

# CLARISSA JANE NOBILE

- DEPARTMENT OF MOLECULAR AND CELL BIOLOGY • UNIVERSITY OF CALIFORNIA, MERCED •
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## EDUCATION

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<i>Doctor of Philosophy – Awarded with Distinction</i> Biology, Department of Biological Sciences Columbia University, New York, NY	Feb 2007
<i>Master of Philosophy</i> Biology, Department of Biological Sciences Columbia University, New York, NY	May 2005
<i>Master of Arts</i> Biology, Department of Biological Sciences Columbia University, New York, NY	Oct 2003
<i>Bachelor of Arts</i> Major: Biology Minors: English and Chemistry Swarthmore College, Swarthmore, PA	May 2001

## PROFESSIONAL APPOINTMENTS

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<i>Assistant Professor of Biology</i> Molecular and Cell Biology Research Unit University of California – Merced, Merced, CA	Jan 2014 – Present
<i>Founder and Chief Executive Officer</i> BioSynesis, Inc., San Francisco, CA	June 2013 – Present
<i>Postdoctoral Research in Regulatory Networks and Systems Biology</i> Mentor: Alexander Johnson Department of Microbiology and Immunology University of California – San Francisco, San Francisco, CA	Mar 2008 – Dec 2013
<i>Graduate Research in Microbial Genetics</i> Mentor: Aaron Mitchell Department of Microbiology Columbia University, New York, NY	Sept 2001 – Feb 2007

## HONORS AND AWARDS

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Clinical and Translational Science Institute CTSI Catalyst Award	2013
International Society for Human and Animal Mycology ISHAM Young Investigator Award in Basic Mycology	2012

California Institute for Quantitative Biosciences QB3 Award	2012
UCSF Dean's Postdoctoral Prize	2012
Pathway to Independence K99/R00 Award	2012
Winner of UCSF's Idea to IPO 2012	2012
Burroughs Wellcome Fund Collaborative Research Grant	2012
Genetics Society of America DeLill Nasser Career Development Award	2012
UCSF Program for Breakthrough Biomedical Research Postdoctoral Award	2012
Federation of European Biochemical Societies Human Fungal Pathogens "Best Talk by a Young Investigator" Award	2011
Federation of European Biochemical Societies Youth Travel Fund Award	2011
American Society for Microbiology Career Development Award for Postdoctoral Women	2010
Ruth L. Kirschstein F32 National Research Service Award for Postdoctoral Fellows	2010
Richard C. Parker Graduate Student Award	2006
Sigma Xi Undergraduate Award	2001
Howard Hughes Medical Institute Undergraduate Research Fellowship	2000
American Society for Microbiology Undergraduate Research Fellowship	1999

## **PUBLICATIONS**

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Fox, E.P., Singh-Babak, S.D., Hartooni, N., and **Nobile, C.J.** (2013) Biofilms and Antifungal Resistance. In *Antifungals: From Genomics to Resistance and the Development of Novel Agents*. Horizon Scientific Press, in press.

**Nobile, C.J.**, Fox, E.P., Hartooni, N., Mitchell, K.F., Hnisz, D., Andes, D.R., Kuchler, K., and Johnson, A.D. (2014) A Histone Deacetylase Complex Mediates Biofilm Dispersal and drug Resistance in *Candida albicans*. *mBio*, submitted.

Hernday, A.D., Lohse, M.B., Fordyce, P.M., **Nobile, C.J.**, DeRisi, J.L., and Johnson, A.D. (2013) Structure of the Transcriptional Network Controlling White-Opaque Switching in *Candida albicans*. *Molecular Microbiology* 90: 22-35.

Fox, E.P., and **Nobile, C.J.** (2013) The Role of *Candida albicans* Biofilms in Human Disease. In *Candida albicans: Symptoms, Causes and Treatment Options*. Nova Science Publishers 1-24.

Guan, G., Xie, J., Tao, L., **Nobile, C.J.**, Sun, Y., Cao, C., Tong, Y., and Huang, G. (2013) Bcr1 plays a central role in the regulation of opaque cell filamentation in *Candida albicans*. *Molecular Microbiology* 89: 732-750.

Xu, H., **Nobile, C.J.**, and Dongari-Bagtzoglou, A. (2013) Glucanase induces filamentation of the fungal pathogen *Candida albicans*. *PLoS One* 8: e63736.

Lohse, M.B., Hernday, A.D., Fordyce, P.M., Noiman, L., Sorrells, T.R., Hanson-Smith, V., **Nobile, C.J.**, DeRisi, J.L., and Johnson, A.D. (2013) Identification and characterization of a previously undescribed family of sequence-specific DNA-binding domains. *PNAS* 110: 7660-7665.

- Highlighted in Not the usual suspect, *Nature Chemical Biology*, 2013, 9: 348.

