


# Katie E. Hyma, Ph.D.

## Associate

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## Overview

### About Katie

Katie E. Hyma, Ph.D., is an associate in the Boston office of Fish & Richardson P.C. Dr. Hyma counsels clients in a wide range of technologies, primarily in the life sciences, with an emphasis on biotechnology, molecular biology, and therapeutics. Her clients include emerging biotechnology startups, established companies with well-developed intellectual property portfolios, venture capital firms, and world-class academic medical and research facilities.

She helps her clients to identify, protect, and optimize the value of their intellectual property with a focus on patent prosecution and counseling, as well as post-grant proceedings. She also advises clients in all phases of due diligence, including mergers and acquisitions, fundraising, and IPOs. She performs portfolio analyses, identifies third-party patent risks, and provides patentability and freedom to operate opinions. Dr. Hyma's clients appreciate her ability to distill complex information and ideas into an understandable and actionable format.

Dr. Hyma has broad research experience in evolutionary biology, population genetics, bioinformatics, ecology, microbiology, and molecular genetics. Before practicing law, Dr. Hyma worked at Cornell University's Institute for Biotechnology, where she developed and implemented novel pipelines for genetic mapping in grapevine and assisted researchers with project design, planning, and data analysis. She has published papers in *Molecular Ecology*, *Theoretical and Applied Genetics*, *PLOS One*, and *BMC Genomics*, among others, and has provided training in cutting-edge genotyping technologies to scientists around the world.

# Focus Areas

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## Services

- Patent
- Post-Grant
- Opinions and Strategic Counseling
- Patent Portfolio Management
- Patent Prosecution

## Industries

- Academic Research and Medical Centers
- Life Sciences
- Medical Devices
- Nanotechnology

## Education

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J.D. *summa cum laude*, Syracuse University College of Law (2019)

Ph.D., Evolution, Ecology, and Population Biology, Washington University (2010)

M.S., Microbiology and Molecular Genetics, Michigan State University (2004)

B.S., Microbiology and Molecular Genetics, Michigan State University (2004)

## Insights

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## Publications

- Stansell Z, Hyma K, Fresnedo-Ramírez J, Sun Q, Mitchell S, Björkman T, Hua J, *Genotyping-by-Sequencing of Brassica oleracea Vegetables Reveals Unique Phylogenetic Patterns, Population Structure, and Domestication Footprints*. HORT. RES. 2018:38 (2018)
- Klein LL, Miller AJ, Ciotir C, Hyma K, Uribe-Convers S, and Londo J, *High-Throughput Sequencing Data Clarify Evolutionary Relationships among North American Vitis Species and Improve Identification in USDA Vitis germplasm collections*. AM. J. BOT. 105(2):215–226 (2018)

