





## Lubert Stryer

Mrs. George A. Winzer Professor of Cell Biology, Emeritus  
Neurobiology

 NIH Biosketch available Online

 Curriculum Vitae available Online

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#### ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Neurobiology

#### HONORS AND AWARDS

- ACS Award in Biological Chemistry, American Chemical Society (1970)
- National Lecturer, Biophysical Society (1987)
- Newcomb Cleveland Prize, American Association for the Advancement of Science (1992)
- Distinguished Inventors Award, Intellectual Property Owners Association (1993)
- European Inventor of the Year Award, European Patent Office (2006)
- Molecular Bioanalytics Award, German Society for Biochemistry and Molecular Biology (2002)
- Frank Westheimer Prize, Harvard University (2006)
- Carl Branden Award, The Protein Society (2007)
- Honorary Doctor of Science degree, University of Chicago (1992)
- Fellow, American Academy of Arts and Sciences (1975)
- Member, American Philosophical Society (2006)
- Member, National Academy of Sciences (1984)
- National Medal of Science, President of the United States (2006)

### Publications

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#### PUBLICATIONS

- **Celebrating the Scientific Life of Richard A. Mathies** *JOURNAL OF PHYSICAL CHEMISTRY B*  
Stryer, L.  
2012; 116 (35): 10409-10410
- **Exploring Light and Life** *Journal of Biological Chemistry*  
Stryer, L.  
2012; 287 (19): 15164
- **Molecular structure of membrane-targeting calcium sensors in vision: Recoverin and guanylate cyclase-activating protein 2** *VERTEBRATE PHOTOTRANSDUCTION AND THE VISUAL CYCLE, PT B*  
Ames, J. B., Ikura, M., Stryer, L.  
2000; 316: 121-132

