Curriculum Vitae – Eva Nogales

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EDUCATION AND TRAINING

1993 – 95	Postdoctoral training in Biophysics at the Life Science Division, Lawrence Berkeley National Laboratory (LBNL). Advisor: Dr. Kenneth H. Downing.
1993	Ph.D. in Biophysics by the Physics Department of Keele University, UK. Advisor: Dr. Joan Bordas, SRS, Daresbury Laboratory.
1988	B.S. in Physics by the Universidad Autónoma de Madrid, Spain

POSITIONS

8/16 – present	**Head**, Bay Area Cryo-EM Facility (BACEM), Berkeley Site
12/15 – present	**Senior Faculty Scientist,** Molecular Biophysics and Integrative Bioimaging Division, LBNL,
09/15 – present	**Head**, Biochemistry, Biophysics and Structural Biology Division, MCB Department, UC Berkeley.
01/14 – 09/15	Member of the Scientific Advisory Committee for the Life Sciences Division, LBNL
09/13 – 06/15	Chair of Molecular and Cell Biology Undergraduate Affairs, UC Berkeley
01/12– 06/15	Head of the Biophysics Graduate Program, UC Berkeley
01/10 – 01/14	Deputy Director of the Bioenergy/GTL & Structural Biology Department, Life Science Division, LBNL
11/08 – 11/15	Senior Faculty Scientist at LBNL, Life Sciences Division, LBNL
07/06 – present	**Professor** of Biochemistry, Biophysics and Structural Biology, Molecular and Cell Biology Department, UC Berkeley
07/03 – 06/06	Associate Professor of Biochemistry and Molecular Biology, Molecular and Cell Biology Department, UC Berkeley
09/00 – present	**Investigator**, Howard Hughes Medical Institute
07/98 – 10/08	Faculty Scientist, Life Sciences Division, LBNL
07/98 – 06/03	Assistant Professor of Biochemistry and Molecular Biology, Molecular and Cell Biology Department, UC Berkeley
09/95 – 06/98	Staff Scientist, Life Sciences Division, LBNL

AWARDS

2019	Grimwade Medal by the University of Melbourne
2016	LBNL Director's Award for Exceptional Science Achievement
2016	Keith Porter Lecture Award, ASCB
2016	Mildred Cohn Award in Biological Chemistry by the American Society for

	Biochemistry and Molecular Biology
2015	Dorothy Crowfoot Hodgkin Award by the Protein Society
2015	Distinguished Role Model in the Life Sciences, Northwestern University
2005	American Society for Cell Biology Early Career Award
2005	Chabot Science Award for Excellence
2000	Burton Award by the Microscopy Society of America
1998	Outstanding Performance Award, LBNL
1989 – 92	Doctoral fellowships, Spanish Ministry of Education and MRC (U.K.)
1984 – 88	Undergraduate fellowship by the Spanish Ministry of Education

HONORS

2018	Hans Neurath Lecture, University of Washington
2018	Inaugural Rosalind Franklin Lecture, Institute of Structural and Molecular Biology Symposium, UCL/Birbeck, London
2018	Gruber Science Fellowship Lecture, Yale University
2017	Elected **Fellow of the ASCB**
2017	Russell Marker Lectures, University of Maryland
2017	Benning Lecturer, University of Utah
2017	Ernest C. Pollard Lecture in Biophysics at Penn State University
2017	Katherine D. McCormick Distinguished Lecture at Stanford University
2016	NCI Distinguished Scientist lecture
2016	James P. Holland Memorial Lecture, Indiana University
2016	Harvey Lecture, New York
2016	Elected Member of the **American Academy of Arts and Sciences**
2015	Elected Member of the **National Academy of Sciences**
2015	Dr. Smith Freeman Endowed Lecture, Chicago Cytoskeleton Meeting
2014 – 2015	Visiting Scholar of the Fundación Jesús Serra (at CNIO, Madrid)
2014	Lamport Lecture, Dept. of Biophysics and Physiology, University of Washington
2014	Dean's Distinguished Lecture, University of Colorado Medical School
2013	NIH WALS Lecture
2012	Fitzgerald Lecture, Duke University
2009	Max Birnstiel Lecture at IMP, Vienna
2009	Distinguished Lecture at EMBL, Heidelberg
2007 – 2008	Biomedicine Chair, Foundation BBVA (at CNiO, Madrid)
2006	Annual Hamilton Memorial Lecture, Temple University

