ACKNOWLEDGEMENTS

The 10th Stadler Genetics Symposium was financed by the Department of Agronomy, the Division of Biological Sciences, the Graduate School and the School of Medicine of the University of Missouri-Columbia. The lecture of Dr. Norman H. Giles was made possible by the Donald M. Nelson Fund. The lectures of Dr. Barbara McClintock and Dr. C. S. Levings were sponsored by the U. S. Department of Agriculture, Agricultural Research Service, Mid-Plains Area. The Genetics Faculty and Students gratefully acknowledge all the moral and financial support which make these annual Symposia possible.

The participants wish to express their thanks to Mrs. Mary Kay Doyle and to other wives of the Genetics Faculty who organized the social program with much success.

We owe gratitude to Professor Carolyn Kenneson and the Student String Quartet for the fine entertainment provided at the banquet.

Special thanks are due to Larry Dardick, David Estervig, Georgia Eizenga, Gary Peterson, and Jim Worstel who were in charge of the projection and earned the compliments of all the speakers. Larry Dardick also took some photographs of the Symposium.

Carol Irish assisted with typing of the Proceedings. Maribeth Jackson took care of most of the administrative chores of the Symposium. The financial matters of these Symposia are managed with care and efficiency by Fran Malloy.
STADLER GENETICS SYMPOSIA

CONTENTS

VOLUME 10 (1978)

Acknowledgements .................................................. 2
Contents .............................................................. 3
Participants ........................................................... 4
E. R. Sears Scholarship Fund ....................................... 8

Arthur Chovnick, Margaret McCarron, Arthur Hilliker
Janis O'Donnell, William Gelbart and Stephen Clark
ORGANIZATION OF A GENE IN DROSOPHILA: A PROGRESS REPORT .................................................. 9

Barbara McClintock
MECHANISMS THAT RAPIDLY REORGANIZE THE GENOME ........................................................... 25

Norman H. Giles, N. K. Alton, M. E. Case, J. A. Hautala,
J. W. Jacobson, S. R. Kushner, V. B. Patel, W. R. Reinert,
P. Strøman and D. Vapnek
THE ORGANIZATION OF THE QA GENE CLUSTER IN NEUROSPORA CRASSA
AND ITS EXPRESSION IN ESCHERICHIA COLI ........................................................... 49

Janine Zieg, Michael Silverman, Marcia Hilmen and
Melvin Simon
PHASE VARIATION IN SALMONELLA: ANALYSIS OF THE CONTROLLING ELEMENT OF H2 GENE EXPRESSION ........................................................... 65

C. S. Levings, III and D. R. Pring
THE MITOCHONDRIAL GENOME OF HIGHER PLANTS ........................................................... 77

M. M. Green
THE GENETIC CONTROL OF MUTATION IN DROSOPHILA ........................................................... 95

George P. Smith
NON-DARWINIAN EVOLUTION AND THE BEARD OF LIFE ........................................................... 105

Cumulative Contents of the Proceedings of the
Stadler Genetics Symposia ........................................ 122

THE VOLUMES OF THESE SYMPOSIA CAN BE ORDERED FROM
117 CURTIS HALL, UNIVERSITY OF MISSOURI, COLUMBIA
MISSOURI, 65211. PRICE LIST AND CUMULATIVE CONTENTS
ARE ON PAGES 122-124. EACH ORDER MUST INCLUDE AN
ADDITIONAL 50¢ FOR POSTAGE AND HANDLING. MISSOURI
RESIDENTS ARE REQUIRED TO PAY 4% SALES TAX. MAKE
CHECKS PAYABLE TO STADLER GENETICS SYMPOSIA.
PARTICIPANTS

