. G., Roblin, P., Vaiana, A. C., Hazemann, I., Eiler, D., Steitz, T. A., Puglisi, J. D., Gualerzi, et al
2013; 110 (39): 15656-15661
 - **Coordinated conformational and compositional dynamics drive ribosome translocation.** *Nature structural & molecular biology*
Chen, J., Petrov, A., Tsai, A., O'Leary, S. E., Puglisi, J. D.
2013; 20 (6): 718-727
 - **Coordinated conformational and compositional dynamics drive ribosome translocation.** *Nature structural & molecular biology*
Chen, J., Petrov, A., Tsai, A., O'Leary, S. E., Puglisi, J. D.
2013; 20 (6): 718-727
 - **The Impact of Aminoglycosides on the Dynamics of Translation Elongation** *CELL REPORTS*
Tsai, A., Uemura, S., Johansson, M., Puglisi, E. V., Marshall, R. A., Aitken, C. E., Korlach, J., Ehrenberg, M., Puglisi, J. D.
2013; 3 (2): 497-508
 - **Observing Prokaryotic Translation Elongation in Real-Time using Single-Molecule Fluorescence** *57th Annual Meeting of the Biophysical-Society*
Tsai, A., Chen, J., Kornberg, G., Korlach, J., Uemura, S., Puglisi, J.
CELL PRESS.2013: 257A-257A
 - **Coordinated Conformational and Compositional Dynamics Drive Ribosome Translocation**
Chen, J., Petrov, A., Sean, A., O'Leary, E., Puglisi, J. D.
CELL PRESS.2013: 260A
 - **Analysis of RNA by analytical polyacrylamide gel electrophoresis.** *Methods in enzymology*
Petrov, A., Tsa, A., Puglisi, J. D.
2013; 530: 301-313
 - **RNA purification by preparative polyacrylamide gel electrophoresis.** *Methods in enzymology*
Petrov, A., Wu, T., Puglisi, E. V., Puglisi, J. D.
2013; 530: 315-330
 - **Unraveling the dynamics of ribosome translocation** *CURRENT OPINION IN STRUCTURAL BIOLOGY*
Chen, J., Tsai, A., O'Leary, S. E., Petrov, A., Puglisi, J. D.
2012; 22 (6): 804-814
 - **Single-Molecule Analysis of Translational Dynamics** *COLD SPRING HARBOR PERSPECTIVES IN BIOLOGY*
Petrov, A., Chen, J., O'Leary, S., Tsai, A., Puglisi, J. D.
2012; 4 (9)

- **Precursor Directed Biosynthesis of an Orthogonally Functional Erythromycin Analogue: Selectivity in the Ribosome Macrolide Binding Pocket** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Harvey, C. J., Puglisi, J. D., Pande, V. S., Cane, D. E., Khosla, C.
2012; 134 (29): 12259-12265
- **Heterogeneous pathways and timing of factor departure during translation initiation** *NATURE*
Tsai, A., Petrov, A., Marshall, R. A., Korlach, J., Uemura, S., Puglisi, J. D.
2012; 487 (7407): 390-394
- **Digging deep into nucleic acid structure and nucleic acid protein recognition** *CURRENT OPINION IN STRUCTURAL BIOLOGY*
Puglisi, J. D., Williamson, J. R.
2012; 22 (3): 249-250
- **Nonfluorescent Quenchers To Correlate Single-Molecule Conformational and Compositional Dynamics** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Chen, J., Tsai, A., Petrov, A., Puglisi, J. D.
2012; 134 (13): 5734-5737
- **Real-Time Dynamics of Translation** *Experimental Biology Meeting 2012*
Puglisi, J. D., Chen, J., Kornberg, G., O'Leary, S., Petrov, A., Tsai, A.
FEDERATION AMER SOC EXP BIOL.2012
- **Initiation factor 2, tRNA, and 50S subunits cooperatively stabilize mRNAs on the ribosome during initiation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Masuda, T., Petrov, A. N., Iizuka, R., Funatsu, T., Puglisi, J. D., Uemura, S.
2012; 109 (13): 4881-4885
- **Secondary Structure of the HIV Reverse Transcription Initiation Complex by NMR** *JOURNAL OF MOLECULAR BIOLOGY*
Puglisi, E. V., Puglisi, J. D.
2011; 410 (5): 863-874
- **Dynamics of the translational machinery** *CURRENT OPINION IN STRUCTURAL BIOLOGY*
Petrov, A., Kornberg, G., O'Leary, S., Tsai, A., Uemura, S., Puglisi, J. D.
2011; 21 (1): 137-145
- **Real-time monitoring of single-molecule translation** *2010 Ribosome Meeting*
Uemura, S., Puglisi, J. D.
SPRINGER-VERLAG WIEN.2011: 295-302
- **Site-specific labeling of Saccharomyces cerevisiae ribosomes for single-molecule manipulations** *NUCLEIC ACIDS RESEARCH*
Petrov, A., Puglisi, J. D.
2010; 38 (13)
- **Following the intersubunit conformation of the ribosome during translation in real time** *NATURE STRUCTURAL & MOLECULAR BIOLOGY*
Aitken, C. E., Puglisi, J. D.
2010; 17 (7): 793-U35
- **Nucleic acids continue to surprise Editorial overview** *CURRENT OPINION IN STRUCTURAL BIOLOGY*
Puglisi, J. D., Williamson, J. R.
2010; 20 (3): 259-261
- **Real-time tRNA transit on single translating ribosomes at codon resolution** *NATURE*
Uemura, S., Aitken, C. E., Korlach, J., Flusberg, B. A., Turner, S. W., Puglisi, J. D.
2010; 464 (7291): 1012-U73
- **Ligand-specific regulation of the extracellular surface of a G-protein-coupled receptor** *NATURE*
Bokoch, M. P., Zou, Y., Rasmussen, S. G., Liu, C. W., Nygaard, R., Rosenbaum, D. M., Fung, J. J., Choi, H., Thian, F. S., Kobilka, T. S., Puglisi, J. D., Weis, W. I., Pardo, et al
2010; 463 (7277): 108-U121