PARTICIPATION IN SOCIETIES, ADVISORY BOARDS, JOURNALS, CONFERENCE ORGANIZATION AND KEYNOTE LECTURES

2019	**President elect of the ASCB**
2018	Keynote speaker, ASBMB Symposium "Transcriptional Regulation"
2018	Keynote speaker, Cytoskeletal Motors GRC
2018	Keynote speaker, FASEB Conference "Machines on Genes"
2018	Keynote speaker, 3D-EM GRC
2018	Keynote speaker, EMBL Symposium "Microtubules: from atoms to complex systems"

2018	**Member**, Life Sciences Institute Scientific Advisory Board, University of Michigan
2017	Plenary lecture, ESRF Cryo-EM Symposium
2016 – present	**Member**, International Academic Advisory Committee for the Beijing Innovation Center for Structural Biology at Tsinghua University.
2016 – present	**Member**, External Advisory Board for the NSF-CREST Center for Cellular and Biomolecular Machines at UC Merced.
2016	Ad hoc scientific advisor for the Beckmann Foundation
2016 – present	**Member**, External Advisory Board for CUNY ASRC-SBI
2015 – present	**Member,** Advisory Council for Princeton's Molecular Biology Department
2015 – present	**Member**, Krios Oversight Committee, OHSU
2015 – present	**Member of the Editorial Board**, Journal of Cell Biology
2015	Elected Chair, GRC on "3-D Electron Microscopy"
2014	Symposium speaker ASCB meeting, "Cell Structure across Scales"
2015 – present	**Associate Editor** of Journal of Structural Biology
2013	Keynote speaker, GRC on "Proteins"
2012	Co-chair "New Technologies in Imaging", ASCB Annual meeting
2012 – present	**Member of the Editorial Board** of Journal of Molecular Biology
2011	Keynote speaker, GRC on "Motile and Contractile systems"
2011	Keynote speaker, IUCr Annual Meeting, Madrid
2011 – present	**Member of the National Advisory Committee** for the Latin American Fellows Program, PEW Charitable Foundation (co-chair since 2017).
2010	Co-organizer, Structural Biology Workshop at Janelia Farm
2009	Member of the Search Committee for the LBNL Director
2009	Chair of the Early Career Selection Committee of the ASCB
2008	Co-organizer of Workshop "Frontiers in Cryo-EM" at Janelia Farm.
2008	Co-organizer of CNIO Cancer Conference "Structure and mechanism of essential complexes for cell survival".
2007	Co-organizer of the "Imaging Techniques" workshop of the GTL-DOE Annual Conference
2007	Co-editor, Macromolecular Section, Current Opinion in Structural Biology
2006	Co-organizer, "Imaging" Mini-symposium ASCB Meeting
2004	Co-organizer of HHMI-MPI Workshop on Molecular and Cellular Imaging
2003	Organizer, QB3 Symposium: "Challenges in Biological Imaging: from cells to molecules". Berkeley
2003 – 2005	Elected member of the Biophysical Society Executive Board
2002 – present	**Chair of the Advisory Board** for the National Resource for Automated Molecular Microscopy
2002	Co-organizer of the Biophysical Discussion "Frontiers in structural cell biology", Biophysical Society
2000 – 2015	Member of the editorial board of Journal of Structural Biology.
1999	Editor of special issue of Journal of Structural Biology on Electron Crystallography
1999	Chair of symposium "Visualizing Function: a new revolution in electron microscopy", Meeting of the American Society for Cell Biology (ASCB).

1999	Chair, session "New Challenges in Data Analysis and Interpretation", GRC on 3D Electron Microscopy of Macromolecules
1998	Co-organizer of the workshop "Electron crystallography of biological macromolecules", Granlibakken.

