

Concert at Chemistry

THURSDAY, FEBRUARY 14, 2019

DeLuca Forum

Discovery Building

UW-Madison



SCIENCE IS FUN

In the Lab of Shakhashiri

Science, the Arts, and the Humanities Program

Program

Any Resemblance is Purely Coincidental Charles Dodge (b. 1942)
 Vincent Fuh, Piano
 with recording of Enrico Caruso

Three Petrarchian Sonnets John F. Berry (b. 1977)

- I. Andante
- II. Flowing
- III. Adagio

Mimmi Fulmer, Mezzosoprano
 Vincent Fuh, Piano

Songs of Discovery Julian B. Pozniak (b. 1992)

- I. Equation
- II. Information
- III. My Mind Is
- IV. When I Heard the Learn'd Astronomer

Julia Rottmayer, Soprano
 Vincent Fuh, Piano

Two Songs, Op. 91 Johannes Brahms (1833-1897)

- I. Gestillte Sehnsucht
- II. Geistliches Wiegenleid

Mimmi Fulmer, Mezzosoprano
 John F. Berry, Viola
 Vincent Fuh, Piano

Notes

Three Petrarchian Sonnets

Here's a question for musicians and scientists alike: Where does inspiration come from? Upon reading these three sonnets, I started to hear music immediately in my mind, so I started jotting down the dotted rhythms and close harmonies that open the first of the three sonnets. In writing these songs, I set up for myself two significant challenges. First, the sonnets from Francesco Petrarch's *Canzoniere* are in Italian,

a language that I don't speak. The second challenge was a musical challenge of my own construction: Can I use a cluster of three notes together as the main harmonic fabric of a piece? In the first sonnet the notes of the cluster are set out in layers – first one note, and then two more. The rest of this sonnet, and much of the other two, build on this idea of layering interesting combinations of notes on top of each other to generate new harmonies to depict the themes of nature, love, and loss. While the first sonnet is driven mainly by harmonies, the second is more melodic in an ABA form, with a rhythmic B section. The third sonnet uses a slower rendition of the theme from the second sonnet and fortifies it with the layered harmonic approach from the first sonnet.

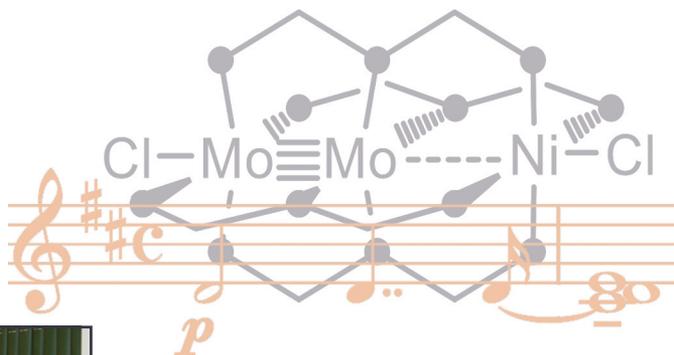
Songs of Discovery

Though they can be said to have a tenuous relationship, the arts and sciences flourish in each other's company. This cycle celebrates the joy and wonder that we all experience when taking time to relish in the feats of the human mind. From working through difficult equations to counting and measuring, each song celebrates the magnificence of the sciences, and offers a hand in stepping into the complicated world of numbers and proofs.

Two Songs

The two songs for alto, viola, and piano were written for József and Amalie Joachim, close friends of the composer. József and Amalie were both talented performers, the former a virtuoso violinist and the latter an operatic contralto. The first song, *Gestillte Sehnsucht* (Longing at rest), was written many years after the second, and was produced by Brahms in an attempt to save his friends' failing marriage. The second song, *Geistliches Wiegenlied* (Sacred lullaby), was written for their wedding. *Gestillte Sehnsucht* integrates the theme of longing with imagery of the natural world, a longing whispered by birds and the wind that only rests at the end of life. This whispered longing is transposed to music as a melodic theme that is traded back and forth between the singer and violist. *Geistliches Wiegenlied* opens with a 16th century lullaby quoted at the opening by the viola, "Joseph lieber, Joseph mein," which becomes transformed into much of the melodic content of the song. Here, Brahms undoubtedly meant to refer not only to the biblical Joseph but also his friend Joachim.

Composers & Performers



John F. Berry, composer, viola

John was born in Atlanta, GA in September 1977, and grew up in Newport News, Virginia. He attended Virginia Tech (1996-2000) where he obtained two degrees: a BA in music theory and composition, and a BS in chemistry. After continuing his pursuit of chemistry at Texas A&M University (2000-2004) and at the Max Planck Institute for Bioinorganic Chemistry in Mülheim an der Ruhr, Germany (2004-2006), John joined the Department of Chemistry at the University of Wisconsin-Madison, where he has established a vibrant research group studying the electronic structure of transition metal compounds. In 2016, John was appointed the Lester R. McNall Professor of Chemistry and has been honored with a number of awards including the Vilas Faculty Mid-Career Investigator Award (2016), and the H. I. Romnes Faculty Fellowship (2017), along with two university housing awards for teaching. His is also a faculty fellow of the Wisconsin Initiative for Science Literacy.

The first Concert at Chemistry in 2009 saw the world premiere performance of John's Sonata for Tuba and Piano. Several other works have been performed including a Sonata for Piano and Sonata for Violincello and Piano. John will be performing parts of his Sonata for Violin and Piano during a special symposium on chemistry and music at the ACS Meeting in April 2019.