Lin, C., Kabrawala, S., Fox, E., **Nobile, C.J.**, Johnson, A.D., and Bennett, R.J. (2013) Genetic Control of Conventional and Pheromone-Stimulated Biofilm Formation in *Candida albicans*. *PLoS Pathogens* 9: e1003305.

Xie, J., Tao, L., **Nobile, C.J.**, Tong, Y., Guan, G., Sun, Y., Cao, C., Hernday, A.D., Johnson, A.D., Zhang, L., Bai, F., and Huang, G. (2013) White-Opaque Switching in Natural *MTLa/α* Isolates of *Candida albicans*: Evolutionary Implications for Roles in Host Adaptation, Pathogenesis, and Sex. *PLoS Biology* 11: e1001525.

Hnisz, D., Bardet, A.F., **Nobile, C.J.**, Petryshyn, A., Glaser, W., Schock, U., Stark, A., and Kuchler, K. (2012) A Histone Deacetylase Adjusts Transcription Kinetics at Coding Sequences During *Candida albicans* Morphogenesis. *PLoS Genetics* 8: e1003118.

Fox, E.P., and **Nobile, C.J.** (2012) A Sticky Situation: Untangling the Transcriptional Network Controlling Biofilm Development in *Candida albicans*. *Transcription* 3: 315-322.

**Nobile, C.J.**, Fox E.P., Nett, J.E., Sorrells, T.R., Mitrovich, Q.M., Hernday, A.D., Tuch, B.B., Andes, D.R., and Johnson, A.D. (2012) A recently evolved transcriptional network controls biofilm development in *Candida albicans*. *Cell* 148: 126-138.

Luo, G., Ibrahim, A.S., Spellberg, B., **Nobile, C.J.**, Mitchell, A.P., and Fu, Y. (2010) *Candida albicans* Hyr1p confers resistance to neutrophil killing and is a potential vaccine target. *Journal of Infectious Diseases* 201: 1718-1728.

- Highlighted in Hyr1 Protein and  $\beta$ -Glucan Conjugates as Anti-*Candida* Vaccines, *Journal of Infection Diseases*, 2010, 202: 1930.

Fuchs, B.B., Eby, J., **Nobile, C.J.**, El Khoury, J.B., Mitchell, A.P., and Mylonakis, E. (2010) Role of filamentation in *Galleria mellonella* killing by *Candida albicans*. *Microbes and Infection* 12: 488-496.

**Nobile, C.J.**, Nett J.E., Hernday, A.D., Homann, O.R., Deneault, J., Nantel, A., Andes, D.R., Johnson, A.D., and Mitchell, A.P. (2009) Biofilm matrix regulation by *Candida albicans* Zap1. *PLoS Biology* 7: e1000133. (Highlighted in Zap1 Sticks It to *Candida* Biofilms, *PLoS Biology*, 2009, 7: e1000133). (Highlighted in *Candida* Zaps the matrix, *Nature Reviews Microbiology*, 2009, 7: 548-549).

Chamilos, G., **Nobile, C.J.**, Bruno, V.M., Lewis, R.E., Mitchell, A.P., and Kontoyiannis, D.P. (2009) *Candida albicans* Cas5, a regulator of cell wall integrity, is required for virulence in murine and *Toll* mutant fly models. *Journal of Infectious Diseases* 200: 152-157.

**Nobile, C.J.**, and Mitchell, A.P. (2009) Large-scale gene disruption using the

UAU1 cassette. In *Methods in Molecular Biology: Candida albicans Methods and Protocols*. Humana Press 499: 175-194.

**Nobile, C.J.** (2008) *Genetics and Genomics of Candida albicans Biofilm Formation*. VDM Verlag Publishers.

**Nobile, C.J.**, Schneider, H.A., Nett, J.E., Sheppard, D.C., Filler, S.G., Andes, D.R., and Mitchell, A.P. (2008) Complementary adhesin function in *C. albicans* biofilm formation. *Current Biology* 18: 1017-1024. (Highlighted in *Candida Biofilms: Is Adhesion sexy?*, *Current Biology*, 2008, 18: R717-720). (Highlighted in Complementary adhesin function in *C. albicans* biofilm formation, *Nature Reviews Microbiology*, 2008, 6: 649).

**Nobile, C.J.**, Solis, N., Myers, C.L., Fay, A.J., Deneault, J., Nantel, A., Mitchell, A.P., and Filler, S.G. (2008) *Candida albicans* transcription factor Rim101 mediates pathogenic interactions through cell wall functions. *Cellular Microbiology* 10: 2180-2196.

**Nobile, C.J.**, and Mitchell, A.P. (2007) Microbial biofilms: e pluribus unum. *Current Biology* 17: R349-353.

Villar, C.C., Kashleva, H., **Nobile, C.J.**, Mitchell, A.P., and Dongari-Bagtzoglou, A. (2007) Mucosal tissue invasion by *Candida albicans* is associated with E-cadherin degradation, mediated by transcription factor Rim101 and protease Sap5. *Infection and Immunity* 75: 2126-2135.