- **Single Ribosome Dynamics and the Mechanism of Translation** *ANNUAL REVIEW OF BIOPHYSICS, VOL 39*
Aitken, C. E., Petrov, A., Puglisi, J. D.
2010; 39: 491-513
- **Realtime Observation of tRNA Dynamics at High Concentrations in Single Molecule Translation**
Uemura, S., Korlach, J., Flusberg, B., Turner, S., Puglisi, J. D.
CELL PRESS.2010: 260A–261A
- **Resolving the Elegant Architecture of the Ribosome** *MOLECULAR CELL*
Puglisi, J. D.
2009; 36 (5): 720-723
- **The Anti-Hepatitis C Agent Nitazoxanide Induces Phosphorylation of Eukaryotic Initiation Factor 2 alpha Via Protein Kinase Activated by Double-Stranded RNA Activation** *GASTROENTEROLOGY*
Elazar, M., Liu, M., McKenna, S. A., Liu, P., Gehrig, E. A., Puglisi, J. D., Rossignol, J., Glenn, J. S.
2009; 137 (5): 1827-1835
- **Translational insensitivity to potent activation of PKR by HCV IRES RNA** *ANTIVIRAL RESEARCH*
Shimoike, T., McKenna, S. A., Lindhout, D. A., Puglisi, J. D.
2009; 83 (3): 228-237
- **GTP Hydrolysis by IF2 Guides Progression of the Ribosome into Elongation** *MOLECULAR CELL*
Marshall, R. A., Aitken, C. E., Puglisi, J. D.
2009; 35 (1): 37-47
- **Improved Dye Stability in Single-molecule Fluorescence Experiments** *NATO ASI Science Series, Springer*
Aitken CE, Marshall RA, Puglisi JD
2009; VIII: 83-99
- **Single Molecule Studies of Prokaryotic Translation** *SINGLE MOLECULE BIOLOGY*
Aitken, C., Marshall, R., Dorywalska, M., Puglisi, J. D., Knight, A. E.
2009: 195–222
- **IMPROVED DYE STABILITY IN SINGLE-MOLECULE FLUORESCENCE EXPERIMENTS** *NATO Advanced Study Institute on Biophysics and the Challenges of Emerging Threats*
Aitken, C. E., Marshall, R. A., Puglisi, J. D.
SPRINGER.2009: 83–99
- **THE DIVERSITY OF NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY** *NATO Advanced Study Institute on Biophysics and the Challenges of Emerging Threats*
Liu, C. W., Alekseyev, V. Y., Allwardt, J. R., Bankovich, A. J., Cade-Menun, B. J., Davis, R. W., Du, L., Garcia, K. C., Herschlag, D., Khosla, C., Kraut, D. A., Li, Q., Null, et al
SPRINGER.2009: 65–81
- **Irreversible chemical steps control intersubunit dynamics during translation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Marshall, R. A., Dorywalska, M., Puglisi, J. D.
2008; 105 (40): 15364-15369
- **NITAZOXANIDE (NTZ) IS AN INDUCER EIF2A AND PKR PHOSPHORYLATION** *59th Annual Meeting of the American-Association-for-the-Study-of-Liver-Diseases*
Elazor, M., Liu, M., McKenna, S., Liu, P., Gehrig, E. A., Elfert, A., Puglisi, J., Rossignol, J., Glenn, J. S.
WILEY-BLACKWELL.2008: 1151A–1151A
- **Single-molecule imaging of full protein synthesis by immobilized ribosomes** *NUCLEIC ACIDS RESEARCH*
Uemura, S., Iizuka, R., Ueno, T., Shimizu, Y., Taguchi, H., Ueda, T., Puglisi, J. D., Funatsu, T.
2008; 36 (12)
- **Nucleic acids and their protein partners** *CURRENT OPINION IN STRUCTURAL BIOLOGY*
Puglisi, J. D., Doudna, J. A.

