List of Publications

Yasin Ekinci

Researcher ID: B-3699-2014

Journal articles:

1. **Pneumatically Controlled Nanofluidic Devices for Contact-Free Trapping and Manipulation of Nanoparticles**
   M. A. Gerspach, N. Mojarad, D. Sharma, Y. Ekinci, and T. Pfohl
   Part. Part. Syst. Charact. **2018**, 1800161 doi: 10.1002/ppsc.201800161
   [YE and TP are the corresponding authors]

2. **Improving the Resolution and Throughput of Achromatic Talbot Lithography**
   D. Kazazis, L.-T. Tseng and Y. Ekinci
   J. Vac. Sci. Tech. B **36**, 06J501 (2018) doi: 10.1116/1.5048506

3. **All-dielectric metasurface-based roll-angle sensor**
   X. Chen, Z. Tao, C. Chen, C. Wang, L. Wang, H. Jiang, D. Fan, Y. Ekinci, and S. Liu
   Sensors and Actuators A **279**, 509-517 (2018) doi: 10.1016/j.sna.2018.06.058

4. **Nano-confinement of block copolymers in high accuracy topographical guiding patterns: Modelling the emergence of defectivity due to incommensurability**
   S. Gottlieb, D. Kazazis, I. Mochi, L. Evangelio, M. Fernández-Regúlez, Y. Ekinci, and F. Perez-Murano
   Soft Matter **14**, 6799-6808 (2018) doi: 10.1039/C8SM01045E
   [cover page of the issue]

5. **Changes in the near edge X-ray absorption fine structure of hybrid organic-inorganic resists upon exposure**
   R. Fallica, B. Watts, B. Roesner, G. Della Giustina, L. Brigo, G. Brusatin, and Y. Ekinci
   Nanotechnology **29** 36LT03, (2018) doi: 10.1088/1361-6528/aaccd4

6. **Dual-tone application of a tin-oxo cage photoresist under e-beam and EUV exposure**
   Y. Zhang, J. Haitjema, M. Baljozovic, M. Vockenhuber, D. Kazazis, T. A. Jung, Y. Ekinci, and A. M. Brouwer
   J. Photopolym. Sci. Technol. **31** (2), 249–255 (2018)

7. **Photoacid generator-polymer interaction on the quantum yield of chemically amplified resists for extreme ultraviolet lithography**
   R. Fallica and Y. Ekinci
   J. Mater. Chem. C **6**, 7267-7273 (2018) doi: 10.1039/C8TC01446A

8. **Beam drift and partial probe coherence effects in EUV reflective-mode coherent diffractive imaging**
   P. Helfenstein, R. Rajeev, I. Mochi, A. Kleibert, C. A. F. Vaz, and Y. Ekinci
   Opt. Express **26**, 12242-12256 (2018) doi: 10.1364/OE.26.012242

9. **Absorption coefficient of metal-containing photoresists in the extreme ultraviolet**
   R. Fallica, J. Haitjema, L. Wu, S. Castellanos Ortega, A. M. Brouwer, and Y. Ekinci
   J. of Micro/Nanolith. MEMS MOEMS **17**, 023505 (2018) doi:10.1117/1.JMM.17.2.023505

10. **Lithographic performance of ZEP520A and mr-PosEBR exposed by electron beam and extreme ultraviolet lithography**
    R. Fallica, D. Kazazis, R. Kirchner, A. Voigt, I. Mochi, H. Schift, and Y. Ekinci
    J. Vac. Sci. Tech. **B 35**, 061603 (2017) doi: 10.1116/1.5003476

11. **Coherent Diffractive Imaging Methods for Semiconductor Manufacturing**
    P. Helfenstein, I. Mochi, R. Rajendran, S. Fernandez, and Y. Ekinci
    Adv. Opt. Techn. **6(6)**, 439 (2017) doi: 10.1515/aot-2017-0052

12. Soft electrostatic trapping in nanofluidics
M. A. Gerspach, N. Mojarad, D. Sharma, T. Pfohl, and Y. Ekinci
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13. Hydrogen Adsorption on Nanosized Platinum and Dynamics of Spillover onto Alumina and Titania
C. Spreafico, W. Karim, Y. Ekinci, J. A. van Bokhoven, and J. VandeVondele
J. Phys. Chem. C **121(33)**, 17862 (2017) doi: 10.1021/acs.jpcc.7b03733

14. Extreme ultraviolet patterning of tin-oxo cages
J. Haitjema, Y. Zhang, M. Vockenhuber, D. Kazazis, Y. Ekinci, and A. M. Brouwer
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15. Strain and thermal conductivity in ultra-thin suspended silicon nanowires
D. Fan, H. Sigg, R. Spolenak, and Y. Ekinci
Physical Review B **96**, 115307 (2017) doi: 10.1103/PhysRevB.96.115307

16. RESCAN: an actinic lensless microscope for defect inspection of EUV reticles
I. Mochi, P. Helfenstein, I. Mohacsi, R. Rajeev, D. Kazazis, S. Yoshitake, and Y. Ekinci
J. Micro/Nanolith. MEMS MOEMS **16**(4), 041003 (2017) doi: 10.1117/1.JMM.16.4.041003