**Nobile, C.J.**, Nett, J.E., Andes, D.R., and Mitchell, A.P. (2006) Function of *C. albicans* adhesin Hwp1 in biofilm formation. *Eukaryotic Cell* 5: 1604-1610.

**Nobile, C.J.**, and Mitchell, A.P. (2006) Genetics and genomics of *Candida albicans* biofilm formation. *Cellular Microbiology* 8: 1382-1391.

**Nobile, C.J.**, Andes, D.R., Nett, J.E., Smith, F.J., Yue, F., Phan, Q.T., Edwards, J.E., Filler, S.G., and Mitchell, A.P. (2006) Critical role of Bcr1-dependent adhesins in *C. albicans* biofilm formation in vitro and in vivo. *PLoS Pathogens* 2: 636-649. (Highlighted in Editors Choice Microbiology: Biofilms and Medical Implants, *Science*, 2006, 313: 411).

**Nobile, C.J.**, and Mitchell, A.P. (2006) Postgenomic strategies for genetic analysis: insight from *Saccharomyces cerevisiae* and *Candida albicans*. In *Molecular Principles of Fungal Pathogenesis*. ASM Press: 35-44.

Bruno, V.M., Kalachikov, S., Subaran, R., **Nobile, C.J.**, Kyratsous, C., and Mitchell, A.P. (2006) Control of the *C. albicans* cell wall damage response by transcriptional regulator Cas5. *PLoS Pathogens* 2: 204-210.

Richard, M.L., **Nobile, C.J.**, Bruno, V.M., and Mitchell, A.P. (2005) *Candida albicans* biofilm-defective mutants. *Eukaryotic Cell* 4: 1493-1502.

**Nobile, C.J.**, and Mitchell, A.P. (2005) Regulation of cell-surface genes and biofilm formation by the *C. albicans* transcription factor Bcr1p. *Current Biology* 15: 1150-1155. (Highlighted in *Candida albicans* biofilms: more than filamentation, *Current Biology*, 2005, 15: 453-455).

**Nobile, C.J.**, and Johns, P.M. (2005) Prelude to a kiss: evidence for mate discrimination in the striped bark scorpion, *Centruroides vittatus*. *Journal of Insect Behavior* 18: 405-413.

**Nobile, C.J.**, Bruno, V.M., Richard, M.L., Davis, D.A., and Mitchell, A.P. (2003) Genetic control of chlamydospore formation in *Candida albicans*. *Microbiology* 149: 3629-3637.

## **INVITED CONFERENCE ORAL PRESENTATIONS**

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**Nobile, C.J.** Unraveling the transcriptional network controlling biofilm development in *Candida albicans*. Keynote Lecture. *The Third European Congress on Microbial Biofilms – Basic and Clinical Aspects*. Sept 9-12, 2013. Ghent, Belgium.

**Nobile, C.J.** A sticky situation: unraveling how *Candida albicans* forms biofilms. Plenary Lecture. *The XI International Fungal Biology Conference on Fungal Biology at the Karlsruhe Institute of Technology*. Sept 29-Oct 3, 2013. Karlsruhe, Germany.

**Nobile, C.J.** *Candida albicans* Biofilms: Why are they important and how are they regulated? Opening Ceremony Lecture. *The 18<sup>th</sup> Congress of the International Society for Human and Animal Mycology*. June 11-15, 2012. Berlin, Germany.

**Nobile, C.J.** and A.D. Johnson. A recently evolved transcriptional network controls biofilm development in *Candida albicans*. *The 11<sup>th</sup> ASM Conference on Candida and Candidiasis*. March 29-April 2, 2012. San Francisco, California.

**Nobile, C.J.** The transcriptional network controlling biofilm development in *Candida albicans*. *The 4<sup>th</sup> FEBS Advanced Lecture Course on Human Fungal Pathogens: Molecular Mechanisms of Host-Pathogen Interactions and Virulence*. May 7-13, 2011. La Colle sur Loup, France.

**Nobile, C.J.**, and Johnson, A.D. The transcriptional circuitry controlling biofilm development in *Candida albicans*. *The 9<sup>th</sup> International Mycological Congress – The Biology of Fungi Conference*. August 1-6, 2010. Edinburgh, United Kingdom.

**Nobile, C.J.** Biofilm matrix regulation in *Candida albicans*. *The 110<sup>th</sup> General Meeting of the American Society for Microbiology*. May 23-27, 2010. San Diego, California.

**Nobile, C.J.** Biofilm matrix regulation by *Candida albicans* Zap1. *The 7<sup>th</sup> Cold Spring Harbor Meeting on Microbial Pathogenesis & Host Response*. September 8-12, 2009. Cold Spring Harbor, New York.

**Nobile, C.J.** *C. albicans* transcriptional regulator Bcr1 governs biofilm formation through adhesin Als3. *The 16<sup>th</sup> Congress of the International Society for Human and Animal Mycology*. June 25-29, 2006. Paris, France.