Acedo, Gregoria, 117 Curtis Hall, Columbia, MO
Adhikary, Bharat, Box 4424, College Station, TX 77844
Agris, Paul F., Div. Biol. Sci., UMC, Columbia, MO
Albert, Brent, 1355 Kroeger Drive, St. Louis, MO
Albert, Patrice, 106 Tucker Hall, UMC, Columbia, MO
Allebrand, Ruth, Southern Ill. Univ., Carbondale, IL 62901
Altschuler, Marsha, Dept. of Biology, Indiana Univ., Bloomington, IN 47401
Amos, Jean, Dept. of Biology, Univ. Northern Iowa, Cedar Falls, IA 50613
Annen, Wurvel, Wagnor College, Staten Island, NY 10301
Apirion, David, Washington Univ., St. Louis, MO
Atherly, Alan, Dept. of Genetics, Iowa State U., Ames, IA 50010
Ausmus, Mike, William Jewell College, Liberty, MO 64068
Ayers, Arthur, 108 Waters Hall, UMC, Columbia, MO
Ayers, Sandra, 108 Waters Hall, UMC, Columbia, MO
Baldwin, Tom, 38 Browning Hall, William Jewell College, Liberty, MO 64068
Ball, Mary, 3090 W. Bowden, Auburn, Alabama 36830
Bast, Sister Rose, Mount Mary College, Milwaukee, WI 53222
Beckett, Dorothy, 607 Longfellow Ln., Columbia, MO
Beckett, Jack, 209 Curtis Hall, UMC, Columbia, MO
Bennett, Vickie, 901 Sycamore Lane, Columbia, MO
Bird, Robert, Missouri Botanical Gardens, 2345 Tower Grove, St. Louis, MO
Bishop, Dean, Biology Dept., Pittsburg State U., Pittsburg, KS 66762
Blakey, Becky, Box 156, Wm. Woods College, Fulton, MO 65061
Bleistine, S. Helen, 102 E. 26th St., Bryan, TX 77801
Blizewski, Susan, 634B Hatch Hall, UMC, Columbia, MO
Blythe, Gregory, 404 Lawrence Pl., Columbia, MO 65201
Bond, Lora, 1512 N. Washington Avenue, Springfield, MO 65803
Borck, Kate, Dept. of Biol., Washington U., St. Louis, MO 63130
Borland, M．J., Western IL Univ., Dept. Biol., Macomb, IL 61455
Brase, S. M., University of Connecticut, Storrs, CT 06269
Brewer, Steven, Eatton Hall, Wm. Jewell College, Liberty, MO 64068
Buckley, Allan, 205 Curtis Hall, UMC, Columbia, MO
Burkholder, John, McPherson College, McPherson, KS 67460
Burnham, Chas., 1539 Branstom St., St. Paul, MN 55108
Bussard, James, 304 Curtis Hall, UMC, Columbia, MO
Bryant, S. M., Western IL Univ., Dept. Biology, Macomb, IL 61455
Buzard, Robert, 63 Southside Drive, Columbia, MO
Caldwell, Steve, Southern IL Univ., Carbondale, IL 62901
Caro, Mary, UMC, Columbia, MO
Carr, Bruce, 3125 Lafayette, St. Louis, MO 63104
Castor, John H., Microbiol., Southern IL Univ., Carbondale, IL 62901
Chapman, Linda, Biol., UMC, Columbia, MO
Chou, Tau-San, IL State U., Dept. of Biol., Normal, IL 61701
Cho, Jong, University of Connecticut, Storrs, CN
Citron, Bruce, Genetics Dept., U. of Iowa, Iowa City, IA 52242
Coe, Edward, 210 Curtis Hall, UMC, Columbia, MO
Coe, Mary, 206 Heather Ln., Columbia, MO
Coffey, Karen, ElY Hall, Wm. Jewell College, Liberty, MO
Cox, Thomas, 1006 Stafford Avenue, Ames, Iowa 50010
Curtis, William, Washington Univ., Biol., St. Louis, MO 63130
Dardick, Larry, UMC, Columbia, MO
David, John, UMC, Columbia, MO
Demarini, David, Ill. State Univ., Normal, IL 61761
Demars, K, Univ. Wisconsin, Madison, WI
Demopoulos-Rodriguez, J. T., Dept. of Genet., Univ. Wisc., Madison, WI 53706
Denell, Robin, Div. of Biol., KS State U., Manhattan, KS 66502
Desborough, Sharon, Horts Sci., U. Minnesota, St. Paul, MN 55108
Der, Orchid, Sinclair Research Farm, UMC, Columbia, MO
Dierberg, Jeff, 101 Burnam, Columbia, MO
Dillette, Dave, Westminster College, Fulton, MO
Dilley, Stephen, 4339 Declaration Dr., Indianapolis, IN 46227
Dooner, Hugo, B12 Genetics, U. of Wisconsin, Madison, WI 53706
Dorsch, Stephen, UMC, 140 Univ. Terr., Columbia, MO
Doyle, Gregory, UMC, Columbia, MO
