# FRONTIERS OF ELECTRON MICROSCOPY IN MATERIALS SCIENCE 2005

## SELECTED CONTRIBUTIONS FROM THE XTH INTERNATIONAL CONFERENCE ON FRONTIERS OF ELECTRON MICROSCOPY IN MATERIALS SCIENCE—FEMMS 2005

KASTEEL VAALSBROEK, THE NETHERLANDS
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Guest Editors:

Knut Urban, Joachim Mayer,
Martina Luysberg, and Karsten Tillmann

*Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons in Jülich and Aachen, Germany*


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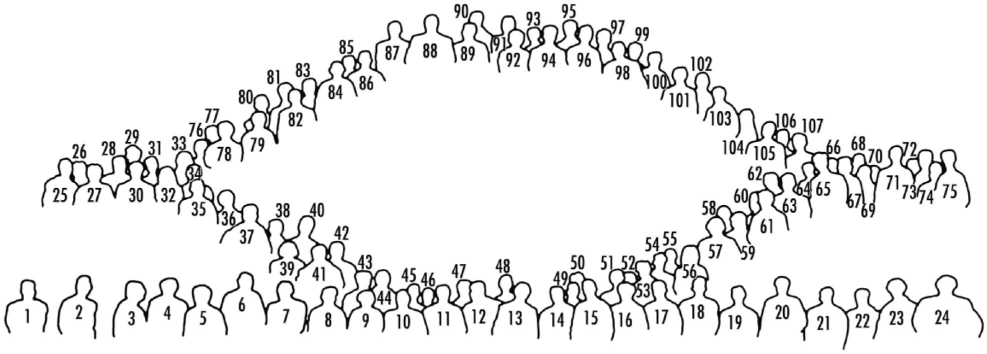
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## Participants

1. Paul Fischione, E.A. Fischione Inc.
2. Alexander Ziegler, Martinsried
3. Christian Kisielowski, Berkeley
4. Werner Grogger, Graz
5. Lawrence Allard, Oak Ridge
6. Peter Schattschneider, Vienna
7. Ferdinand Hofer, Graz
8. David Muller, Cornell
9. Maria Varela, Oak Ridge
10. Wolfgang Jäger, Kiel
11. Dirk van Dyck, Antwerp
12. David Paganin, Victoria
13. Knut Urban, Jülich
14. Manfred Rühle, Stuttgart
15. Joachim Mayer, Aachen
16. Steven Pennycook, Oak Ridge
17. Juli Chakk, Kiryat Gat
18. John Titchmarsh, Oxford
19. Michael Jenkins, Oxford
20. Harald Rose, Darmstadt
21. Brent Bailey, Gatan Inc.
22. Daniel Caillard, Toulouse
23. Michael Feuerbacher, Jülich
24. Karsten Tillmann, Jülich
25. Paul Kotula, Sandia
26. Masashi Watanabe, Lehigh
27. Naoya Shibata, Tokyo
28. Douglas Blom, Oak Ridge
29. Helmut Kohl, Münster (Westf.)
30. Takeo Sasaki, Tokyo
31. Christian Dwyer, Oxford
32. Vicky Keast, Sydney
33. Martina Luysberg, Jülich
34. Frank Heyroth, Halle
35. Michiel van der Stam, FEI Company
36. Anders Thölén, Göteborg
37. David Williams, Lehigh
38. Noel Nuhfer, Pittsburgh
39. Gracie Burke, Bettis Bechtel Inc.
40. Peter Nellist, Dublin
41. Dale Newbury, Gaithersburg
42. Allan Robins, E.A. Fischione Inc.
43. Wolfgang Neumann, Berlin
44. Paul Midgley, Cambridge
45. Klaus van Benthem, Oak Ridge
46. Jose Miguel Sanchez, Madrid
47. Chen-An Hsu, Aachen
48. Tzuan-Horng Liu, Aachen
49. Dror Horvitz, Kiryat Gat
50. Peter Schlossmacher, Carl Zeiss Inc.
51. Yimei Zhu, Brookhaven
52. Lothar Houben, Jülich
53. Barry Carter, Minneapolis
54. Thomas Weirich, Aachen
55. Ulrich Poppe, Jülich
56. Shery Chang, Oxford
57. Max Haider, CEOS GmbH
58. Stephan Kujawa, FEI Company
59. Jian Min Zuo, Urbana
60. Florian Banhart, Mainz
61. Ulrich Dahmen, Berkeley
62. John Silcox, Cornell
63. Gerd Benner, Carl Zeiss Inc.
64. Han Yuan Chen, Jülich
65. Dewei Deng, Jülich
66. Tore Niermann, Göttingen
67. Nigel Browning, Davis
68. Norbert Hüging, Jülich
69. Ilke Arslan, Cambridge
70. Christoph Koch, Stuttgart
71. Andrew Scott, Leeds
72. Kazutaka Mitsuishi, Tsukuba
73. Thomas LaGrange, Livermore
74. Doris Meertens, Jülich
75. Günther Möbus, Sheffield
76. Zhi-Quan Liu, Tsukuba
77. Patrick Veyssiere, Chatillon
78. Teruyasu Mizoguchi, Tokyo
79. Andrew Bleloch, Daresbury
80. Mervyn Shannon, Daresbury
81. Mike Treacy, Tempe
82. Gerhard Dehm, Leoben
83. Horst Strunk, Erlangen
84. Dieter Typke, Martinsried
85. Dinesh Ram, Liverpool
86. Michael Wibbelt, Soft Imaging System
87. Eckhard Quandt, Bonn
88. Bert Freitag, FEI Company
89. Josef Zweck, Regensburg
90. Christoph Hülk, Soft Imaging System
91. Ludger Weisser, Atomic Force GmbH
92. Yukihito Kondo, JEOL Ltd.
93. Melanie Barfels, Gatan Inc.
94. John Rodenburg, Sheffield
95. Michael O'Keefe, Washington
96. Masaki Takeguchi, Tsukuba
97. Jung-Goo Lee, Osaka
98. Kazuo Furuya, Tsukuba
99. Yoshitaka Matsukawa, Oak Ridge
100. Peter Werner, Halle (Saale)