17. State-of-the-art nanofabrication in catalysis
W. Karim, S. A. Tschupp, J. Herranz, T. J. Schmidt, Y. Ekinci, and J. A. van Bokhoven
Chimia **71**, 4 (2017) doi: 10.2533/chimia.2017.1
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18. High-resolution grayscale patterning using extreme ultraviolet interference lithography
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19. Nanofluidic lab-on-a-chip trapping devices for screening electrostatics in concentration gradients
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20. Single positively charged particle trapping in nanofluidic systems
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Microelectronic Eng. **175**, 43 (2017) doi: 10.1016/j.mee.2017.01.001

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[YE and JAB are the corresponding authors]
Highlighted in more than 50 newspapers, magazines, and webpages, e.g.:
http://cen.acs.org/articles/95/i2/Study-confirms-hydrogen-spillovercatalytic-hydrogenation.html
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22. A comparative study of resists and lithographic tools using the lumped parameter model
R. Fallica, R. Kirchner, Y. Ekinci, and D. Mailly
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S. Redford, A. Bergamaschi, M. Brückner, S. Cartier, R. Dinapoli, Y. Ekinci, E. Fröjdh, D. Greiffenberg, D. Mayilyan, D. Mezza, A. Mozzanica, R. Rajeev, M. Ramilli, C. Ruder, L. Schädler, B. Schmitt, X. Shi, D. Thattil, G. Tinti, J. Zhang
J. of Instrumentation, Volume 11, Nov. 2016 doi: 10.1088/1748-0221/11/11/C11013

24. Comparative study of line roughness metrics of chemically amplified and inorganic resists for EUV
R. Fallica, E. Buitrago, and Y. Ekinci

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25. Scanning coherent diffractive imaging methods for actinic EUV mask metrology
    P. Helfenstein, I. Mohacsi, R. Rajendran, and Y. Ekinci
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26. Novel high-sensitivity EUV photoresist for sub-7nm node
    T. Nagai, H. Nakagawa, T. Naruoka, S. Dei, S. Tagawa, A. Oshima, S. Nagahara, G. Shiraishi, K. Yoshihara, Y. Terashita, Y. Minekawa, E. Buitrago, Y. Ekinci, O. Yildirim, M. Meeuwissen, R. Hoefnagels, G. Rispens, C. Verspaget, and R. Maas
    J. Photopolymer Sci. Tec. **29**(3), 475 (2016) doi: 10.2494/photopolymer.29.475

27. Nanolithography using Bessel beams of extreme ultraviolet wavelength
    D. Fan, L. Wang, and Y. Ekinci
    Scientific Reports **6**, 31301 (2016) doi: 10.1038/srep31301

28. Dynamic absorption coefficients of chemically amplified resists and nonchemically amplified resists at extreme ultraviolet
    R. Fallica, J. K. Stowers, A. Grenville, A. Frommhold, A. P. G. Robinson, and Y. Ekinci
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29. Photolithography reaches 6 nm half-pitch using extreme ultraviolet light
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    E. Buitrago, S. Nagahara, O. Yildirim, H. Nakagawa, S. Tagawa, M. Meeuwissen, T. Nagai, T. Naruoka, C. Verspaget, R. Hoefnagels, G. Rispens, G. Shiraishi, Y. Terashita, Y. Minekawa, K. Yoshihara, A. Oshima, M. Vockenhuber, Y. Ekinci
    J. Micro/ Nanolith. MEMS MOEMS **15(3)**, 033502 (2016) doi: 10.1117/1.JMM.15.3.033502

31. Size-dependent redox behavior of iron observed by in-situ single nanoparticle spectro-microscopy on well-defined model systems
    W. Karim, A. Kleibert, U. Hartfelder, A. Balan, J. Gobrecht, J. A. van Bokhoven, and Y. Ekinci
    Scientific Reports **6**, 18818 (2016) doi: 10.1038/srep18818

32. Pattern collapse mitigation in inorganic resists via a polymer freeze technique
    T. S. Kulmala, E. Buitrago, M. Vockenhuber, and Y. Ekinci
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33. Patterning of nanodot-arrays using EUV achromatic Talbot lithography at the Swiss Light Source and Shanghai Synchrotron Radiation Facility
    D. Fan, E. Buitrago, S. Yang, W. Karim, Y. Wu, R. Tai, and Y. Ekinci
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35. Organometallic carboxylate resists for extreme ultraviolet with high sensitivity
    J. Passarelli, M, Murphy, R. Del Re, M. M. Sortland, J. Hotalen, L. Dousharm, R. Fallica, Y. Ekinci, M, Neisser, D. A. Freedman, and R. L. Brainard
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    R. Del Re, J. Passarelli, M. Sortland, B. Cardineau, Y. Ekinci, E. Buitrago, M. Neisser, D. A. Freedman, and R. L. Brainard