Doyle, Mary Kaye, 1006 W. Rollins, Columbia, MO
Dilks, Judith, William Jewell College, Liberty, MO 64068
Dlouhy, Stephen, 4339 Declaration Rd., Indianapolis, IN 46227
Dooner, Hugo, B12 Genetics, U. of Wisconsin, Madison, WI 53706
Dorsch, Stephen, UMC, 140 Univ. Terr., Columbia, MO
Doyle, Gregory, UMC, Columbia, MO
Drake, Laura, UMC, Columbia, MO
Dufek, Debra, Dept. Biol. Sci., Western Illinois U., Macomb, IL 61455
Eaton, Brenda, 510 High St., UMC, Columbia, MO
Egerer, Carol, 4550 Scott Ave., Box 407, St. Louis, MO 63120
Eisenstark, Abraham, UMC, Columbia, MO
Eisenstark, Roma, 2002 Valley View Rd., Columbia, MO
Elsley, Georgia, 107 Curtis Hall, UMC, Columbia, MO
Engel, Leslie, 613 N. 8th, Columbia, MO
Engler, DuWayne, Dept. of Zool., SIU, Carbondale, IL 62901
Eskov, Dave, 2707 Quail Drive, Columbia, MO
Fach, Kenneth, Dept. Biol., UNI, Cedar Falls, Iowa 50613
Fennin, Dee, 233A Schurz, UMC, Columbia, MO
Fickess, Westminster College, Fulton, MO 65251
Ficzor, G., Dept. Biomed. Sci., WMU, Kalamazoo, MI 49008
Fickess, Westminster College, Fulton, MO 65251
Finnerty, Victoria, Emory University, Atlanta, GA
Fisher, Richard, Dept. Microbiol., U. of Iowa, Iowa City, IA 52240
Ford, Clark, 547 Hawkeye Drive, Iowa City, Iowa 52240
Forney, William M., 11 Gateway South, UMC, Columbia, Missouri
Fouadin, Laurie, UMC, 8 Keene St., Columbia, MO
Fraser, Vicky, Box 339, Wm. Woods College, Fulton, MO 65251
Friedman, L., UMSL, St. Louis, MO
Friedman, Scott, 908 Curtis Ave., Columbia, MO
Fritschle, Carolyn, 12923 Topping Estates, St. Louis, MO 63115
Ford, John, Dept. Biol., U. of KS, Lawrence, KS 66044
Fourou, Polly, Dept. of Genet., U. of Wis., Madison, WI 53706
Fulcher, David, Mammalian Genet. Lab, U. of KS, Lawrence, KS 66044
Gardner, Candice, 312 Curtis Hall, UMC, Columbia, MO
Gavan, James, 210 Switzler, UMC, Columbia, MO
Gavan, Margaret, R.D. 2, Clark, MO 65243
Geckie, Karen, 313A Wolpers, UMC, Columbia, MO
Giles, Norman, R. University of Georgia, Athens, GA
Godfrey, Joe, Washburn Univ., Biol. Dept., Topeka, Kansas 66621
Goudy, Joyce, Allegheny College, Meadville, PA 16335
Gowans, Charles, 422 Tucker, UMC, Columbia, MO
Gowans, Ann, UMC, Columbia, MO
Grant, Mark, 363A Gardner-Hay, UMC, Columbia, MO
Green, M. M., University of California, Davis, CA
Grether, David, 1406 8th Ave., North, St. Cloud, MN 56301
Grosberg, R., Ill. Benedictine College, Lisle, IL 60532
Gruber, Denyse, 113B Wolpers Hall, UMC, Columbia, MO
Grula, John, Dept. Biol., U. of KS, Lawrence, KS 66045
Grula, Marge, Dept. of Biol., U. of KS, Lawrence, KS
Grunal, John, Univ. of IL, Urbana, IL 61801
Hagood, Sue, Colene Ave., Columbia, MO 65201
Hake, Sarah, Dept. Biol., Washington U., St. Louis, MO 63130
Hale, Bill, Washburn Univ., Biol. Dept., Topeka, Kansas 66621
Hanks, Joanna, 108 Tucker Hall, UMC, Columbia, MO
Harlan, Phillip, UMKC, Kansas City, MO
Harriman, Charles, Texas A & M, College Station, TX
Has, Denise, Mammalian Genet. Lab, U. of KS, Lawrence, KS 66044
Hellack, Jenna Jo, Biol. Dept., C.S.U., Edmond, OK
Henderson, Betty, UMC, Columbia, MO
Herrick, Carleton, Dept. of Biol., SEMS, Cape Girardeau, MO 63701
Hisey, Brent, Zoology Dept., OR U., Norman, OK 73019
Holcombe, Steven, Westminster College, Fulton, MO
Horst, Michael, 707C Univ. Village, UMC, Columbia, MO
Hough, Dan, Zool. Dept., U. of OK, Norman, OK 73069
Hyde, Beal, Dept. Bot., Univ. of VT, Burlington, VT 05401
Jamison, Kimberly, 466 Mississippi, Liberty, MO 64068
Jones, Bobby R., Southwestern at Memphis, Memphis, TN 38112
Jones, David, UMC, Columbia, MO