101 Alla Sologubenko, Aachen
102 Eckhard Pippel, Halle (Saale)
103 Val Gertsman, Ottawa
104 Francesca Sammicelli, Agrate-Brianza
105 Markus Boese, Jülich
106 Karsten Thiel, Göttingen
107 Markus Lentzen, Jülich

## Participants not displayed

108 Carlos Achete, Rio de Janeiro
109 Juri Barthel, Jülich
110 Joost Batenburg, Leiden
111 Christoph Böttcher, Berlin
112 Werner Bröcker, DFG
113 Dane Cubric, Shimadzu Res. Lab.
114 Hans Dijkstra, Thermo Electr. Corp.
115 Siegfried Falch, JEOL Ltd.
116 Brendan Foran, Austin
117 Alfred Forchel, Würzburg
118 Norbert Franz, Hamburg
119 Beate Gade, Thermo Electr. Corp.
120 Murray Gibson, Argonne
121 Benjamin Grushko, Jülich
122 Andreas Gutzmann, Oxford Instr.
123 Marc Heggen, Jülich
124 Heinz Hohenberg, Hamburg
125 Burkhard Jahnen, DFG
126 Hans-Peter Karnthaler, Vienna
127 Wayne King, Livermore
128 Angus Kirkland, Oxford
129 Ute Kolb, Mainz
130 Ondrej Krivanek, Nion Co.
131 Michael Lehmann, Dresden
132 Galyna Laptyeva, Aachen
133 Kai Ludwig, Berlin
134 Werner Mader, Bonn
135 Douglas Medlin, Sandia
136 Shaobo Mi, Jülich
137 Helmut Oppolzer, Munich
138 Jürgen Plitzko, Martinsried
139 Dirk Stenkamp, Carl Zeiss Inc.
140 Andreas Thust, Jülich
141 Ruud Tromp, Yorktown Heights
142 Eberhard Umbach, Würzburg
143 Guoqiang Xie, Tsukuba
144 Markus Wild, FEI Company

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PREFACE

# Frontiers of Electron Microscopy in Materials Science 2005

This issue of the *Journal of Materials Science* contains contributions presented at the *Frontiers of Electron Microscopy in Materials Science* meeting held in Kasteel Vaalsbroek on 25–30 September 2005. Tenth in the series of biennial conferences, the meeting focused on latest developments in the field of advanced instrumentation and application of electron microscopy in materials science. The international character of this series of conferences was once again emphasized—over 140 delegates from academia, industry, and national laboratories from 16 countries representing all areas of the globe participated.

The main topics of *FEMMS 2005* covered prospects of aberration correction and monochromatization in electron microscopy to materials science applications as well as demonstrations of microscopic investigations of lattice defects and internal boundaries in all types of structural and functional materials. The multifariousness of contributions thus represented a state-of-the-art overview of the microscopic techniques now being applied to a wide range of materials science problems. The papers brought together in this issue range from fundamental treatments of atomic-scale imaging to demonstrations of advanced microanalytical methods and descriptions of new techniques which are only beginning to find application.

The conference was organized by the *Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons* with major sponsorship by the Research Centre Jülich, RWTH Aachen University and DFG—the German Research Foundation. Sponsors also included FEI Company, JEOL Ltd., Carl Zeiss Inc., Gatan Inc., E. A. Fischione Inc., Nion Co., Technoorg Linda Ltd., Soft Imaging System GmbH, EDAX AMETEK Inc., HWL Scientific Instruments, CEOS GmbH, BAL-TEC AG, NanoMEGAS, Hitachi High-Technologies Europe GmbH, Thermo Electron Corp., and Oxford Instruments Plc. or their German branches. The conference organization was substantiated by the assiduous work carried out by Helene-Ingrid Rische-Radloff, Stefanie Stadler, and Gabriele Waßenhoven who deserve very special thanks.

The materials science related contributions to *FEMMS 2005* are being published in this special issue of the *Journal of Materials Science* while manuscripts addressing new techniques in theory will be published in a forthcoming issue of *Microscopy and Microanalysis*. All papers have been reviewed by two or more referees and the editors are most grateful to the reviewers for their efficient work.

Knut Urban
Joachim Mayer
Martina Luysberg
Karsten Tillmann
e-mail: k.tillmann@fz-juelich.de