- **Three-dimensional structure of guanylyl cyclase activating protein-2, a calcium-sensitive modulator of photoreceptor guanylyl cyclases** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Ames, J. B., Dizhoor, A. M., Ikura, M., Palczewski, K., Stryer, L.  
1999; 274 (27): 19329-19337
- **Differential isotope labeling strategy for determining the structure of myristoylated recoverin by NMR spectroscopy** *JOURNAL OF BIOMOLECULAR NMR*  
Tanaka, T., Ames, J. B., Kainosho, M., Stryer, L., Ikura, M.  
1998; 11 (2): 135-152
- **Molecular mechanics of calcium-myristoyl switches** *NATURE*  
Ames, J. B., Ishima, R., Tanaka, T., Gordon, J. I., Stryer, L., Ikura, M.  
1997; 389 (6647): 198-202
- **Vision: From photon to perception** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Stryer, L.  
1996; 93 (2): 557-559
- **Nuclear magnetic resonance evidence for Ca<sup>2+</sup>-induced extrusion of the myristoyl group of recoverin** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
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1995; 270 (52): 30909-30913
- **SEQUESTRATION OF THE MEMBRANE-TARGETING MYRISTOYL GROUP OF RECOVERIN IN THE CALCIUM-FREE STATE** *NATURE*  
Tanaka, T., Ames, J. B., HARVEY, T. S., Stryer, L., Ikura, M.  
1995; 376 (6539): 444-447
- **AMINO-TERMINAL MYRISTOYLATION INDUCES COOPERATIVE CALCIUM-BINDING TO RECOVERIN** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Ames, J. B., PORUMB, T., Tanaka, T., Ikura, M., Stryer, L.  
1995; 270 (9): 4526-4533
- **EXPRESSION AND CHARACTERIZATION OF CALCIUM-MYRISTOYL SWITCH PROTEINS** *LIPID MODIFICATIONS OF PROTEINS*  
Zozulya, S., Ladant, D., Stryer, L.  
1995; 250: 383-393
- **DUAL ROLE OF CALMODULIN IN AUTOPHOSPHORYLATION OF MULTIFUNCTIONAL CAM KINASE MAY UNDERLIE DECODING OF CALCIUM SIGNALS** *NEURON*  
Hanson, P. I., Meyer, T., Stryer, L., Schulman, H.  
1994; 12 (5): 943-956
- **3-DIMENSIONAL STRUCTURE OF RECOVERIN, A CALCIUM SENSOR IN VISION** *CELL*  
Flaherty, K. M., Zozulya, S., Stryer, L., McKay, D. B.  
1993; 75 (4): 709-716
- **INTERACTIONS BETWEEN DIVALENT-CATIONS AND THE GATING MACHINERY OF CYCLIC GMP-ACTIVATED CHANNELS IN SALAMANDER RETINAL RODS** *JOURNAL OF GENERAL PHYSIOLOGY*  
Karpen, J. W., Brown, R. L., Stryer, L., Baylor, D. A.  
1993; 101 (1): 1-25
- **MOLECULAR MECHANISM OF VISUAL EXCITATION** *HARVEY LECTURES, VOL 87*  
Stryer, L.  
1993; 87: 129-143
- **RANGE OF MESSENGER ACTION OF CALCIUM-ION AND INOSITOL 1,4,5-TRISPHOSPHATE** *SCIENCE*  
Allbritton, N. L., Meyer, T., Stryer, L.  
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- **CALCIUM MYRISTOYL PROTEIN SWITCH** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
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- **CALMODULIN TRAPPING BY CALCIUM-CALMODULIN DEPENDENT PROTEIN-KINASE** *SCIENCE*  
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1992; 256 (5060): 1199-1202
- **VISUAL EXCITATION AND RECOVERY** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Stryer, L.  
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- **CALCIUM SPIKING** *ANNUAL REVIEW OF BIOPHYSICS AND BIOPHYSICAL CHEMISTRY*  
Meyer, T., Stryer, L.  
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- **Molecular mechanism of visual excitation.** *Harvey lectures*  
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- **OPTIMIZATION OF HIGH-SENSITIVITY FLUORESCENCE DETECTION** *ANALYTICAL CHEMISTRY*  
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- **TRANSIENT CALCIUM RELEASE INDUCED BY SUCCESSIVE INCREMENTS OF INOSITOL 1,4,5-TRISPHOSPHATE** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Meyer, T., Stryer, L.  
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- **ACTIVATION MECHANISM OF RETINAL ROD CYCLIC-GMP PHOSPHODIESTERASE PROBED BY FLUORESCHEIN-LABELED INHIBITORY SUBUNIT** *BIOCHEMISTRY*  
Wensel, T. G., Stryer, L.  
1990; 29 (8): 2155-2161
- **KINETICS OF CALCIUM-CHANNEL OPENING BY INOSITOL 1,4,5-TRISPHOSPHATE** *BIOCHEMISTRY*  
Meyer, T., Wensel, T., Stryer, L.  
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- **PHYCOBILIPROTEIN AVIDIN AND PHYCOBILIPROTEIN BIOTIN CONJUGATES** *METHODS IN ENZYMOLOGY*  
Glazer, A. N., Stryer, L.  
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- **EXPRESSION IN BACTERIA OF FUNCTIONAL INHIBITORY SUBUNIT OF RETINAL ROD CGMP PHOSPHODIESTERASE** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Brown, R. L., Stryer, L.  