Jennings, Lisa, 750 Adams, Memphis, TN 38105
Johnson, George, Dept. Biol., Washington U., St. Louis, MO 63130
Johnson, Terrell, Div. Biol., R. State, Manhattan, KS 66502
Jones, Scott, William Jewell College, Liberty, MO 64068
Joseph, Cindy, 105 Schweitzer Hall, UMC, Columbia, MO
Kasunic, Mark, Allegheny College, Meadville, PA 16335
Kaufman, Thomas, Biol. Dept., Indiana U., Bloomington, IN 47401
Kazic, Toni, U. of PA, Philadelphia, PA 19104
Kemp study, Kenneth, Iowa University, Iowa City, IA
Kopp, Dean, Iowa State, Ames, Iowa 50010
Kornicle, Jerry, U. of WI, Madison, WI
Kont, Hario, Wm. Woods College, Fulton, MO
Kikudome, Gary, UMC, 405 Tucker Hall, Columbia, MO
<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rodi, Charles</td>
<td>University of Minnesota</td>
</tr>
<tr>
<td>Rodriguez, UMC, Biol. Sci.</td>
<td>Columbia, MO</td>
</tr>
<tr>
<td>Rod, Paul</td>
<td>Dept. Biol. Sci., Ill., Ill., Illinois State U., Normal, IL</td>
</tr>
<tr>
<td>Sakamoto, Winifred</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Salama, R.</td>
<td>Western Michigan U., Kalamazoo, MI 49007</td>
</tr>
<tr>
<td>Samuel, Richard</td>
<td>1600 Urbana Lane, Lincoln, NE 68505</td>
</tr>
<tr>
<td>Sandoz, Christina</td>
<td>4339 Merceri, K.C., MO 64111</td>
</tr>
<tr>
<td>Schaefer, Bradley</td>
<td>Zool. Dept., OU, Norman, OK 73019</td>
</tr>
<tr>
<td>Schmidt, Mike</td>
<td>StU, Carbondale, IL 62901</td>
</tr>
<tr>
<td>Schulteijans, Molly</td>
<td>407 Turner, UMC, Columbia, MO</td>
</tr>
<tr>
<td>Schuppert, Hank</td>
<td>502 Westminster Ave., Fulton, MO</td>
</tr>
<tr>
<td>Scuba, James</td>
<td>815 W.W. 13, Oklahoma City, OK 73106</td>
</tr>
<tr>
<td>Sears, Barbara</td>
<td>Duke Univ., Dept. Bot., Durham, NC</td>
</tr>
<tr>
<td>Sears, E. S.</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Sears, Lotti</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Shadley, Jeff</td>
<td>Illinois State U., Normal, IL 61761</td>
</tr>
<tr>
<td>Shellhard, Marsha</td>
<td>Wm. Jewell College, Liberty, MO 64068</td>
</tr>
<tr>
<td>Sherman, Louis</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Simmons, Patricia</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Simon, Phil</td>
<td>Hort. Dept., U. of WI, Madison, WI 55706</td>
</tr>
<tr>
<td>Slater, Jim</td>
<td>Box 316, St. 6, Neosho, MO 64850</td>
</tr>
<tr>
<td>Slife, David</td>
<td>17 S. Jewell, Liberty, MO 64028</td>
</tr>
<tr>
<td>Smith, Danny</td>
<td>StU, Carbondale, IL 62901</td>
</tr>
<tr>
<td>Smith, Charles</td>
<td>Zool. Dept., OU, Norman, OK 73019</td>
</tr>
<tr>
<td>Smith, George</td>
<td>Tucker Hall, UMC, Columbia, MO</td>
</tr>
<tr>
<td>Smith, Jolyun</td>
<td>Dept. Microbiol., StU, Carbondale, IL 62901</td>
</tr>
<tr>
<td>Snyder, John</td>
<td>C. U. of MN, St. Paul, MN 55108</td>
</tr>
<tr>
<td>Spidle, Brenda</td>
<td>Wm. Jewell College, Liberty, MO 64068</td>
</tr>
<tr>
<td>Stadler, Jody</td>
<td>3 Curtiss Hall, Iowa State U., Ames, IA 50010</td>
</tr>
<tr>
<td>Stambaugh, Judith</td>
<td>Genet. Dept., Washington U., St. Louis, MO</td>
</tr>
<tr>
<td>Stansfield, David</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Steglish, Carolin</td>
<td>Genet. Dept., U. of WI, Madison, WI 53706</td>
</tr>
<tr>
<td>Stephenson, A. B.</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Stock, Carolyn</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Stone, Joyce</td>
<td>316 Flint Dr., Memphis, TN 38118</td>
</tr>
<tr>
<td>Strickberger, Monroe</td>
<td>UMSL, St. Louis, MO</td>
</tr>
<tr>
