

CONTENTS: SCANNING ELECTRON MICROSCOPY/1970

PREFACE	
FACTORS AFFECTING RESOLUTION IN THE S.E.M. - A. N. Broers	1
APPLICATIONS OF A HIGH-VOLTAGE TRANSMISSION SCANNING ELECTRON MICROSCOPE J. M. Cowley, D. J. Smith and G. A. Sussex.	9
A COMPARISON OF X-RAY ANALYSIS TECHNIQUES AVAILABLE FOR SCANNING ELECTRON MICROSCOPES - L. V. Sutfin and R. E. Ogilvie.	17
MICROSCOPIC AUGER ELECTRON ANALYSIS OF FRACTURE SURFACES - N. C. MacDonald, H. L. Marcus and P. W. Palmberg	25
USE OF THE SEM IN CATHODOLUMINESCENCE OBSERVATIONS IN NATURAL SAMPLES - G. Remond, S. Kimoto and H. Okuzumi	33
THE ENVIRONMENTAL CONTROL STAGE - W. C. Lane	41
SCANNING ELECTRON MICROSCOPY OF LABILE BIOLOGICAL MATERIAL MAINTAINED UNDER CONTROLLED CONDITIONS - P. Echlin, R. Paden, B. Dronzek, and R. Wayte	49
PARTICLE SIZE DISTRIBUTIONS OF PARTICULATE ALUMINAS FROM COMPUTER-PROCESSED SEM IMAGES - E. W. White, H. Gorz, G. G. Johnson, Jr. and R. E. McMillan. . .	57
A SYSTEM FOR STEREOMETRIC ANALYSIS WITH THE SCANNING ELECTRON MICROSCOPE - G. Dorfler and J. C. Russ	65
STUDY OF CONTRAST IN SEM IMAGES FROM SAMPLES OF KNOWN GEOMETRIES - I. Corvin, . and O. Johari	73
STUDY OF FIBERS IN THE SCANNING ELECTRON MICROSCOPE - P. Cross, J. W. S. Hearle, B. Lomas, and J. Sparrow	81
SPECIMEN PREPARATION TECHNIQUES - G. E. Pfefferkorn	89
CRYOFRACTURE OF BIOLOGICAL MATERIAL - G. H. Haggis.	97
PRACTICAL PROBLEMS AND METHODS IN THE THREE-DIMENSIONAL ANALYSIS OF SCANNING ELECTRON MICROSCOPE IMAGES - A. Boyde	105
TRANSMISSION SCANNING ELECTRON MICROSCOPY OF SECTIONED BIOLOGICAL MATERIALS - J. A. Swift and A. C. Brown	113
THE STUDY OF FOSSIL LEAVES BY SEM - K. L. Alvin	121
A NEW APPROACH TO THE STUDY OF FOSSIL WOOD - M. Muir.	129
APPLICATION OF SCANNING ELECTRON MICROSCOPY TO BASIDIOMYCETE TAXONOMY - R. T. Moore, and L. F. Grand.	137
SCANNING ELECTRON MICROSCOPY OF FUNGAL AND BACTERIAL SPORES - J. J. Ellis, L. A. Bulla, G. St. Julian, and C. W. Hesseltine.	145
SCANNING ELECTRON MICROSCOPE STUDIES OF PLANT-LEAF DAMAGE IN AN ELECTROSTATIC FIELD - L. E. Murr and N. M. Hodgkin.	153
GENETIC VARIATION IN CEREAL GRAINS AND PROCESSING EFFECTS ON CEREAL FLOURS AS EVALUATED BY SCANNING ELECTRON MICROSCOPY - D. D. Christianson.	161
APPLICATION OF THE SCANNING ELECTRON MICROSCOPE TO THE STUDY OF CELL DIVISION IN TETRAHYMENA PYRIFORMIS - H. E. Buhse, Jr., S. J. Stamler, and J. O. Corliss .	169
THE DIRECT STUDY OF POLLUTED STREAM CILIATED PROTOZOA VIA SCANNING ELECTRON MICROSCOPY - E. B. Small and V. S. Ranganathan.	177

CONTENTS: SCANNING ELECTRON MICROSCOPY/1970 CONTD.