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37. Platinum and palladium oxalates: positive-tone extreme ultraviolet resists
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39. Towards deep-UV surface-enhanced resonance Raman spectroscopy of explosives: Ultrasensitive, real-time and reproducible detection of TNT
S. K. Jha, Y. Ekinci, M. Agio, and J. F. Löffler
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W. Karim, S. A. Tschupp, M. Oezaslan, T. Schmidt, J. Gobrecht, J. van Bokhoven, and Y. Ekinci
Nanoscale **7**, 7386-7393 (2015) doi: 10.1039/C5NR00565E
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41. Towards 10 nm half-pitch in EUV lithography: Results on resist screening and pattern collapse mitigation techniques
T. S. Kulmala, M. Vockenhuber, E. Buitrago, R. Fallica, and Y. Ekinci
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42. Beyond EUV lithography: a comparative study of efficient photoresists' performance
N. Mojarad, J. Gobrecht, and Y. Ekinci
Scientific Reports **5**, 9235 (2015) doi: 10.1038/srep09235

43. Extreme ultraviolet stokesmeter for pulsed magneto-optics
M. Ruiz-Lopez, F. Barbato, Y. Ekinci, and D. Bleiner
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47. Single-digit-resolution nanopatterning with extreme ultraviolet light for the 2.5 nm technology node and beyond
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50. Photolithographic properties of tin-oxo clusters using extreme ultraviolet light (13.5 nm)
B. Cardineau, R. Del Re, M. Marnell, H. Al-Mashat, M. Vockenhuber, Y. Ekinci, C. Sarma, D. A. Freedman, and R. L. Brainard
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V. K. Valev, J. J. Baumberg, B. De Clercq, N. Braz, X. Zheng, E. J. Osley, S. Vandendriessche, M. Hojeij, C. Blejean, J. Mertens, C. G. Biris, V. Volskiy, M. Ameloot, Y. Ekinci, G. A. E. Vandenbosch, P. A. Warburton, V. V. Moshchalkov, N. C. Panoiu, and T. Verbiest
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55. Broadband interference lithography at extreme ultraviolet and soft X-ray wavelengths
N. Mojarad, D. Fan, J. Gobrecht, and Y. Ekinci
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56. Large-scale sub-100 nm compound plasmonic grating arrays to control the interaction between localized and propagating plasmons
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58. Gap plasmons and near-field enhancement in closely packed sub-10 nm gap resonators
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59. Direct extreme UV-lithographic conversion of metal xanthates into nanostructured metal sulfide layers for hybrid photovoltaics
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60. Performance of negative tone chemically amplified fullerene resists in extreme ultraviolet lithography
A. Frommhold, D. Yang, A. McClelland, X. Xue, Y. Ekinci, R. E. Palmer, and Alex P. G. Robinson

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61. Rendering dark modes bright by using asymmetric split ring resonators
    Y. Jeyaram, N. Verellen, X. Zheng, A. V. Silhanek, M. Hojeij, B. Terhalle, Y. Ekinci, V. K. Valev, G.A.E. Vandenbosch, and V. V. Moshchalkov
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62. Magnetic hot spots in closely-spaced thick gold nanorings
    M. Lorente-Crespo, L. Wang, R. Ortuño, C. G. Meca, Y. Ekinci, and A. Martinez
    Nano Lett. **13**, 2654 (2013)
    [Equally contributing labs]

63. Controlling structural properties of positioned quantum dots
    M. Helfrich, B. Terhalle, Y. Ekinci, and D. M. Schaadt
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64. Engineering metal adhesion layers that do not deteriorate plasmon resonances
    T. Siegfried, Y. Ekinci, O. J. F. Martin, and H. Sigg
    ACS Nano **7**, 2751 (2013)

65. Circular dichroism effects in nonlinear-optical response of planar chiral metamaterials
    E. A. Mamonov, I. A. Kolmychek, S. Vandendriessche, M. Hojeij, Y. Ekinci, V. K. Valev, T. Verbiest, and T. V. Murzina
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    L. Wang, B. Terhalle, V. A. Guzenko, A. Farhan, M. Hojeij, and Y. Ekinci
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68. Distributing the optical near-field for efficient field-enhancements in nanostructures
    V. K. Valev, B. De Clercq, C. G. Biris, X. Zheng, S. Vandendriessche, M. Hojeij, D. Denkova, Y. Jeyaram, N. C. Panoiu, Y. Ekinci, A. V. Silhanek, V. Volskiy, G. A. E. Vandenbosch, M. Ameloot, V. V. Moshchalkov, and T. Verbiest
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73. Generation of EUV vortex beams using computer generated holograms
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B. Päivänranta, H. Merbold, R. Giannini, L. Buechi, S. Gorelick, C. David, J. F. Löffler, T. Feurer, and Y. Ekinci
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Y. Jeyaram, S. K. Jha, M. Agio, J. F. Löffler, and Y. Ekinci
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79. High-throughput fabrication of nanoantennae over large areas for biosensing and nanospectroscopy
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80. Plasmon resonances of aluminum nanoparticles and nanorods
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85. In situ observation of cracks in gold nano-interconnects on flexible substrates
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