<td>Subaida, Charles</td>
<td>108 Waters Hall, UMC, Columbia, MO</td>
</tr>
<tr>
<td>Suiter, Sarah</td>
<td>Stephens College, Columbia, MO</td>
</tr>
<tr>
<td>Sustarsic, Dennis</td>
<td>Dept. of Med., Med. Coll. of Ohio, Toledo, OH 43699</td>
</tr>
<tr>
<td>Sustarsic, Schelly</td>
<td>7251-B Lunitas Ln., Perrysburg, Ohio 43551</td>
</tr>
<tr>
<td>Swanson, Margaret</td>
<td>106 Tucker Hall, UMC, Columbia, MO</td>
</tr>
<tr>
<td>Thom, Sophie</td>
<td>Mount Mary College, Milwaukee, WI 53222</td>
</tr>
<tr>
<td>Thompson, James</td>
<td>N., Jr., Dept. of Zoology., OU, Norman, OK 73019</td>
</tr>
<tr>
<td>Tolleson, A.</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Tomlinson, Thomas</td>
<td>Washburn Univ., Biol. Dept., Topeka, KS 66621</td>
</tr>
<tr>
<td>Toothman, Penny</td>
<td>Biol. Dept., Washington Univ., St. Louis, MO 63130</td>
</tr>
<tr>
<td>Toor, Joe V., Ecology</td>
<td>Dept., OU, Norman, OK 73019</td>
</tr>
<tr>
<td>Tuan, James</td>
<td>Berea College, Dept. of Biol., Berea, Kentucky 40404</td>
</tr>
<tr>
<td>Tuftmire, Ann</td>
<td>Wm. Jewell College, Liberty, MO</td>
</tr>
<tr>
<td>Ulrich, Robert</td>
<td>Dept. of Bot., U. of Vs., Burlington, VA 05401</td>
</tr>
<tr>
<td>Unander, Dave</td>
<td>StU, Carbondale, IL 62901</td>
</tr>
<tr>
<td>Voss, Deward</td>
<td>1645 N. Spanish, Cape Girardeau, MO 63701</td>
</tr>
<tr>
<td>Wagoner, Dale</td>
<td>Dept. of Biol. of, Maharishi Int. U., Fairfild, IA 52556</td>
</tr>
<tr>
<td>Wabash, Barb.</td>
<td>Dept. of Biol., Indiana U., Bloomington, IN 47401</td>
</tr>
<tr>
<td>Walbot, Virginia</td>
<td>Dept. of Biol., Washington U., St. Louis, MO 63130</td>
</tr>
<tr>
<td>Walro, Leanne</td>
<td>Allegheny College, Meadville, PA 16335</td>
</tr>
<tr>
<td>Wang, Richard</td>
<td>Dalton Research Center, UMC, Columbia, MO</td>
</tr>
<tr>
<td>Wang, Wei Yeh</td>
<td>Dept. of Bot., U. of Iowa, Iowa City, IA 52242</td>
</tr>
<tr>
<td>Warren, Thomas</td>
<td>1434 Kinser PK., Bloomington, IN 47401</td>
</tr>
<tr>
<td>Watkins, Penny</td>
<td>Wm. Jewell College, Liberty, MO 64068</td>
</tr>
<tr>
<td>Weber, David</td>
<td>Dept. of Biol. Sci., IL St. U., Normal, IL 61761</td>
</tr>
<tr>
<td>Welter, Richard</td>
<td>P.O. 268, Ames, IA 50010</td>
</tr>
<tr>
<td>Werthnuelle, Wm.</td>
<td>Woods College, Fulton, MO</td>
</tr>
<tr>
<td>Wiaha, R. H.</td>
<td>Biol. Dept., SD State U., Brookings, SD 57006</td>
</tr>
<tr>
<td>Williams, Larry</td>
<td>Div. of Biol., Kansas State U., Manhattan, KS</td>
</tr>
<tr>
<td>Wilson, Wells</td>
<td>Westminster College, Fulton, MO</td>
</tr>
<tr>
<td>Wixon, Robert</td>
<td>Dept. of Microchem., UMC, Columbia, MO</td>
</tr>
<tr>
<td>Wolf, Thomas</td>
<td>Biol. Dept., Washburn U., Topeka, KS 66621</td>
</tr>
<tr>
<td>Wolfe, H. Glenn</td>
<td>Dept. Physiol. &amp; Cell Biol., Lawrence, KS 66045</td>
</tr>
<tr>
<td>Worrall, J., UMC</td>
<td>Columbia, MO</td>
</tr>
<tr>
<td>Wronkiewics, W.</td>
<td>Dept. Biol. Sci., Western IL U., Macomb, IL 46545</td>
</tr>
<tr>
<td>Wurst, Glen</td>
<td>Allegheny College, Meadville, PA 16335</td>
</tr>
<tr>
<td>Yanders, A. F.</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Zacher, Allan</td>
<td>UMC, Columbia, MO</td>
</tr>
<tr>
<td>Zieg, J.</td>
<td>Univ. California, La Jolla, CA</td>
</tr>
<tr>
<td>Zimmerman, Greta</td>
<td>Wm. Jewell College, Liberty, MO 64068</td>
</tr>
<tr>
<td>Zuber, Bernice</td>
<td>2211 Bushnell, Columbia, MO</td>
</tr>
<tr>
<td>Zuber, H. S.</td>
<td>UMC, Curtis Hall, Columbia, MO</td>
</tr>
</tbody>
</table>
Ernest R. Sears Scholarship Fund