- Peris D, Moriarty RV, Alexander WG, Baker E, Sylverster K, Sardi M, Langdon QK, Libkind D, Wagn WM, Bai FY, Leducq JB, Charron G, Landry CR, Sampaio JP, Gonçalves P, Hyma KE, Fay JC, Sato TK, Hittinger CT, *Hybridization and Adaptive Evolution of Diverse Saccharomyces Species for Cellulosic Biofuel Production*. BIOTECHNOL. BIOFUELS. 10:78 (2017)
- Huang Z, Young ND, Reagon M, Hyma KE, Olsen KM, Jia Y, Caicedo AL, *All Roads Lead to Weediness: Patterns of Genomic Divergence Reveal Extensive Recurrent Weedy Rice Origins from South Asian Oryza*. MOL. ECOL. 26:3151–67 (2017)
- Sardos J, Rouard M, Hueber Y, Cenci A, Hyma KE, van den Houwe I, Hribova E, Courtois B, Roux N, *A Genome-Wide Association Study on the Seedless Phenotype in Banana (Musa spp.) Reveals the Potential of a Selected Panel to Detect Candidate Genes in a Vegetatively Propagated Crop*. PLOS ONE 11(5):e0154448 (2016)
- Hyma KE, Barba P, Wang M, Londo JP, Acharya CB, Mitchell SE, Sun Q, Reisch B, Cadle-Davidson L, *Heterozygous Mapping Strategy (HetMappS) for High Resolution Genotyping-By-Sequencing Markers: A Case Study in Grapevine*. PLOS ONE 10(8):e0134880 (2015)
- Lasky JR, Upadhyaya HD, Ramu P, Deshpande S, Hash CT, Bonnette J, Juenger TE, Hyma K, Acharya C, Mitchell SE, Buckler ES, Brenton Z, Kresovich S, Morris GP, *Genome-Environment Associations in Sorghum Landraces Predict Adaptive Traits*. SCIENCE ADVANCES 1(6):e1400218 (2015)
- Johnson J, Wittgenstein H, Mitchell SE, Hyma KE, Temnykh SV, Kharlamova AV, Gulevich RG, Vladimorova AV, Fong HWF, Acland GM, Trut LN, Kukekova AV, *Genotyping-by-Sequencing (GBS) Detects Genetic Structure and Confirms Behavioral QTL in Tame and Aggressive Foxes (Vulpes vulpes)*. PLOS ONE 10(6):e0127013 (2015)
- Jarquin D, Kocak K, Posada L, Hyma K, Jedlicka J, Graef G, Lorenz A, *Genotyping by Sequencing for Genomic Prediction in a Soybean Breeding Population*. BMC GENOMICS 15:740 (2014)
- Burgos NR, Singh V, Tseng TM, Black H, Young ND, Huang Z, Hyma KE, Gealy DR, Caicedo AL, *The Impact of Herbicide-Resistant Rice (Oryza sativa L.) Technology on Phenotypic Diversity and Population Structure of US Weedy Rice*. PLANT PHYSIOL. 166(3):1208-20 (2014)
- Girma G, Hyma K, Asiedu R, Mitchell S, Gedil M, Spillane C, *Next-Generation Sequencing Based Genotyping, Cytometry, and Phenotyping for Understanding Diversity and Evolution of Guinea Yams*. THEOR. APPL. GENET. 127:1783 (2014)
- Cromie GE, Hyma KE, Ludlow CL, Garmendia-Torres C, Gilbert T, May P, Huang AA, Dudley AM, Fay JC, *Genomic Sequence Diversity and Population Structure of Saccharomyces cerevisiae Assessed by RAD-seq*. G3 3(12):2163-71 (2013)
- Barba P, Cadle-Davidson L, Harriman J, Glaubitz J, Brooks S, Hyma KE, Reisch B, *Grapevine Powdery Mildew Resistance and Susceptibility Loci Identified on a High-Resolution SNP Map*. THEOR. APPL. GENET. 127(1):73-84 (2014)
- Hyma KE and Fay JC, *Mixing of Vineyard and Oak-Tree Ecotypes of Saccharomyces cerevisiae in North American Vineyards*. MOL. ECOL. 22(11):2917-30 (2013)
- Hyma KE, Saerens SM, Verstrepren KJ, Fay JC, *Divergence in Wine Characteristics Produced by Wild and Domesticated Strains of Saccharomyces cerevisiae*. FEMS YEAST RES. 11(7):540-

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- Hyma and Caicedo, *Shedding Light on the Evolution of Plasticity in Natural Populations*. MOL. ECOL. 20:3491-3493 (2011)
- Hyma KE, Lacher DW, Nelson AM, Bumbaugh AC, Janda JM, Strockbine NA, Young VB, Whittam TS, *Evolutionary Genetics of a New Pathogenic Escherichia species: Escherichia albertii and related Shigella boydii strains*. J. OF BACTERIOL. 187(2):619-28 (2005)
- Qi W, Lacher DW, Bumbaugh AC, Hyma KE, Ouellette LM, Large TM, Tarr CL, Whittam TS, *EcMLST: an Online Database for Multilocus Sequence Typing of Pathogenic Escherichia coli*, in PROCEEDINGS OF THE 2004 IEEE COMPUTATIONAL SYSTEMS BIOINFORMATICS CONFERENCE CSB2004 (2004)