2008; 18 (3): 279-281

- **An oxygen scavenging system for improvement of dye stability in single-molecule fluorescence experiments** *BIOPHYSICAL JOURNAL*
Aitken, C. E., Marshall, R. A., Puglisi, J. D.
2008; 94 (5): 1826-1835
- **Translation at the single-molecule level** *ANNUAL REVIEW OF BIOCHEMISTRY*
Marshall, R. A., Aitken, C. E., Dorywalska, M., Puglisi, J. D.
2008; 77: 177-203
- **Structural biology - The dance of domains** *NATURE*
Puglisi, J. D.
2007; 450 (7173): 1171-1172
- **Thiostrepton inhibition of tRNA delivery to the ribosome** *RNA-A PUBLICATION OF THE RNA SOCIETY*
Gonzalez, R. L., Chu, S., Puglisi, J. D.
2007; 13 (12): 2091-2097
- **PKR: A NMR perspective** *PROGRESS IN NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY*
Lindhout, D. A., Mckenna, S. A., Aitken, C. E., Liu, C. W., Puglisi, J. D.
2007; 51 (3): 199-215
- **Probing the conformation of human tRNA(3)(Lys) in solution by NMR** *FEBS LETTERS*
Puglisi, E. V., Puglisi, J. D.
2007; 581 (27): 5307-5314
- **Fluctuations of transfer RNAs between classical and hybrid states** *BIOPHYSICAL JOURNAL*
Kim, H. D., Puglisi, J. D., Chu, S.
2007; 93 (10): 3575-3582
- **Solution structure and proposed domain-domain recognition interface of an acyl carrier protein domain from a modular polyketide synthase** *PROTEIN SCIENCE*
Alekseyev, V. Y., Liu, C. W., Cane, D. E., Puglisi, J. D., Khosla, C.
2007; 16 (10): 2093-2107
- **Viral dsRNA inhibitors prevent self-association and autophosphorylation of PKR** *JOURNAL OF MOLECULAR BIOLOGY*
Mckenna, S. A., Lindhout, D. A., Shimoike, T., Aitken, C. E., Puglisi, J. D.
2007; 372 (1): 103-113
- **The role of fluctuations in tRNA selection by the ribosome** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Lee, T., Blanchard, S. C., Kim, H. D., Puglisi, J. D., Chu, S.
2007; 104 (34): 13661-13665
- **Solution mapping of T cell receptor docking footprints on peptide-MHC** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Varani, L., Bankovich, A. J., Liu, C. W., Colf, L. A., Jones, L. L., Kranz, D. M., Puglisi, J. D., Garcia, K. C.
2007; 104 (32): 13080-13085
- **Molecular framework for the activation of RNA-dependent protein kinase** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Mckenna, S. A., Lindhout, D. A., Kim, I., Liu, C. W., Gelev, V. M., Wagner, G., Puglisi, J. D.
2007; 282 (15): 11474-11486
- **Dynamics of translational regulation by PKR**
Puglisi, J.
FEDERATION AMER SOC EXP BIOL.2007: A45
- **Peptide bond formation destabilizes Shine-Dalgarno interaction on the ribosome** *NATURE*
Uemura, S., Dorywalska, M., Lee, T., Kim, H. D., Puglisi, J. D., Chu, S.
2007; 446 (7134): 454-457