SURFACE STRUCTURE OF THE EYE TISSUE - T. Kuwabara	185
EXPERIMENTAL STUDIES ON THE INTERPRETATION OF BONE SURFACES STUDIED WITH THE SEM - S. J. Jones and A. Boyde.	193
THE GROWTH OF CALCIUM PHOSPHATE CRYSTALS BY CONTROLLED DIFFUSION IN BIO-SIMJ-LATING SILICA GELS - A. J. Saffir and B. Rubin.	201
INCIPIENT CARIOUS ENAMEL LESIONS STUDIED BY SCANNING ELECTRON MICROSCOPY - M. A. Zuniga and M. B. Quigley.	209
PRESENT STATUS OF SCANNING ELECTRON MICROSCOPY IN DERMATOLOGY - A.J.P. Carteau	217
SCANNING ELECTRON MICROSCOPY OF SENSORY (FUNGIFORM) PAPILLAE IN THE FROG TONGUE - A. Shimamura and J. Tokunaga	225
STUDIES OF HUMAN RECTAL MUCOSA BY SCANNING ELECTRON MICROSCOPY - H. Kavin, J. D. Eckert, G. Zuidema, R. E. Greasley and D. G. Hamilton	233
LUMINAL SURFACE OF NORMAL AND ATHEROSCLEROTIC ARTERIES OBSERVED BY SCANNING ELECTRON MICROSCOPE - T. Sunaga, Y. Yamashita, F. Numano, and T. Shimamoto. .	241
SCANNING ELECTRON MICROSCOPY OF THE AVIAN LUNG - J. A. Nowell, J. Pangborn, and W. S. Tyler	249
SEM STUDIES OF MALARIA (<u>PLASMODIUM BERGHEI YOELII</u>) IN MICE - M. D. Schneider. .	257
RED CELL CONTOUR AS A FACTOR IN THE "SICKLING" PROCESS IN HbSS DISEASE - P. N. Farnsworth and I. P. Rodgers.	265
SCANNING ELECTRON MICROSCOPY OF FREEZE-DRIED SUINEA PIG ORGAN OF CORTI - W. F. Marovitz, R. Thalmann, and I. K. Arenberg	273
APPLICATION OF THE SCANNING ELECTRON MICROSCOPE TO ELECTRON FRACTOGRAPHY - R. M. Pelloux, K. Erhardt, and N. J. Grant	281
SOME APPLICATIONS OF THE SEM WITH REFERENCE TO CRACKING PROBLEMS IN WELDED STEELS - J. C. M. Farrar.	289
APPLICATION OF SEM TO THE STUDY OF SURFACE TOPOGRAPHY OF FATIGUE FRACTURES - G. W. J. Waldron, A. E. Inckle, and P. Fox.	297
FRACTOGRAPHIC FEATURES ASSOCIATED WITH GENERAL YIELDING IN LOW-STRENGTH STEELS - D. Elliott and H. Stuart.	305
SCANNING ELECTRON MICROSCOPE STUDIES OF STRESS-CORROSION CRACKING - J. C. Scully	313
INVESTIGATION OF SECONDARY CRACKS FROM THE FAILED POINT PLEASANT, WEST VIRGINIA BRIDGE - D. B. Ballard and H. Yakowitz.	321
DIRECT OBSERVATION OF DEFORMATION PROCESSES IN SUPERPLASTIC Pb-Sn EUTECTIC ALLOY - D. J. Dingley.	329
INSTABILITIES OF SILICON CRYSTAL GROWTH FROM TERNARY Al-Si-Zn ALLOYS OBSERVED BY SEM - I. Minkoff and B. Lux	337
SEM STUDIES OF FRACTURE IN ZIRCONIA FIBER REINFORCED-ZIRCONIA MATRIX COMPOSITES - K. S. Mazdidasni, G. A. Graves, and C. T. Lynch.	345
SEM STUDY OF SAPPHIRE FILAMENT REINFORCED METALS - R. E. Tressler and T. L. Moore.	353
SEM FRACTOGRAPHY OF CARBON FIBER REINFORCED P13N POLYIMIDE COMPOSITES - A. Toy, and R. D. Engquist.	361
SCANNING ELECTRON MICROSCOPY AND STRUCTURE OF CHEMICALLY VAPOR INFILTRATED CARBON-CARBON COMPOSITES - M. J. Mitchell and W. G. Bradshaw.	369

CONTENTS: SCANNING ELECTRON MICROSCOPY/1970 CONTD.