The Ernest R. Sears Scholarship Fund, established by Dean Emeritus John H. Longwell and Mrs. Lorna Longwell, is intended to stimulate research and scholarship in Genetics in the spirit of the contributions for Dr. Sears to science, essential to the development of Agriculture. The dividends of the Fund will be used to support and recognize a graduate student or faculty member for scholarship and research in Genetics.

The Fund is administered by the Sears-Longwell Award Committee. The annual awards will be presented at the Stadler Genetics Symposia.

If you would like to join in this expression honoring Dr. Sears, please send your contribution to:

ERNEST R. SEARS FUND
117 Curtis Hall
University of Missouri
Columbia, Missouri 65201

During 1978, by November 29, contributions were received from:
Edward H. Coe, Jr.
Abraham Eisenstark
Luther B. Hughes
Susan W. Liebman
Gordon Kimber
G. P. Rédei
Dale Sechler
Robert & Sonya Ullrich
Armon F. Yanders
Speakers and other participants of the 10th Stadler Symposium, 1978
Dr. Sheila McCormick, a 1978 graduate, the first recipient of the E. R. SEARS SCHOLARSHIP AWARD. The Fund has been established by Dean Emeritus John H. Longwell and Mrs. Lorna Longwell
Dean Longwell, Sheila McCormick, and Dr. Sears at the presentation of the LONGWELL-SEARS SCHOLARSHIP AWARD at the banquet of the 10th Stadler Genetics Symposium
VOLUMES 1 and 2 •1971•
176 pages ($6.00)