- **Rapid purification of RNAs using fast performance liquid chromatography (FPLC)** *RNA-A PUBLICATION OF THE RNA SOCIETY*
Kim, I., McKenna, S. A., Puglisi, E. V., Puglisi, J. D.
2007; 13 (2): 289-294
- **Biophysical and biochemical investigations of dsRNA-activated kinase PKR** *TRANSLATION INITIATION: RECONSTITUTED SYSTEMS AND BIOPHYSICAL METHODS*
McKenna, S. A., Lindhout, D. A., Shimoike, T., Puglisi, J. D.
2007; 430: 373-396
- **Peptide bond formation destabilizes Shine-Dalgarno interaction on the ribosome** *51st Annual Meeting of the Biophysical-Society*
Uemura, S., Dorywalska, M., Lee, T., Kim, H. D., Puglisi, J. D., Chu, S.
CELL PRESS.2007: 571A-571A
- **Molecular insights into PKR activation by viral double-stranded RNA** *NATO Advanced Study Institute Course on Structure and Biophysics*
McKenna, S. A., Lindhout, D. A., Aitken, C. E., Puglisi, J. D.
SPRINGER.2007: 99-110
- **Purification and characterization of transcribed RNAs using gel filtration chromatography** *NATURE PROTOCOLS*
McKenna, S. A., Kim, I., Puglisi, E. V., Lindhout, D. A., Aitken, C. E., Marshall, R. A., Puglisi, J. D.
2007; 2 (12): 3270-3277
- **PKR: A NMR perspective** *JPNMRS*
Lindhout DA, McKenna SA, Aitken CE, Liu CW, Puglisi JD
2007; 51 (3): 199-215
- **NMR structural studies of aminoglycoside:RNA interaction** *Aminoglycoside Antibiotics, Edited by DP Arya, John Wiley & Sons*
Marshall RA, and Puglisi JD
2007: 181-207
- **Molecular Insights Into PKR Activation by Viral Double-Stranded RNA** *NATO Science Series, Springer*
McKenna SA, Lindhout DA, Aitken CE, Puglisi JD
2007; Ch 8: 99-110
- **PHYS 336-Role of dynamics in the initial selection of tRNA by the ribosome**
Lee, T., Blanchard, S. C., Kim, H. D., Puglisi, J. D., Chu, S.
AMER CHEMICAL SOC.2006
- **Uncoupling of RNA binding and PKR kinase activation by viral inhibitor RNAs** *JOURNAL OF MOLECULAR BIOLOGY*
McKenna, S. A., Kim, I., Liu, C. W., Puglisi, J. D.
2006; 358 (5): 1270-1285
- **Specific recognition of HIV TAR RNA by the dsRNA binding domains (dsRBD1-dsRBD2) of PKR** *JOURNAL OF MOLECULAR BIOLOGY*
Kim, I., Liu, C. W., Puglisi, J. D.
2006; 358 (2): 430-442
- **Dynamics of translation**
Puglisi, J. D.
FEDERATION AMER SOC EXP BIOL.2006: A889
- **Quantitative polysome analysis identifies limitations in bacterial cell-free protein synthesis** *BIOTECHNOLOGY AND BIOENGINEERING*
Underwood, K. A., Swartz, J. R., Puglisi, J. D.
2005; 91 (4): 425-435
- **Using NMR to Study large RNAs: Case Study of the HCV IRES** *NATO ASI Science Series, Ios Press*
Kim I, Lukavsky PJ, Otto GA, Liu CW, Puglisi JD
2005; 364: 75-90
- **Site-specific labeling of the ribosome for single-molecule spectroscopy** *NUCLEIC ACIDS RESEARCH*
Dorywalska, M., Blanchard, S. C., Gonzalez, R. L., Kim, H. D., Chu, S., Puglisi, J. D.
2005; 33 (1): 182-189

- **Structure determination of large biological RNAs** *NUCLEAR MAGNETIC RESONANCE OF BIOLOGICAL MACROMOLECULES, PART C*
Lukavsky, P. J., Puglisi, J. D.
2005; 394: 399-416
- **The pathway of HCVIRES-mediated translation initiation** *CELL*
Otto, G. A., Puglisi, J. D.
2004; 119 (3): 369-380
- **tRNA selection and kinetic proofreading in translation** *NATURE STRUCTURAL & MOLECULAR BIOLOGY*
Blanchard, S. C., Gonzalez, R. L., Kim, H. D., Chu, S., Puglisi, J. D.
2004; 11 (10): 1008-1014
- **tRNA dynamics on the ribosome during translation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Blanchard, S. C., Kim, H. D., Gonzalez, R. L., Puglisi, J. D., Chu, S.
2004; 101 (35): 12893-12898
- **Large-scale preparation and purification of polyacrylamide-free RNA oligonucleotides** *RNA-A PUBLICATION OF THE RNA SOCIETY*
Lukavsky, P. J., Puglisi, J. D.
2004; 10 (5): 889-893
- **Design of a cyclic peptide that targets a viral RNA** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Runyon, S. T., Puglisi, J. D.
2003; 125 (51): 15704-15705
- **Thermodynamic stability and structural features of the J4/5 loop in a Pneumocystis carinii group I intron** *BIOCHEMISTRY*
Schroeder, S. J., Fountain, M. A., Kennedy, S. D., Lukavsky, P. J., Puglisi, J. D., Krugh, T. R., Turner, D. H.
2003; 42 (48): 14184-14196
- **Structure of HCVIRES domain II determined by NMR** *NATURE STRUCTURAL BIOLOGY*
Lukavsky, P. J., Kim, I., Otto, G. A., Puglisi, J. D.
2003; 10 (12): 1033-1038
- **Solution structure and backbone dynamics of the holo form of the frenolicin acyl carrier protein** *BIOCHEMISTRY*
Li, Q., Khosla, C., Puglisi, J. D., Liu, C. W.
2003; 42 (16): 4648-4657
- **Comparison of x-ray crystal structure of the 30S subunit-antibiotic complex with NMR structure of decoding site oligonucleotide-paromomycin complex** *STRUCTURE*
Lynch, S. R., Gonzalez, R. L., Puglisi, J. D.
2003; 11 (1): 43-53
- **NMR study of 100 kDa HCV IRES RNA using segmental isotope labeling** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Kim, I., Lukavsky, P. J., Puglisi, J. D.
2002; 124 (32): 9338-9339
- **Ribosomal proteins mediate the hepatitis C virus IRES-HeLa 40S interaction** *RNA-A PUBLICATION OF THE RNA SOCIETY*
Otto, G. A., Lukavsky, P. J., Lancaster, A. M., Sarnow, P., Puglisi, J. D.
2002; 8 (7): 913-923
- **Sequence-specific recognition of the major groove of RNA by deoxystreptamine** *BIOCHEMISTRY*
Yoshizawa, S., Fourmy, D., Eason, R. G., Puglisi, J. D.
2002; 41 (20): 6263-6270
- **RNAPack: An integrated NMR approach to RNA structure determination** *METHODS*
Lukavsky, P. J., Puglisi, J. D.
2001; 25 (3): 316-332
- **Aminoglycoside resistance with homogeneous and heterogeneous populations of antibiotic-resistant ribosomes** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*