SERVICE IN FEDERAL AGENCIES and INTERNATIONAL REVIEW PANELS

2017	Reviewer for the Villum Fonden, Denmark
2015	NIH special study section panel
2013	CMP study section, ad hoc member
2013	NCSD study section, ad hoc member
2012	MSFC study section, ad hoc member
2005-2009	Macromolecular Structure and Function C Study Section Member

RESEARCH STATEMENT

My lab is dedicated to the ***visualization of macromolecular function***, using cryo-EM as a main experimental tool. We study two different areas of essential eukaryotic biology: central dogma machinery in the control of gene expression, and cytoskeleton interaction and dynamics in cell division. The unifying principle in our work is the study of macromolecular assemblies as whole units of molecular function by direct visualization of their architecture, functional states, and regulatory interactions.

PUBLICATIONS

1. Zhang, R, LaFrance, B. and Nogales E. (2018) Separating the effect of nucleotide and EB binding on microtubule structure. PNAS, doi: 10.1073/pnas.1802637115. Epub ahead of print.
2. Kellogg, LE.H., Hejab, N.M.A., Poepsel, S., Downing, K.H., DiMaio, F. and Nogales , E. (2018) Near-atomic model of microtubule-bound tau. Science **360**, 1242-1246.
3. Nguyen, T.H.D., Tam, J., Wu, R.A., Greber, B.J., Toso, D., Nogales, E., Collins, K. (2018) Cryo-EM structure of substrate-bound human telomerase holoenzyme. Nature **557**, 190-195. News and Views in that issue.
4. Pöpsel, S., Kasinath, V. and Nogales E. (2018) Cryo-EM structure of PRC2 simultaneous engagement with two functionally distinct nucleosomes. NSMB **25**, 154-162
5. Nogales, E. (2018) Cytoskeleton in high resolution. Nature Rev. Mol. Cell Biol. **19**, 142.
6. Kasinath, V., Faini, M., Reif, D., Feng, X.A., Stjepanovic, G., Poepsel, S., Aebersold, R. and Nogales, E. (2018) Structures of human PRC2 with its cofactors AEBP2 and JARID2. Science **359**, 940-944.
7. Howes, S.C., Geyer, E.A., LaFrance, B., Zhang, R., Kellogg, E.H., Westermann, S., Rice, L.M. and Nogales, E. (2018***)*** Structural and functional differences between porcine brain and budding yeast microtubules. Cell Cycle, **17**, 278-287.
8. Nogales, E. (2018) Profile of Joachim Frank, Richard Henderson, and Jacques Dubochet, 2017 Nobel Laureates in Chemistry. PNAS **115**, 441-444.
9. Cheng, Y., Glaeser, R.M. and Nogales, E. (2017) How did cryo-EM get so hot? Cell **171**, 1229-1231.
10. Zhang, R., Roostalu, J., Surrey, T. and Nogales, E. (2017) Structural Insight into TPX2-Stimulated Microtubule Assembly. eLife **e30959**.
11. Tenthorey, J.L., Haloupek, N., López- Blanco, J.R., Grob, P., Adamson, E., Hartenian, E, Lind, N.A., Chacón, P., Nogales, E and Vance, R.E. (2017) Structural basis of flagellin detection by NAIP5: a strategy to limit pathogen immune evasion. Science **358**, 888-893.
12. Greber, B.J., Nguyen, T.H.D., Fang, J., Afonine, P.V., Adams, P.D. and Nogales, E. (2017) The cryo-EM structure of human TFIID. Nature **549**, 414-417.