CURT STERN: From Crossing-Over to Developmental Genetics
C. C. LINDEGREN: Biology and Biochemistry: Thesis and Antithesis
T. S. PAINTER Chromosomes and Genes Viewed from a Perspective of Fifty Years Research
A. H. DOERMANN: Bacteriophage T4, the Present Concept of the Gene
A. H. STURTEVANT: On the Choice of Material for Genetical Studies
RUTH SAGER and ZENTA RAMANIS: Formal Genetic Analysis of Organelle Genetic Systems
LYNN MARGULIS: Cytoplasmic Genes - Our Precambrian Legacy
S. FOGEL, D. D. HURST and R. K. MORTIMER: Gene Conversion in Unselected Tetrads from Multipoint Crosses
G. W. BEADLE: Genes, Intelligence and Education
W. J. Peacock: Cytogenetic Aspects of the Mechanism of Recombination in Higher Organisms
C. M. RICK: Some Cytogenetic Features of the Genome in Diploid Plant Species.

VOLUME 3 •1971•
116 pages ($4.00)

R. W. ALLARD and A. L. KAHLER: Allozyme Polymorphisms in Plant Populations
DAVID SCHLESSINGER: Repertoire of Genetic Control of Gene Expression in Procaryotes
ALLAN R. GOLDBERG and JERARD HURWITZ: The Catalytic Role of rho in Termination During In Vitro DNA-Dependent RNA Synthesis
HAMPSON L. CARSON: Speciation and the Founder Principle
TIBOR RAJHATHY: The Alloploid Model in Avena
JEROME A. SCHIFF: The Informational and Nutritional Requirements of Cellular Organelles

VOLUME 4 •1972•
136 pages ($4.00)

HERMAN W. LEWIS: Trends in Genetics Research - Prospects for Development
E. R. SEARS: Chromosome Engineering in Wheat
ROBERT P. WAGNER: Evolution and Genetic Significance of Mitochondria
STEPHEN H. HOWELL: The Biochemistry of Meiosis and Genetic Recombination
G. F. SPRAGUE: The Genetics of Corn Breeding
LEON S. DURE III and WILLIAM C. MERRICK: The Role of tRNA in Development
SHELDON C. REED and V. ELVING ANDERSON: Genetics of Psychoses
CHARLES F. MULLETT: Seven (or Twenty-Seven) Against Obscurity or Still Further Observations on Tittlebats
VOLUME 5 • 1973 •
188 pages ($4.00)

ELOF A. CARLSON: Eugenics Revisited: The Case for Germinal Choice
H. ROMAN: Studies of Recombination in Yeast
A. EISENSTARK: Tryptophan Photoproduct as a Genetic Probe: Effects on Bacteria
R. P. LEVINE: Membranes and Mutations in Chlamydomonas reinhardtii
LEE HOOD: The Genetics, Evolution and Expression of Antibody Molecules
R. D. HOTCHKISS: Genetic Unity and Biochemical Diversity in Genetic Recombination Mechanisms
A. TOMASZ: DNA Uptake by Bacteria and Eucaryotic Cells
R. H. HODGES: Judges, Genes and Man

VOLUME 6 • 1974 •
168 pages ($4.50)

G. UNGAR: Molecular Coding of Information in the Nervous System
O. W. MCBRIDE: Metaphase Chromosome Uptake by Mammalian Cells and Expression of the Genes Transferred
T. T. PUCK: The Genetics of Somatic Mammalian Cells
R. H. DAVIS: Metabolic Organization in Neurospora
P. S. CARLSON and T. B. RICE: Developmental Genetics and Crop Yield
B. A. HAMKALO, O. L. MILLER, JR. and A. H. BAKKEN: Electronmicroscopic Studies of Active Genes
C. S. GOWANS: Genetics and Art
G. P. RÉDEI, G. ACEDO and G. GAVAZZI: Flower Differentiation in Arabidopsis