-
- Recht, M. I., Puglisi, J. D.
2001; 45 (9): 2414-2419
- **Solution structure of the A loop of 23S ribosomal RNA** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Blanchard, S. C., Puglisi, J. D.
2001; 98 (7): 3720-3725
 - **Structural origins of aminoglycoside specificity for prokaryotic ribosomes** *JOURNAL OF MOLECULAR BIOLOGY*
Lynch, S. R., Puglisi, J. D.
2001; 306 (5): 1037-1058
 - **Structure of a eukaryotic decoding region A-site RNA** *JOURNAL OF MOLECULAR BIOLOGY*
Lynch, S. R., Puglisi, J. D.
2001; 306 (5): 1023-1035
 - **Structural and functional investigation of the hepatitis C virus IRES.** *Nucleic acids research. Supplement (2001)*
Puglisi, J. D., Kim, I., Lukavsky, P., Otto, G., Lancaster, A., Sarnow, P.
2001: 263-?
 - **Molecular origins of ribosomal fidelity** *4th NATO Advanced-Study-Institute on Dynamics, Structure and Function of Biological Macromolecules*
Puglisi, J. D., Yoshizawa, S., Fourmy, D.
I O S PRESS.2001: 177-185
 - **Structures of two RNA domains essential for hepatitis C virus internal ribosome entry site function** *NATURE STRUCTURAL BIOLOGY*
Lukavsky, P. J., Otto, G. A., Lancaster, A. M., Sarnow, P., Puglisi, J. D.
2000; 7 (12): 1105-1110
 - **Approaching translation at atomic resolution** *NATURE STRUCTURAL BIOLOGY*
Puglisi, J. D., Blanchard, S. C., Green, R.
2000; 7 (10): 855-861
 - **Application of residual dipolar coupling measurements to identify conformational changes in RNA induced by antibiotics** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Lynch, S. R., Puglisi, J. D.
2000; 122 (32): 7853-7854
 - **Interaction of translation initiation factor IF1 with the E-coli ribosomal A site** *JOURNAL OF MOLECULAR BIOLOGY*
Dahlquist, K. D., Puglisi, J. D.
2000; 299 (1): 1-15
 - **mRNA processing: The 3'-end justifies the means** *NATURE STRUCTURAL BIOLOGY*
Puglisi, J. D.
2000; 7 (4): 263-264
 - **Biochemical and nuclear magnetic resonance studies of aminoglycoside-RNA complexes** *RNA-LIGAND INTERACTIONS PT A*
Lynch, S. R., Recht, M. I., Puglisi, J. D.
2000; 317: 240-261
 - **Aminoglycoside antibiotics and decoding** *International Ribosome Conference*
Puglisi, J. D., Blanchard, S. C., Dahlquist, K. D., Eason, R. G., Fourmy, D., Lynch, S. R., Recht, M. I., Yoshizawa, S.
AMER SOC MICROBIOLOGY.2000: 419-429
 - **Application of Residual Dipolar Coupling Measurements to Identify Conformational Changes in RNA Induced by Antibiotics** *J. Am. Chem. Soc*
Lynch SR, and Puglisi JD
2000; 122: 7853-4
 - **The ribosome revealed** *NATURE STRUCTURAL BIOLOGY*
Green, R., Puglisi, J. D.
1999; 6 (11): 999-1003