13. Wright, A.V., Liu, J.-J., Knott, G.J., Doxzen, K.W., Nogales, E. and Doudna, J.A. (2017). Structures of the CRISPR genome integration complex. Science **357**, 1113-1118.
14. Shin, J., Jiang, F., Liu, J-J., Bray, N.L., Rauch, B.J., Baik, S.H., Nogales, E., Bondy- Denomy, J., Corn, J.E., and Doudna, J.A. Disabling Cas 9 by anti-CRISPR DNA mimic. Science Advances **3**, e1701620.
15. Howes, S.C., Geyer, E.A., LaFrance, B., Zhang, R., Kellogg, E.H., Westermann, S., Rice, L.M. and Nogales, E. (2017) Structural differences between yeast and mammalian microtubules revealed by cryo-EM. JCB **216**, 2669-2677.
16. Nogales, E, Patel, A. and Louder R.K. (2017) Towards a Mechanistic Understanding of Core Promoter Recognition from Cryo-EM Studies of Human TFIID. COSB **47**, 60-66.
17. Nogales, E. and Kellogg, E.H. (2017) Challenges and opportunities in the high-resolution cryo-EM visualization of microtubules and their binding partners. COSB **46**, 65-70.
18. Xu, C.S., Hayworth, K.J., Lu, Z., Grob, P., Hassan, A., Garcia Cerdan, J.G., Niyogi, K.K., Nogales, E., Weinberg, R.J. and Hess, H.F. (2017) Enhanced FIB-SEM systems for large-volume 3D imaging. eLife **6**, e25916.
19. Nogales E., Louder R.K. and He Y. (2017) Structural Insights into the Eukaryotic Transcription Initiation Machinery. Ann. Rev. Biophys **46**, 59-83.
20. Kellogg, E., Hejab, N.M.A., Howes, S., Northcote, P, Miller, J.H., Diaz, J.F., Downing, K.H. and Nogales, E. (2017). Insights into the distinct mechanisms of action of taxane and non-taxane microtubule stabilizers from cryo-EM studies. J. Mol. Biol. **429**, 633–646. Cover in that issue.
21. Nogales, E, Fang, J. and Louder R.K. (2017) Structural dynamics and DNA interaction of human TFIID. Transcription **8**, 56-60.
22. CS Huang, E Nogales, C Ciferri (2017) Molecular architecture of the polycomb repressive complex 2. Polycomb Group Proteins, Chapter 8, 165-189. Academic Press.
23. Booth, E.A, Sterling, S.M., Dovala, D., Nogales, E. and Thorner, J. (2016) Effects of Bni5 Binding on Septin Filament Organization. J.Mol. Biol. **428**, 4962-4980.
24. Nogales, E. (2016) Dear microtubule, I see you. Mol. Bol. Cell **27**, 3202-3204.
25. Hurley, J.H. and Nogales, E. (2016) Next-generation electron microscopy in autophagy research. Curr. Opin. Struct. Biol. **41**, 211-216.
26. Nogales E., Louder R.K., He Y. (2016) Cryo-EM in the study of challenging systems: the human transcription pre-initiation complex. Curr Opin Struct Biol. **40**, 120-127.
27. Hochstrasser M.L., Taylor D.W., Kornfeld J.E., Nogales E., Doudna J.A. (2016) DNA targeting by a minimal CRISPR RNA-guided Cascade. Mol Cell. 63,840-851.
28. Kellogg, E., Howes, S., Ti, S-C., Ramirez-Aportela, E., Kapoor, T., Chacon, P. and Nogales, E. (2016) Near-atomic resolution cryo-EM structure of PRC1 bound to the microtubule. PNAS 113, 9430-9439.
29. Bertin A, Nogales E. (2016) Preparing recombinant yeast septins and their analysis by electron microscopy. Methods Cell Biol. **136**, 21-34.
30. Finnigan, G., Sterling, S., Duvalyan, A., Liao, E., Sargsyan, A., Garcia, G., Nogales, E. and Thorner, J. (2016) Coordinate action of distinct sequence elements localizes checkpoint kinase Hsl1 to the septin collar at the bud neck in *Saccharomyces cerevisiae*, MBoC **27**, 2213-2233.
31. He, Y., Yan, C., Inouye, C., Tjian, R., Ivanov, I. and Nogales, E. (2016) Near-atomic resolution visualization of human transcription promoter opening. Nature **533**, 359-365. News and Views in that issue.
32. Borisy, G, Heald, R., Howard J., Janke, C Musacchio, A. and Nogales, E. (2016) Microtubules: 50 years on from the discovery of tubulin. Nat. Rev. Mol. Cell Biol. 17, 322-328.
33. Ti SC, Pamula MC, Howes SC, Duellberg C, Cade NI, Kleiner RE, Forth S, Surrey T, Nogales E, Kapoor TM. (2016) Mutations in Human Tubulin Proximal to the Kinesin-Binding Site Alter Dynamic Instability at Microtubule Plus- and Minus-Ends. Dev. Cell **37**, 72-84.
34. Garcia G 3rd, Finnigan, G.C., Heassley, L.R., Sterling SM, Aggarwal A, Pearson CG, Nogales E, McMurray MA, Thorner (2016). Assembly, molecular organization and membrane-binding properties of developmental-specific septins. J Cell Biol. **212**, 515-29.
35. Louder, R.K., He, Y. Lopez-Blanco, J.R. Fang, J., Chacon, P., and Nogales, E. (2016) Structure of promoter-bound TFIID and model of human pre-initiation complex assembly. Nature **531**, 604-609.

