

## ACTA STEREOLOGICA

### CONTENTS

Page

#### STEREOLOGY IN BIOSCIENCES

##### *Endocrinology, morphometry of organs and cells*

<b>Morphometric evaluation of the pancreas of growth hormone-transgenic mice, R. Wanke, S. Weis, D. Kluge, E. Kahnt, E. Schenck, G. Brem, W. Hermanns</b> .....	3
<b>The stereological study of age-related effects in rat thyroids after <math>\gamma</math>-ray irradiation, X. Zhang, L. Guo, K. Tu, L. Ma, C. Ye</b> .....	9
<b>Morphometry of the pituitary gland of growth hormone-transgenic mice, P. Schmidt, I. Haider, S. Weis, G. Brem, E. Dahme</b> .....	15
<b>Seasonal variation in the influence of pinealectomy on rat follicular and parafollicular cells, D. Štiblar-Martinčič</b> .....	21
<b>Stereological estimation of the total volume of duodenal mucosa and of endocrine cells in rats treated with prostaglandin E<sub>2</sub>, M.W. Kapraali, O. Johansson, A. Uribe</b> .....	27

##### *Angiology and hematology, microvessels*

<b>Morphometric and stereological analysis of cerebral cortical microvessels using optical sections and thin slices, P.J. McMillan, J.O. Archambeau, A. Gokhale, M.H. Archambeau, M. Oey</b> .....	33
<b>The practical use of stereology in characterising capillary networks, J.R. Nyengaard, R. Rasch</b> .....	39
<b>Morphometric analysis of the vascularization of the terminal villi in normal and diabetic placenta, M. Jirkovská, J. Šmídová, T. Frýda</b> .....	43
<b>Estimation of Sertoli cell nuclear volume on vertical sections, Y. Zhang, N.G. Wreford</b> .....	49

##### *Osteology*

<b>Direct stereological estimation of 3-D connectivity density in human iliac cancellous bone: The effect of age and sex, T.A. Youngs, R.W. Boyce, L. Mosekilde, C.H. Søgaard, C.L. Paddock, H.J.G. Gundersen</b> .....	55
---	----

*General and clinic morphology, cell size and arrangement*

<b>Absolute volumes of glomerular cells and glomerular compartments in the normal rat kidney, M.C. Soosaipillai, J.F. Bertram, G.B. Ryan</b> .....	63
<b>The prognostic value of quantitative histopathology in breast cancer: Results of retrospective studies, M. Ladekarl, F.B. Sørensen</b> .....	69
<b>Automatic classification of cellular elements of solid tumors; application to DNA quantitation, E. Masson, P. Herlin, I. Galle, F. Duigou, P. Belhomme, D. Bloyet, A.M. Mandard</b> .....	75
<b>The number of metaphasic granulosa cells in isolated ovarian follicles estimated using the nucleator principle, P.V. Bagger, M.D. Christiansen, H.J.G. Gundersen</b> .....	83
<b>Stereological analysis by use of Cavalieri's principle of late change in mouse bladders after irradiation and chemotherapy, K. Nielsen, F. Lundbeck</b> .....	89
<b>Stereological analysis of tubular cells in normal and dilated chick mesonephric nephrons, L. Kubínová, Z. Zemanová</b> .....	95
<b>Morphometry of connective tissue in rat liver, O. Löw, U. Gabler, A. Müller, P. Gabler, H. Schubert, H.C. Löw, G. Machnik</b> .....	101
<b>Nuclear cytoplasmic ratio in epithelial cells of human oviduct, P. Hach, Z. Jirsová, Z. Vernerová</b> .....	107

*Plant anatomy*

<b>Recent stereological methods for estimating leaf anatomical characteristics, L. Kubínová</b> .....	115
---	-----

## IMAGE ANALYSIS AND MATHEMATICAL MORPHOLOGY

*Mathematical morphology*

<b>Role of mathematical morphology in filtering, segmentation and analysis, J.L. Chermant, M. Coster</b> .....	125
<b>Propagation function: Towards constant time algorithms, M. Schmitt</b> .....	137
<b>Characterization of microstructural anisotropy of steels by means of mathematical morphology, H. Wendrock, R. Hübel</b> .....	143
<b>Large scale point covariance analysis of homogeneity in TiB<sub>2</sub>-Fe composites, J.M. Missiaen, J.M. Chaix</b> .....	149
<b>Grey tone level images characterization by morphological functions: Application to non planar surfaces, G. Gauthier, J.O. Rebillon, M. Coster, E. Henault</b> .....	155
<b>Simulation of the observed image on a relief: Notion of transfer function, E. Henault, J.L. Chermant, M. Coster</b> .....	161

*Image analysis of fractal objects*

**Multiscaling and multifractality in image analysis, S. Blacher, F. Brouers** ..... 169

**Autocorrelation function: A good tool for fracture network analysis, D. Niorthé** ..... 177

**Image processing software for fractal analysis of fractures in rocks, A. Badri, G. Touchard, B. Velde, A. Badri Sahel, J. Borzeix** ..... 183

*Image processing*

**Color image understanding through a perceptual approach, A. Tremeau, M. Calonnier, B. Laget** ..... 191

**Image analysis and stereology, I. Krekule, I. Saxl** ..... 197

**On application of DTP software in image analysis, L. Wojnar** ..... 203

**Segmentation of grain boundaries in WC-Co cermets, G. Gauthier, J.L. Quenec'h, M. Coster, J.L. Chermant** ..... 209

**Characterization and growth monitoring of filamentous microorganisms by image analysis, D. Pichon, H. Vivier, M.N. Pons, A. Lounes, A. Lebrihi** ..... 215

**Time-frequency distribution and image processing: An application to the combustion field, G. Courbebaisse** ..... 221

**Computer primer for stereological applications, P. Karen, L. Kubínová, M. Jirkovsky, J. Mikulec, P. Tsironis, I. Krekule** ..... 227

**A new approach to crest lines detection in grey level images, N. Selmaoui, C. Leschi, H. Emptoz** ..... 231

**Use of the Fourier transform for composite materials quality controls by image processing, S. Bres, G. Merle, H. Emptoz** ..... 237

MISCELLANEOUS

**On the precision of some stereological estimators for the model parameter of the spatial Poisson-Voronoi tessellation, U. Hahn, U. Lorz** ..... 245

FORTHCOMING MEETINGS ..... VII

PERSONAL NEWS ..... VIII

ERRATA CORRIGE ..... VIII

INSTRUCTIONS TO AUTHORS