- **Recognition of the codon-anticodon helix by ribosomal RNA** *SCIENCE*
Yoshizawa, S., Fourmy, D., Puglisi, J. D.
1999; 285 (5434): 1722-1725
- **Basis for prokaryotic specificity of action of aminoglycoside antibiotics** *EMBO JOURNAL*
Recht, M. I., Douthwaite, S., Puglisi, J. D.
1999; 18 (11): 3133-3138
- **Structural origins for ribosome fidelity**
Puglisi, J. D.
FEDERATION AMER SOC EXP BIOL.1999: A1319
- **Effect of mutations in the A site of 16S rRNA on aminoglycoside antibiotic-ribosome interaction** *JOURNAL OF MOLECULAR BIOLOGY*
Recht, M. I., Douthwaite, S., Dahlquist, K. D., Puglisi, J. D.
1999; 286 (1): 33-43
- **RNA Interaction with Small Ligands and Peptides** *The RNA World, 2nd Ed.: The Nature of Modern RNA Suggests a Prebiotic RNA World*
Puglisi JD, Williamson JR
1999; 37: 403-425
- **Structural basis for aminoglycoside antibiotic action** *Ribosomes 1999*
Puglisi JD, Blanchard SC, Dahlquist KD, Eason RG, Fourmy D, Lynch SR, Recht MI, Yoshizawa S
1999; Ch 34: 419-29
- **HIV-1 A-rich RNA loop mimics the tRNA anticodon structure** *NATURE STRUCTURAL BIOLOGY*
Puglisi, E. V., Puglisi, J. D.
1998; 5 (12): 1033-1036
- **Structural origins of gentamicin antibiotic action** *EMBO JOURNAL*
Yoshizawa, S., Fourmy, D., Puglisi, J. D.
1998; 17 (22): 6437-6448
- **RRNA chemical groups required for aminoglycoside binding** *BIOCHEMISTRY*
Blanchard, S. C., Fourmy, D., Eason, R. G., Puglisi, J. D.
1998; 37 (21): 7716-7724
- **Binding of neomycin-class aminoglycoside antibiotics to the A-site of 16 S rRNA** *JOURNAL OF MOLECULAR BIOLOGY*
Fourmy, D., Recht, M. I., Puglisi, J. D.
1998; 277 (2): 347-362
- **Paromomycin binding induces a local conformational change in the A-site of 16 S rRNA** *JOURNAL OF MOLECULAR BIOLOGY*
Fourmy, D., Yoshizawa, S., Puglisi, J. D.
1998; 277 (2): 333-345
- **Nuclear magnetic resonance spectroscopy of RNA** *CSHL Press (In RNA Structure and Function, (Symons, R. W., and Grunberg-Manago, M., eds).*
Puglisi EV, and Puglisi JD
1998: 117-46
- **NMR structure determination of an antibiotic-RNA complex** *NATO Advanced Study Institute and International School of Structural Biology and Magnetic Resonance, 3rd Course on Protein Dynamics. Function, and Design*
Yoshizawa, S., Puglisi, J. D.
PLENUM PRESS DIV PLENUM PUBLISHING CORP.1998: 173-182
- **NMR structure determination of an antibiotic-RNA complex** *NATO ASI Series*
Yoshisawa S, and Puglisi JD
1998; 301: 173-82
- **Structure of a conserved RNA component of the peptidyl transferase centre** *NATURE STRUCTURAL BIOLOGY*
Puglisi, E. V., Green, R., Noller, H. F., Puglisi, J. D.
1997; 4 (10): 775-778