36. Jiang, F., Taylor, D.W., Chen, J.S., Kornfeld, J.E., Zhou, K., Thompson, A.W., Nogales, E. and Doudna, J.A. (2016) Structures of a CRISPR-Cas9 R-loop complex primed for DNA cleavage. Science **35**, 867-71.
37. Nogales, E. (2016) The development of cryo-EM into a main-stream structural biology technique. Nature Methods **13**, 24-27.
38. Nogales E. and Zhang, R. (2016) Visualizing microtubule structure and interactions. Curr. Opi. Struct. Biol. **37**, 90-96.
39. Feng, R., Sang, Q., Kuang, Y., Sun, X., Yan, Z., Zhang, S., Shi, J., Tian, G., Luchniak, A., Fukuda, Y., Li, B., Yu, M., Chen, J., Xu, Y., Guo, L., Qu, R., Sun, Z., Liu, M., Shi, H., Wang, H., Feng, Y., Shao, R., Chai, R., Li, Q., Zhao, X., Xing, Q., Sun, Q., Zhang, R., Nogales, E., Jin, L., He, L., Gupta, M.L., Cowan, N.J. and Wang, L. (2016) A vital role for *TUBB8* in human oocyte meiotic spindle assembly and maturation. N Engl J Med **374**,223-232.
40. Zhang, E.T., He, Y., Grob, P., Fing, T.W., Nogales, E. and Tjian, R. (2015) Architecture of the human XPC DNA repair and stem cell coactivators complex. PNAS **112**, 14817-14822.
41. Bertin, A. and Nogales, E. (2015) Characterization of Septin Ultrastructure in Budding Yeast Using Electron Tomography. Methods Mol. Biol. **1369**, 113-123.
42. Nogales, E. (2015) An Electron Microscopy Journey in the Study of Microtubule Structure and Dynamics. Protein Sci. **24**, 1912-1919.
43. Zhang, R. and Nogales, E. (2015) Finding the Lattice Seam to Improve Cryo-EM Reconstructions of Microtubules. JSB **192**, 245-254.
44. Ciferri, C., Lander, G.C. and Nogales, E. (2015) Protein Domain Mapping by Internal Labeling and Single Particle Electron Microscopy. JSB **192**, 159-162.
45. Zhang, R., Alushin, G.M., Brown, A. and Nogales e. (2015) Mechanistic origin of microtubule dynamic instability and its regulation by EB proteins. Cell **162**, 849-859.
46. Nogales, E. and Scheres, S.H.W. (2015) Cryo-EM: a unique tool for the visualization of molecular complexity. Mol. Cell 58, 677-689.
47. Taylor, D.W., Zhu, Y., Staals, R.H.J., Kornfield, J.E., Shinkai, A., vander Oost, J., Nogales, E. and Doudna, J.A. (2015) Structures of the CRISPR-Cmr complex reveal mode of RNA target positioning. Science 348, 581-585.
48. Baskaran, S., Carlson, L.-A., Stjepanovic, G., Young, L.N., Kim, D.J., Grob, P., Stanley, R.E., Nogales, E., Hurley, J.H. (2014) Architecture and dynamics of the autophagic phosphatidylinositol 3-kinase complex. eLife 2014;10.7554/*eLife*.05115
49. Staals, R.H.J., Zhu, Y., Taylor, D.W., Kornfeld, J.E., Sharma, K., Barendregt, A., Koehorst, J.J., Vlot, M., Neupane, N, Varossieau, K., Sakamoto, K., Suzuki, T., Dohmae, N., Yokoyama, S., Schaap, P.J., Urlaub, H., Heck, A.J.R., Nogales, E., Doudna, J.A., Shinkai, A.,van der Oost, J. (2014) RNA Targeting by the Type III-A CRISPR-Cas Csm Complex of Thermus thermophilus. Mol Cell **56**, 518-539.
50. Nakamura M, Chen L, Howes SC, Schindler TD, Nogales E, Bryant Z. (2014) Remote control of myosin and kinesin motors using light-activated gearshifting. Nat Nanotechnol. **9**, 693-697.
51. Onoa, B., Schneider A.R., Brooks, M.D., Grob, P., Nogales, E., Geissler, P.L., Niyogi, K.K., Bustamante, C. (2014) Atomic Force Microscopy of Photosystem II and Its Unit Cell Clustering Quantitatively Delineate the Mesoscale Variability in Arabidopsis Thylakoids. PLoS One: e101470.
52. Clausen, C.H., Brooks, M.D., Li, T.-D., Grob, P., Kemalyan, G., Nogales, E., Niyogi, K.K. and Fletcher D.A. (2013) Dynamic mechanical responses of Arabidopsis thylakoid membranes during PSII specific illumination. Biophys. J. **106**, 1864-1870.
53. Alushin, G.M., Lander, G.C., Kellogg, E.H., Zhang, R., Baker, D. and Nogales, E. (2014) High-resolution microtubule structrues reveal the structural transitions in $\alpha\beta$-tubulin upon GTP hydrolysis. Cell **157**, 1117,1129. Preview in Cell; News and Views in NSMB (Jun 4).
54. Hochstrasser, M.L., Taylor, D.W., Bhat, P., Guegler, C.K., Sternberg, S.H., Nogales, E., Doudna, J.A. (2014) CasA mediates Cas3-catalyzed target degradation during CRISPR RNA-guided interference. PNAS **111**, 6618-6623.
55. Jinek, M., Jiang, F., Taylor, D.W., Sternberg, S.H., Kaya, E., Ma, E., Andres, C., Hauer, M., Zhou, K., Lin, S., Kaplan, M., Iavarone, A.T., Charpentier, E., Nogales, E. and Doudna, J.A. (2014) Structures of Cas9 endonucleases reveal RNA-mediated conformational activation. Science **343**,

