

Curriculum Vitae

Name: Anja Forche
Date of birth: August, 6th, 1969
Place of birth: Berlin
Country of Residence: USA, and Germany
Marital status: married

Research interests: mechanisms involved in generating and maintaining genome stability and variability in the opportunistic fungal pathogen *Candida albicans* in response to different host niches and environments

Professional education

1989-1994: study of food technology, specialization: meat/fish technology at the Humboldt-University of Berlin

1994: earned diploma (food technology)

12. February 1999: defended PhD thesis
Title: "Populationsgenetische Analysen von *Candida albicans*-Populationen mittels anonymer DNA-Marker" (population genetic analysis of populations of *Candida albicans* using anonymous DNA markers)

Professional career

September 1994-January 1997: graduate student at the Institute of Microbiology and Hygiene (Charite) at Humboldt University in Berlin

March 1997-February 1999: research assistant at the Department of Microbiology at Duke University Medical Center in Durham, NC
Research topic: "Population genetic analysis of populations of *Candida albicans*"

February 1999-Mai 2000: postdoctoral fellow at the Department of Microbiology at Duke University Medical Center
Research topic: Development of a linkage map for *Cryptococcus neoformans* var. *neoformans* using amplified fragment length polymorphisms

2000-2003: Postdoctoral training at the University of Minnesota, Department of Genetics, Cell Biology and Development, Minneapolis, MN

2003-2005 Research Associate at the University of Minnesota, Department of Genetics, Cell Biology and Development, Minneapolis, MN
Research topic: Study of genomic rearrangement in *Candida albicans* during infection

2005-present

Research Assistant Professor at the University of Minnesota, Department of Genetics, Cell Biology and Development
Research topic: Genome integrity in *Candida albicans*

Publications:

- Gräser, Y., Tietz, H.-J., Vilgalys, R., Mitchell, T.G., Forche, A., Presber, W., Schönian, G. 1997. Detection and application of DNA polymorphisms to identify species and strains of *Candida* and to analyze the population structure of *Candida albicans*. Microbiological Culture Collection 13: 11-20
- Forche, A., Schönian, G., Gräser, Y., Vilgalys, R., Mitchell, T. G. 1999. Genetic structure of typical and atypical populations of *Candida albicans* from Africa. Fungal Genetics and Biology 28: 107-125
- Pinto de Andrade, M., Schoenian, G., Forche, A., Rosado, L., Costa, I., Mueller, M., Presber, W., Mitchell, T. G., Tietz, H.-J. 2000. Assessment of genetic relatedness of vaginal isolates of *Candida albicans* from different geographical origins. International Journal of Medical Microbiology 290: 97-104.
- Schönian, G., Forche, A., Tietz, H. J., Muller, M., Graeser, Y., Vilgalys, R., Mitchell, T. G., Presber, W. 2000. Genetic structure of geographically different populations of *Candida albicans*. Mycoses 43: 51-56
- Forche, A., Xu, J., Vilgalys, R., Mitchell, T.G. 2001. Development and Characterization of a genetic linkage map of *Cryptococcus neoformans* var. *neoformans* using amplified fragment length polymorphisms and other markers. Fungal Genetics and Biology 31: 189-203.
- Forche, A., May, G., Beckerman, J., Kauffman, S., Becker, J., Magee, P.T. 2003. A System for studying genetic changes in *Candida albicans* during infection. Fungal Genetics and Biology, 39: 38-50.
- Forche, A., Magee, P. T., Magee, B. B., May, G. 2004. Development of a genome-wide SNP map for *Candida albicans* 2004. Eukaryotic Cell, 3: 705-714.
- Forche, A., May, G., and P. T. Magee 2005. Demonstration of loss of heterozygosity by single-nucleotide polymorphism microarray analysis and alterations in strain morphology in *Candida albicans* strains during infection. Eukaryotic Cell 4: 156-165.
- Coste, A., Turner, V., Ischer, F., Morschhauser, J., Forche, A., Selmecki, A., Berman, J., Bille, J., Sanglard, D. 2006. A mutation in Tac1p, a transcription factor regulating *CDR1* and *CDR2*, is coupled with loss of heterozygosity at chromosome 5 to mediate antifungal resistance in *Candida albicans*. Genetics 172: 2139-2156.
- Selmecki, A., Forche, A., and Berman, J. 2006. Aneuploidy and isochromosome formation in drug-resistant *Candida albicans*. Science 313: 367-370.
- Coste, A., Selmecki, A., Forche, A., Diogo, D. Bounoux, M. E., d'Enfert, C., Berman, J., Sanglard, D. 2007. Genotypic evolution of azole resistance mechanisms in sequential *Candida albicans* isolates. Eukaryotic Cell 6: 1889-1904.

- Legrand, M., Forche, A., Selmecki, A., Chan, C., Kirkpatrick, D. T., Berman, J. 2008. Haplotype mapping of a diploid non-meiotic organism using existing and induced aneuploidies. *PLoS Genetics* 4: 18-28.
- Forche, A., Alby, K., Schaefer, D., Johnson, A. D., Berman, J., Bennett, R. J. 2008. The parasexual cycle in *Candida albicans* provides an alternative pathway to meiosis for the formation of recombinant strains. *PLoS Biol.* 2008 May 6;6(5):e110.
- Selmecki, A., Gerami-Nejad, M., Paulson, C., Forche, A., Berman, J. 2008. Two genes, amplified on an isochromosome, confer drug resistance in vivo by independent mechanisms. *Mol Microbiol.* 2008 May;68(3):624-41.
- Forche, A., Magee, P. T., Selmecki, A., Berman, J., May, G. 2008. Growth in the host elevates rates of chromosomal and phenotypic variation in *Candida albicans*. *Genetics* submitted