- **Structural basis for aminoglycoside antibiotic action** *Many Faces of RNA*
Puglisi JD
1997; 97-111
- **Structure of the A site of Escherichia coli 16S ribosomal RNA complexed with an aminoglycoside antibiotic** *SCIENCE*
Fourmy, D., Recht, M. I., Blanchard, S. C., Puglisi, J. D.
1996; 274 (5291): 1367-1371
- **RNA sequence determinants for aminoglycoside binding to an A-site rRNA model oligonucleotide** *JOURNAL OF MOLECULAR BIOLOGY*
Recht, M. I., Fourmy, D., Blanchard, S. C., Dahlquist, K. D., Puglisi, J. D.
1996; 262 (4): 421-436
- **SOLUTION STRUCTURE OF A BOVINE IMMUNODEFICIENCY VIRUS TAT-TAR PEPTIDE-RNA COMPLEX** *SCIENCE*
Puglisi, J. D., Chen, L., Blanchard, S., Frankel, A. D.
1995; 270 (5239): 1200-1203
- **Investigating the structure and function of translation initiation factor 1 in Escherichia coli.** *Nucleic acids symposium series*
Dahlquist, K., Puglisi, J. D.
1995: 170-171
- **Biochemical and NMR studies of RNA conformation with an emphasis on RNA pseudoknots** *NUCLEAR MAGNETIC RESONANCE AND NUCLEIC ACIDS*
Puglisi, J. D., Wyatt, J. R.
1995; 261: 323-350
- **Welcome guests to the RNA World: Proteins that interact with RNA** *Chemistry and Biology*
Puglisi JD
1995; 2: 581
- **NMR ANALYSIS OF TRANSFER-RNA ACCEPTOR STEM MICROHELICES - DISCRIMINATOR BASE CHANGE AFFECTS TRANSFER-RNA CONFORMATION AT THE 3' END** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Puglisi, E. V., Puglisi, J. D., Williamson, J. R., RajBhandary, U. L.
1994; 91 (24): 11467-11471
- **NMR-STUDIES OF HIV TAR RNA** *8th Conversation in the Discipline Biomolecular Stereodynamics*
Puglisi, J. D., Williamson, J. R.
ADENINE PRESS.1994: 285-291
- **ADDITIVE, COOPERATIVE AND ANTI-COOPERATIVE EFFECTS BETWEEN IDENTITY NUCLEOTIDES OF A TRANSFER-RNA** *EMBO JOURNAL*
Putz, J., Puglisi, J. D., Florentz, C., Giege, R.
1993; 12 (7): 2949-2957
- **ROLE OF RNA STRUCTURE IN ARGININE RECOGNITION OF TAR RNA** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Puglisi, J. D., Chen, L., Frankel, A. D., Williamson, J. R.
1993; 90 (8): 3680-3684
- **INFLUENCE OF TRANSFER-RNA TERTIARY STRUCTURE AND STABILITY ON AMINOACYLATION BY YEAST ASPARTYL-TRANSFER RNA-SYNTHEASE** *NUCLEIC ACIDS RESEARCH*
Puglisi, J. D., Putz, J., Florentz, C., Giege, R.
1993; 21 (1): 41-49
- **TRANSFER-RNA STRUCTURE AND AMINOACYLATION EFFICIENCY** *PROGRESS IN NUCLEIC ACID RESEARCH AND MOLECULAR BIOLOGY, VOL 45*
Giege, R., Puglisi, J. D., Florentz, C.
1993; 45: 129-206
- **PREPARATION OF ISOTOPICALLY LABELED RIBONUCLEOTIDES FOR MULTIDIMENSIONAL NMR-SPECTROSCOPY OF RNA** *NUCLEIC ACIDS RESEARCH*
Batey, R. T., Inada, M., Kujawinski, E., Puglisi, J. D., Williamson, J. R.