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- **SINGLE-MOLECULE FLUORESCENCE DETECTION - AUTO-CORRELATION CRITERION AND EXPERIMENTAL REALIZATION WITH PHYCOERYTHRIN** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
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- **Statistical distributions of nucleosomes: nonrandom locations by a stochastic mechanism.** *Nucleic acids research*  
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  - **HIGHLY COOPERATIVE FEEDBACK-CONTROL OF RETINAL ROD GUANYLATE-CYCLASE BY CALCIUM-IONS** *NATURE*  
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  - **MOLECULAR-MODEL FOR RECEPTOR-STIMULATED CALCIUM SPIKING** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
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  - **SEGMENTAL FLEXIBILITY AND COMPLEMENT-FIXATION OF GENETICALLY ENGINEERED CHIMERIC HUMAN, RABBIT AND MOUSE ANTIBODIES** *EMBO JOURNAL*  
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  - **HIGHLY COOPERATIVE OPENING OF CALCIUM CHANNELS BY INOSITOL 1,4,5-TRISPHOSPHATE** *SCIENCE*  
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  - **GATING KINETICS OF THE CYCLIC-GMP-ACTIVATED CHANNEL OF RETINAL RODS - FLASH-PHOTOLYSIS AND VOLTAGE-JUMP STUDIES** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
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  - **MOLECULAR-BASIS OF VISUAL EXCITATION** *COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY*  
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  - **MOLECULAR MECHANICS OF THE CYCLIC-GMP-ACTIVATED CHANNEL OF RETINAL RODS** *COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY*  
Karpen, J. W., Zimmerman, A. L., Stryer, L., Baylor, D. A.  
1988; 53: 325-332
  - **VISUAL TRANSDUCTION - DESIGN AND RECURRING MOTIFS** *CHEMICA SCRIPTA*  
Stryer, L.  
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  - **PHOTOSTABILITY STUDIES OF PHYCOBILIPROTEIN FLUORESCENT LABELS** *ANALYTICAL BIOCHEMISTRY*  
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- **COOPERATIVE POLYMERIZATION REACTIONS - ANALYTICAL APPROXIMATIONS, NUMERICAL EXAMPLES, AND EXPERIMENTAL STRATEGY** *BIOPHYSICAL JOURNAL*  
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- **Reciprocal control of retinal rod cyclic GMP phosphodiesterase by its gamma subunit and transducin.** *Proteins*  
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- **KINSHIP OF CEPHALOPOD PHOTORECEPTOR G-PROTEIN WITH VERTEBRATE TRANSDUCIN** *FEBS LETTERS*  
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- **INTERACTION OF HYDROLYSIS-RESISTANT ANALOGS OF CYCLIC-GMP WITH THE PHOSPHODIESTERASE AND LIGHT-SENSITIVE CHANNEL OF RETINAL ROD OUTER SEGMENTS** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
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- **MOLECULAR DESIGN OF AN AMPLIFICATION CASCADE IN VISION** *BIOPOLYMERS*  
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- **PHYCOFLUOR PROBES** *TRENDS IN BIOCHEMICAL SCIENCES*  
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- **CORRELATION BETWEEN SEGMENTAL FLEXIBILITY AND EFFECTOR FUNCTION OF ANTIBODIES** *NATURE*  
Oi, V. T., Vuong, T. M., Hardy, R., REIDLER, J., Dangl, J., Herzenberg, L. A., Stryer, L.  
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- **MILLISECOND ACTIVATION OF TRANSDUCIN IN THE CYCLIC-NUCLEOTIDE CASCADE OF VISION** *NATURE*  
Vuong, T. M., Chabre, M., Stryer, L.  
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- **TRANSDUCIN AND THE CYCLIC-GMP PHOSPHODIESTERASE - AMPLIFIER PROTEINS IN VISION** *COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY*  
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- **TRANSDUCIN AND THE CYCLIC-GMP PHOSPHODIESTERASE OF RETINAL ROD OUTER SEGMENTS** *METHODS IN ENZYMOLOGY*  
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- **PURIFICATION AND CHARACTERIZATION OF THE GAMMA-REGULATORY SUBUNIT OF THE CYCLIC-GMP PHOSPHODIESTERASE FROM RETINAL ROD OUTER SEGMENTS** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
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- **DIFFUSION-ENHANCED FLUORESCENCE ENERGY-TRANSFER** *ANNUAL REVIEW OF BIOPHYSICS AND BIOENGINEERING*  
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- **RAPID MOTIONS IN PROTEIN MOLECULES** *BIOCHEMICAL SOCIETY SYMPOSIA*  
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  - **GRAMICIDIN-A CRYSTALS CONTAIN 2 CATION BINDING-SITES PER CHANNEL** *NATURE*  
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