SUBMICRON UNMIXING OF PHASES IN THE FELDSPAR GROUP OF MINERALS AS RELATED TO GROWTH AND OPTICAL PROPERTIES - R. T. Greer.	377
APPLICATION OF SCANNING ELECTRON MICROSCOPY TO THE STUDY OF HYDRATED CEMENT - S. Diamond.	385
MICROSTRUCTURES OF MELT SPRAYED OXIDE CERAMIC COATINGS AS OBSERVED BY THE SCANNING ELECTRON MICROSCOPE - F. J. Koubek.	393
A STUDY OF PROTECTIVE COATINGS FORMED ON METAL SUBSTRATES - K. G. Mayhan, T. J. O'Keefe, and J. F. Montle.	401
ELECTRON BEAM INTERACTIONS IN SOLIDS - D. B. Wittry.	409
INVESTIGATION OF CURRENT-INDUCED MASS TRANSPORT IN THIN METAL CONDUCTING STRIPES - J. R. Devaney.	417
SOME APPLICATIONS OF THE SEM TO THE STUDY OF SPUTTER ETCHING AND PHOTORESISTS - L. J. Fried and R. H. Flachbart.	425
TIME VARYING POTENTIAL DIFFERENCE OBSERVATIONS WITH THE SEM - D. P. Gaffney.	433
SCANNING ELECTRON MICROSCOPY OF OSCILLATING QUARTZ CRYSTALS - R. J. Gerdes and C. E. Wagner.	441
THE DYNAMICAL THEORY OF SCANNING ELECTRON MICROSCOPE CHANNELLING PATTERNS - P. B. Hirsch and C. J. Humphreys	449
PSEUDO-KIKUCHI PATTERN DEGRADATION OF (111) GALLIUM ARSENIDE INDUCED BY 60-kev CADMIUM ION BOMBARDMENT - E. D. Wolf and R. G. Hunsperger.	457
A TECHNIQUE FOR ACCURATE MEASUREMENT AND DISPLAY OF APPLIED POTENTIAL DISTRIBUTIONS USING THE SCANNING ELECTRON MICROSCOPE - J. P. Flemming and E. W. Ward	465
VOLTAGE MEASUREMENT IN THE SCANNING ELECTRON MICROSCOPE - J. R. Banbury and W. C. Nixon.	473
POTENTIAL MAPPING USING AUGER ELECTRON SPECTROSCOPY - N. C. MacDonald.	481
ELECTRON CHANNELLING EFFECTS USING THE SEM - G. R. Booker.	489
MORPHOLOGICAL STUDIES OF THE LTJNAR FINES AND OF A ROCK FROM THE APOLLO II SAMPLES - C. M. Drew, W. S. McEwan, J. E. Thomas, B. Nagy and L. A. Nagy	497
VACUUM RESISTANT ORGANISMS VIEWED MOVING IN THE SCANNING ELECTRON MICROSCOPE - W. J. Humphreys, P. E. Hunter and H. E. Barke (Abstract Only).	505
ELECTRON FRACTOGRAPHY OF CRYSTALLINE AND POLYCRYSTALLINE Ti-Mo WIRES USING SCANNING ELECTRON MICROSCOPY - L. E. Murr (Abstract Only).	507
BIBLIOGRAPHY ON THE SCANNING ELECTRON MICROSCOPE - O. C. Wells	509
TABLE OF CONTENTS, SCANNING ELECTRON MICROSCOPY/1968	525
TABLE OF CONTENTS, SCANNING ELECTRON MICROSCOPY/1969	526
PROGRAM: THIRD ANNUAL SCANNING ELECTRON MICROSCOPE SYMPOSIUM/1970	529
AUTHOR INDEX	533