- 1992; 20 (17): 4515-4523
- **EFFECT OF CONFORMATIONAL FEATURES ON THE AMINOACYLATION OF TRANSFER-RNAS AND CONSEQUENCES ON THE PERMUTATION OF TRANSFER-RNA SPECIFICITIES** *JOURNAL OF MOLECULAR BIOLOGY*
Perret, V., Florentz, C., Puglisi, J. D., Giege, R.
1992; 226 (2): 323-333
 - **CONFORMATION OF THE TAR RNA-ARGININE COMPLEX BY NMR-SPECTROSCOPY** *SCIENCE*
Puglisi, J. D., Tan, R. Y., CALNAN, B. J., Frankel, A. D., Williamson, J. R.
1992; 257 (5066): 76-80
 - **DETERMINANT NUCLEOTIDES OF YEAST TRANSFER RNA(ASP) INTERACT DIRECTLY WITH ASPARTYL-TRANSFER RNA-SYNTHEASE** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Rudinger, J., Puglisi, J. D., Putz, J., Schatz, D., Eckstein, F., Florentz, C., Giege, R.
1992; 89 (13): 5882-5886
 - **Structure and Function of HIV TAR RNA** *Advances in Life Sciences, (In Structural Tools for the Analysis of Protein-Nucleic Acid Complexes, D Lilley, H Heumann, D Suck, ed.)*
Puglisi JD, Tan R, Frankel AD, Williamson JR
1992: 269-85
 - **SYNTHESIS AND PURIFICATION OF LARGE AMOUNTS OF RNA OLIGONUCLEOTIDES** *BIOTECHNIQUES*
Wyatt, J. R., Chastain, M., Puglisi, J. D.
1991; 11 (6): 764-769
 - **IDENTITY ELEMENTS FOR SPECIFIC AMINOACYLATION OF YEAST TRANSFER RNAASP BY COGNATE ASPARTYL-TRANSFER RNA-SYNTHEASE** *SCIENCE*
Putz, J., Puglisi, J. D., Florentz, C., Giege, R.
1991; 252 (5013): 1696-1699
 - **RNA PSEUDOKNOTS** *ACCOUNTS OF CHEMICAL RESEARCH*
Puglisi, J. D., Wyatt, J. R., Tinoco, I.
1991; 24 (5): 152-158
 - **RNA Pseudoknots** *Accts Chem. Res*
Puglisi JD, Wyatt, Tinoco I Jr
1991: 152-8
 - **CONFORMATION IN SOLUTION OF YEAST TRANSFER RNAASP TRANSCRIPTS DEPRIVED OF MODIFIED NUCLEOTIDES** *BIOCHIMIE*
Perret, V., Garcia, A., Puglisi, J., Grosjean, H., Ebel, J. P., Florentz, C., Giege, R.
1990; 72 (10): 735-744
 - **CONFORMATION OF AN RNA PSEUDOKNOT** *JOURNAL OF MOLECULAR BIOLOGY*
Puglisi, J. D., Wyatt, J. R., Tinoco, I.
1990; 214 (2): 437-453
 - **RNA PSEUDOKNOTS - STABILITY AND LOOP SIZE REQUIREMENTS** *JOURNAL OF MOLECULAR BIOLOGY*
Wyatt, J. R., Puglisi, J. D., Tinoco, I.
1990; 214 (2): 455-470
 - **EXPLORING THE AMINOACYLATION FUNCTION OF TRANSFER-RNA BY MACROMOLECULAR ENGINEERING APPROACHES - INVOLVEMENT OF CONFORMATIONAL FEATURES IN THE CHARGING PROCESS OF YEAST TRANSFER RNAASP** *BIOCHIMIE*
Giege, R., Florentz, C., Garcia, A., Grosjean, H., Perret, V., Puglisi, J., THEOBALDDIETRICH, A., Ebel, J. P.
1990; 72 (6-7): 453-461
 - **SOLUTION CONFORMATION OF AN RNA HAIRPIN LOOP** *BIOCHEMISTRY*
Puglisi, J. D., Wyatt, J. R., Tinoco, I.
1990; 29 (17): 4215-4226
 - **RNA FOLDING - PSEUDOKNOTS, LOOPS AND BULGES** *BIOESSAYS*
Wyatt, J. R., Puglisi, J. D., Tinoco, I.

1989; 11 (4): 100-106

● **ABSORBENCY MELTING CURVES OF RNA** *METHODS IN ENZYMOLOGY*

Puglisi, J. D., Tinoco, I.

1989; 180: 304-325

● **Nucleic Acids from A to Z** *Blackwell Scientific Publications, Oxford (In Frontiers of Macromolecular Science, (T Saegusa, T Higashimura and A Abe, eds.))*

Tinoco I Jr, Aboul-ela F, Hardin CC, Puglisi JD, Varani G, Walker GT, Wolk S, Wyatt JR

1989: 519-24

● **A PSEUDOKNOTTED RNA OLIGONUCLEOTIDE** *NATURE*

Puglisi, J. D., Wyatt, J. R., Tinoco, I.

1988; 331 (6153): 283-286

● **Pseudoknotted RNA Oligonucleotides** *UCLA Symposia Series, Alan R Liss Inc, New York, NY (In Molecular Biology of RNA, T. Cech, ed.)*

Wyatt JR, Puglisi JD, Tinoco I Jr

1988; 94: 25-32

● **RAMAN-SPECTROSCOPIC STUDY OF LEFT-HANDED Z-RNA** *BIOCHEMISTRY*

Trulson, M. O., Cruz, P., Puglisi, J. D., Tinoco, I., Mathies, R. A.

1987; 26 (26): 8624-8630

● **STABILIZATION OF Z-RNA BY CHEMICAL BROMINATION AND ITS RECOGNITION BY ANTI-Z-DNA ANTIBODIES** *BIOCHEMISTRY*

Hardin, C. C., Zarling, D. A., Puglisi, J. D., Trulson, M. O., Davis, P. W., Tinoco, I.

1987; 26 (16): 5191-5199

● **RNA STRUCTURE FROM A TO Z** *COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY*

Tinoco, I., Davis, P. W., Hardin, C. C., Puglisi, J. D., Walker, G. T., Wyatt, J.

1987; 52: 135-146

● **The Left-Handed Z-Form of Double-Stranded RNA** *Adenine Press, New York (In Biomolecular Stereodynamics, IV)*

Cruz P, Hall K, Puglisi JD, Davis P, Hardin C, Trulson M, Mathies R, Tinoco, I , Jr, Johnson W Jr, Neilson T

1986: 179-200

● **Z-RNA: A Left-Handed Double Helix** *Plenum Press (In Structure and Dynamics of RNA)*

1986; 110: 55-68