VOLUME 7 • 1975 •
168 pages ($5.00)

ERWIN CHARGAFF: A Few Remarks on the Impact of Biochemistry on Genetics
ROBERT B. HELLING: Eukaryotic Genes in Prokaryotic Cells
OLUF L. GAMBORG: Advances in Somatic Cell Hybridization in Higher Plants
RICHARD B. FLAPELL and DEREK B. SMITH: Genome Organization in Higher Plants
NOBORU SUEOKA: Genetic Transformation as a Tool in the Studies of DNA Replication and Recombination
GEORGE B. JOHNSON: Enzyme Polymorphism and Adaptation
ALLAN C. WILSON: Evolutionary Importance of Gene Regulation
C. DONALD MILES: Genetic Analysis of Photosynthesis
DEAN E. METTER: Natural Selection and Adaptive Resemblance

VOLUME 8 • 1976 •
182 pages ($5.00)

DREW SCHWARTZ: Regulation of the Alcohol Dehydrogenase Genes in Maize
JOHN W. DRAKE: Mutagenic Mechanisms in Bacteriophage T4
ARNOLD L. DEMAIN: Genetic Regulation of Fermentation Organisms
O. P. SEHGAL and C. H. HSU: RNA:Protein and Protein:Protein Interactions in the Virions of Southern Bean Mosaic Virus

JAMES E. CARREL: Aphrodisiacs and Anaphrodisiacs: Better Loving Through Chemistry

ALFRED R. LOEBLICH, III: Dinoflagellate Genetics and DNA Characterization

DAVID APIRION: Genetic Approaches to the Study of Ribosomes

DAVID E. PETTIJOHN: DNA Packaging in Isolated Bacterial Nucleoids

ANTHONY CERAMI: The Development of New Drugs for Genetic Diseases

VOLUME 9 • 1977 •

218 pages ($5.00)

JAMES W. ALLEN, CHARLES F. SHULER, and SAMUEL A. LATT: Extension of BrdU-Dye Analysis of DNA Replication and Sister Chromatid Exchange Formation to In Vivo Systems

G. GAVAZZI: The Genetic Complexity of the R Locus in Maize

JAMES N. THOMPSON, JR.: Analysis of Gene Number and Development in Polygenic Systems

HIROFUMI UCHIMIYA, KEVIN CHEN and S. G. WILDMAN: Polypeptide Composition of Fraction I Protein as an Aid in the Study of Plant Evolution

DONALD L. RIDDLE: A Genetic Pathway for Dauer Larva Formation in Caenorhabditis elegans

WINSTON J. BRILL: Genetics of Nitrogen Fixation

RUTH KAVENOFF and BRIAN C. BOWEN: On the Organization of DNA in Isolated Bacterial Chromosomes

J. R. S. FINCHAM: A Gene-Enzyme Relationship in Neurospora

GARY STEIN, JANET STEIN, LEWIS KLEINSMITH, WILLIAM PARK, JUDITH THOMSON, ROBERT JANSING, ELIZABETH SHEPHARD and SIEGFRIED DETKE: Chromatin as a Model System for Studying the Regulation of Histone Gene Expression in Mammalian Cells

MOSHE FELDMAN: Historical Aspects and Significance of the Discovery of Wild Wheats

VOLUME 10 • 1978 •

124 pages ($5.00)

ARTHUR CHOVNICK, MARGARET MCCARRON, ARTHUR HILLIKER, JANIS O'DONNELL, WILLIAM GELBART and STEPHEN CLARK: Organization of a Gene in Drosophila: A Progress Report

BARBARA McCINTOCK: Mechanisms that Rapidly Reorganize the Genome


JANINE ZIEG, MICHAEL SILVERMAN, MARCIA HILMEN and MELVIN SIMON: Phase Variation in Salmonella: Analysis of the Controlling Element of H2 Gene Expression

C. S. LEVINGS, III and D. R. PRING: The Mitochondrial Genome of Higher Plants

M. M. GREEN: The Genetic Control of Mutation in Drosophila

GEORGE P. SMITH: Non-Darwinian Evolution and the Beard of Life

ORDER FROM 117 CURTIS HALL, UNIVERSITY OF MISSOURI, COLUMBIA MO 65211
DUE | RETURNED