1247997.
56. Howes, S.C., Alushin, G.M., Shida, T., Nachury, M.V. and Nogales, E. (2014) Effects of tubulin acetylation and tubulin acetyltransferase binding on microtubule structure. Mol Biol Cell, **25**, 257-266.
57. Bleichert F., Balasov M., Chesnokov I., Nogales E., Botchan MR., Berger JM (2013) A Meier- Gorlin syndrome mutation in a conserved C-terminal helix of Orc6 impedes origin recognition complex formation, eLife 2014; 10.7554/eLife.00882.
58. Musinipally, V., Alushin, G.M. and Nogales, E. (2013) The Microtubule Binding Properties of CENP-F and of CENP-E's C-terminus, J Mol BIol. **425**, 4427-4441.
59. Cianfrocco, M.A. and Nogales, E. (2013) Regulatory interplay between TFIID's conformational transitions and its modular interaction with core promoter DNA. Transcription **4**, 120-126.
60. Sun, C., Querol-Audi, J., Mortimer, S.A., Arias-Palomo, E., Doudna, J.A., Nogales, E. and Cate, J.H.D. (2013) Two RNA-binding motifs in eIF3 direct HCV IRES-dependent translation. Nucleic Acids Res. **41**, 7512-7521.
61. Kassube, S.A., Fang, J., Grob, P., Yakovchuk, P., Goodrich, J.A. and Nogales, E. (2013) Structural insights into transcriptional repression by ncRNAs that bind to Human Pol II. J. Mol. Biol. **425**, 3639-3648.
62. de Val, N., McMurray, M.A, Lam, L.H., Hsiung, C. C.-S., Bertin, A., Nogales, E. and Thorner, J. (2013) Native cysteine residues are dispensable for the structure and function of all five yeast mitotic septins. Proteins **81**, 1964-1979.
63. Querol-Audi, J., Sun, C., Vogan, J.M., Smith, D., Gu, Y., Cate, J.H.D. and Nogales, E. (2013) Architecture of human translation initiation factor. Structure **21**, 920-928.
64. Kassube, S.A., Jinek, M., Fang, J., Tsutakawa, S. and Nogales, E. (2013) Structural mimicry in transcription regulation of human RNA polymerase II by the DNA helicase RecQ5. Nat. Struct. Mol. Biol. **20**, 892-899. Issue cover.
65. Taylor, D.W., Ma, E., Shigematsu, H., Cianfrocco, M.K., Noland, C.L., Nagayama, K., Nogales, E., Doudna, J.A. and Wang, H.-W. (2013) Substrate-specific structural rearrangements of human Dicer. Nat. Struct. Mol. Biol. **20**, 662-670..
66. Galbraith, C., Kettler P. and Nogales, E. (2013) New technologies in imaging. MBoC **24**, 669..
67. Grob, P., Bean, D., Typke, D., Li, X., Nogales, E. and Glaeser, G.M. (2013) Ranking TEM cameras by their response to electron shot noise. Ultramicroscopy **133C**, 1-7.
68. Lander, G.C., Martin, A. and Nogales, E. (2013) The proteasome under the microscope: The regulatory particle in focus. Current Opinion Struct. Biol. **23**, 243-251. Issue cover.
69. He, Y., Fang, J., Taatjes, D.J., and Nogales, E. (2013) Structural visualization of key steps in human transcription initiation. Nature **495**, 481-486. NIGMS Director's Featured Research Advance.
70. Cianfrocco, M.A., Kassevitis, G.A., Grob, P, Fang, J., Juven-Gershon, T., Kadonaga, J.T. and Nogales, E. (2013) Human TFIID binds core promoter DNA in a reorganized structural state. Cell **152**, 120-131.
71. Lampert, F., Mieck, C., Alushin, G., Nogales, E. and Westermann, S. (2013) Molecular requirements for the formation of a kinetochore-microtubule interface Dam1 and Ndc80 complexes. J Cell Biol. **200**, 21-30.
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73. Alushin, G. M., Musinipally, V., Matson, D., Tooley, J., Stukenberg P.T. and Nogales, E. (2012) Multimodal microtubule binding by the Ndc80 kinetochore complex. Nature Struct. Mol. Biol. **19**, 1161-1167.
74. Ciferri, C., Lander, G.C., Maiolica, A., Herzog, F., Aebersold, R. and Nogales, E. (2012) Molecular Architecture of human polycomb repressive complex 2. eLIFE, 10.7554/ e00005.
75. Lander, GC, Saibil, HR and Nogales, E (2012) Go hybrid: EM, crystallography and beyond. Curr. Opin. Struc. Biol. **22**, 627-635. Issue cover.
76. Bertin, A. and Nogales E. (2012) Septin filament organization in saccharomyces cerevisiae. Commun. Integr. Biol. **5**, 1-3.

