

MoveSpeakSpin

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The Daughters of Hypatia: Circles of Mathematical Women

A dance concert by Karl Schaffer and friends, Feb. 24 and 25, 2012 in Santa Cruz at Motion at the Mill's Reinberg Theater in Santa Cruz

Hold the Date - premiere dance performance by Karl Schaffer and friends. The Daughters of Hypatia celebrates great female mathematicians and their struggles to create groundbreaking mathematics.

Women's contributions to mathematics have historically been given short shrift. Mathematician and dancer/choreographer Karl Schaffer highlights these contributions in a concert dedicated to the foremothers of mathematics as well as to their leading contemporaries. For centuries women were denied access to the study of mathematics, their intellectual powers denigrated, and their accomplishments downplayed. However, women, often self taught, made marvelous mathematical discoveries, even when obstacles were placed in their way. The earliest known female mathematician was Hypatia, a leading intellectual in ancient Alexandria who was murdered by a mob. Later mathematicians disguised their identities: Émilie du Châtelet dressed as a man in order to attend lectures, Sophie Germain published under a male pseudonym, and Emmy Noether gave lectures under the name of a male colleague. Their stories are sobering, yet inspiring.

The historical sections of the show are drawn together by dances exploring circular motifs, as the dancers recount intriguing stories from the women's lives and perform patterns suggestive of their mathematical work. New dance work will also make use of live projection of video mosaics of dancers with software created by Kevin Lee, feature tessellation designs by Marjorie Rice, include guest choreography by sarah-marie belcastro, and use musical compositions by Zambra, Vi Hart, and Victor Spiegel. Vi Hart plays with mathematics in musical composition, art, and teaching, Kevin Lee is a noted software designer who developed the Tesselmania program suite. Zambra is the Santa Cruz-based women's world music acappella choir whose members have collaborated with Karl Schaffer on two previous shows. The performance also includes choreographic contributions by the four dancers in the show.

Several older works have been integrated into the show as well, including "A Circle Has No Sides" – a duet investigating the circle, set to a piano score by "mathemusician" Vi Hart. Also in the concert are "Trio for Six," a trio for six hands, "Inside/Outside," which also plays with oversize hoops, and "Tottle Bop," a rhythm dance using plastic water bottles.

Featured mathematicians include Hypatia, Maria Agnesi, Émilie du Châtelet, Sophie Germain, Sofia Kovalesky, Marjorie Rice, Emmy Noether, and sarah-marie belcastro. sarah-marie belcastro (lower case), who currently teaches at the Univ. of Massachusetts, has worked with Karl Schaffer on dances and a recent magazine article, and is also recognized for her work with mathematics and fiber arts.

Karl Schaffer is co-artistic director of the Dr. Schaffer and Mr. Stern Dance Ensemble, which performs under the auspices of MoveSpeakSpin. The Ensemble has performed throughout North America for over twenty years. They recently performed at the World Science Festival in New York, and during summer 2010 they performed in Hungary and Paris. Schaffer and Stern

are on the Teaching Artist Roster of the Kennedy Center for the Performing Arts for their work integrating dance and mathematics. Schaffer served as an alternate choreography adjudicator in the 2011 National Society of Arts and Letters National Choreography Competition.

[Zambra](#) is a Santa Cruz women's global vocal music ensemble which performs songs in over 15 languages. Zambra performed live in Mosaic, a show which Schaffer previewed in June 2011 and in Harmonious Equations with NPR Math Guy, Keith Devlin. "Mathemusician" [VI Hart](#)'s videos integrating math, music, and zany humor have recently become an internet sensation. Kevin Lee has created software for interactive design of tessellations, including the "hit" software Tesselmania. [Marjorie Rice](#) is a well known amateur mathematician who discovered a number of pentagonal tilings of the plane, and created Escher-like designs based on them. [sarah-marie belcastro](#) is a mathematician who is also a dancer and authority on the mathematics of knitting and crochet. [Victor Spiegel](#) is a musician and composer in a variety of world music forms.

Dancers performing in the show are:

Kaylie Caires recently received her Graduate Certificate in Theater Arts and Dance from UCSC. She has performed locally with various UCSC student groups as well as with Tandy Beal, and Shakespeare Santa Cruz. Kaylie currently teaches Tap and Creative Dance at Motion Pacific and West Performing Arts.

Jenna Purcell recently graduated with BA in Literature and minor in Theatre Arts from UCSC, played Clara in Tandy Beal's Mixed Nutz, worked with Shakespeare Santa Cruz, and recently directed UCSC's student dance concert Random with a Purpose XIX.

Jane Real- MA Dance, MS Elementary Education. Formerly Rehearsal Director and performer with Bill T. Jones/ Arnie Zane and Co., Director of the Dance Network of Brooklyn, NY, and member of K2 Dance andArts CO, Jane recently performed with Tandy Beal and Company. and teaches dance in Santa Cruz City Schools.

Saki has performed and taught dance, circus arts, theatre and gymnastics with Tandy Beal & Company, New Pickle Circus, West Performing Arts with Terri Steinmann, Gymnastics Learning Center at Santa Cruz Sports Central and for ten years with the Dr. Schaffer & Mr. Stern Dance Ensemble.

Date/time: Friday, February 24, 2012 at 8 PM

Saturday, February 25, 2012 at 8 PM

Location: Motion at the Mill Reinberg Theater, 131 Front St., Santa Cruz, CA

Tickets: [Brownpapertickets.com](#), \$15 general, \$12 seniors and students in advance, \$2 more at the door. Tickets also available at Motion Pacific.

More information: [movespeakspin.org](#)

Text and choreography by Karl Schaffer, guest choreography and performance by sarah-marie belcastro, choreographic contributions by the dancers. Music by VI Hart, Zambra, Bobby McFerrin, Victor Spiegel

Lighting design by Chip

Tessellation designs by Marjorie Rice.

Video mosaic software by Kevin Lee.

Photos by [Steve DiBartolomeo](#).



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