77. Wu, Z., Nogales, E. and Xing, J. (2012) Comparative studies of microtubule mechanics with two competing models suggest functional roles of alternative tubulin lateral interactions. Biophys. J.**102**, 2687-9266.
78. Querol-Audí J., Yan, C., Xu, X., Tsutakawa, S.E., Tsai, M-S., Tainer, J.A., Cooper, P.K., Nogales, E., Ivanov, I. (2012) Repair complexes of FEN1, DNA and Rad9-Hus1-Rad1 are distinguished from their PCNA counterparts by functionally important stability. PNAS **109**, 8528-8533.
79. Jason E. Hudak, Robyn Barfield, Greg de Hart, Patricia Grob, Eva Nogales, Carolyn R. Bertozzi, and David Rabuka. (2012) Synthesis of heterobifunctional protein fusions using copper-free click chemistry and the aldehyde tag. Angew. Chem. Int. Ed. Engl. **51**, 4161-4165.
80. Patel, K., Nogales, E. and Heald R. (2012) Multiple domains of human CLASP contribute to microtubule dynamics and organization in vitro and in *Xenopus* egg extracts. Cytoskeleton **69**, 155-165.
81. Lander, G.C., Estrin, E., Matyskiela, M.E., Bashore, C., Nogales, E. and Martin, A. (2012) Complete subunit architecture of the proteosome regulatory particle. Nature **482**,186-191. News and Views on the same issue.
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