Julian Pozniak, composer

Julian Baus Pozniak has been fascinated by music from a very early age. Frequent attendance as a young child to the Madison Symphony Orchestra, Madison Opera, Lyric Opera of Chicago, and other performance venues, as well as an early music education at his elementary school, fueled what would eventually become a lifelong passion for music. Pozniak began piano lessons at the age of six, and followed with voice lessons only a few years after, continually pursuing both through the end of his college studies. In addition to receiving excellent instruction in practical music, he also benefited from extensive instruction in music history and music theory, eventually fueling his interest in the field of composition. Upon graduating from high school, Pozniak attended Carleton College in Northfield, Minnesota. It was at Carleton that Pozniak first began to study composition seriously under the instruction of Dr. Alex Freeman. After graduating from Carleton, Pozniak attended the New England Conservatory of Music in Boston, Massachusetts where he studied for two years with Dr. Kati Agócs. It was here that he wrote some of his first substantial works, and began to develop a personal style. Julian continues to live in Boston, Massachusetts while applying to PhD programs.



Vincent Fuh, piano

Pianist Vincent Fuh began performing as a jazz pianist before turning his attention to classical collaborative piano. He has appeared with the Madison Symphony Orchestra, Wisconsin Chamber Orchestra, Bach Dancing Dynamite Society, Oakwood Chamber Players, Sound Ensemble Wisconsin, Madison Chamber Choir, Madison Choral Project, and LunART Festival. He frequent-

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ly joins the pit orchestras of touring Broadway musicals, such as *The Producers* and *Wicked*, and tours extensively with Opera for the Young throughout the Midwest. He was pianist and writer/arranger for Madison's premiere salsa band Madisalsa and currently performs with Orquesta Madison All Stars. His studio recording collaborations include Laura Medisky (oboe), Marc Vallon (bassoon), Charles Tibbets (horn), Bernhard Scully (horn), Thomas Pfothenhauer (trumpet), Tom Curry (tuba), and Mark Hetzler (trombone).



Mimmi Fulmer, voice

Mimmi Fulmer performs repertoire ranging from early music to premieres of works written for her. She has appeared as soloist at the Aspen Music Festival, Kennedy Center, CAMI Hall, the Meadowlark Festival, and the Walker Art Center, and her career includes premieres of nine roles in eight operas. Her degree from Princeton University and her family heritage are the foundation for her performance of and research on Nordic songs and contemporary American music. She has presented programs of Nordic repertoire throughout the US, and is the editor of "Midnight Sun", a three-volume anthology of songs from Finland, Sweden, Norway and Denmark. Her book about "Vision and Prayer" by Milton Babbitt was published in 2016. She has recorded with the Centaur, Albany, Innova, and CRI labels, and her solo CD, "About Time", was called "a gratifying testimony to...composers in America" by Opera News online and "a spectacular show" by American Record Guide. Ms. Fulmer is Professor of Voice and Opera at the University of Wisconsin-Madison.





Julia Rottmayer, voice

Soprano Julia Rottmayer is active in the stage, concert, and teaching arenas. Along with her interpretation of standard repertoire, Dr. Rottmayer is an avid performer and champion of contemporary and early music. In addition to performing, Dr. Rottmayer is a dedicated voice teacher. She maintains a private voice studio and is a member of the voice faculty at the University of Wisconsin-Madison. Dr. Rottmayer holds voice performance degrees from the University of Wisconsin-Madison (BM), the Eastman School of Music (MM), and the Moores School of Music, University of Houston (DMA). In dedication to evidence-based teaching, Dr. Rottmayer has pursued further education in vocal health and voice science as it relates to singing and speech, having earned her certificate in Vocology from the National Center for Voice and Speech in 2012 with continuing studies at the University of Central Florida and the University of South Florida since. For more information, please visit her website at www.JuliaRottmayer.com.

Texts & Translations

Three Petrarchian Sonnets

Francesco Petrarca (1304-1374)

Translations: A. S. Kline

1. *Andante*

I begli occhi ond'ì fui percosso in guisa
 ch'è' medesmi porian saldar la piaga,
 et non già vertú d'erbe, o d'arte maga,
 o di pietra dal mar nostro divisa,

m'anno la via sí d'altro amor precisa,
 ch'un sol dolce penser l'anima appaga;
 et se la lingua di seguirlo è vaga,
 la scorta pò, non ella esser derisa.

Questi son que' begli occhi che l'imprese

Those lovely eyes, that struck me in such guise
 that only they themselves could heal the wound,
 and not the power of herbs, nor magic art,
 nor some lodestone from far beyond our seas,

have so closed the road to other love,
 that one sweet thought alone fills my mind:
 and if my tongue wishes to pursue it,
 that guide, and not the tongue is to be blamed.

Those are the lovely eyes that make

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del mio signor vittoriose fanno
in ogni parte, et più sopra 'l mio fianco;

questi son que' begli occhi che mi stanno
sempre nel cor colle faville accese;
per ch'io di lor parlando non mi stanco.

2. *Flowing*

Solo et pensoso i piú deserti campi
vo mesurando a passi tardi et lenti,
et gli occhi porto per fuggire intenti
ove vestigio human l'arena stampi.

Altro schermo non trovo che mi scampi
dal manifesto accogger de le genti,
perché negli atti d'alegrezza spenti
di fuor si legge com'io dentro avampi:

si ch'io mi credo omai che monti et piagge
et fiumi et selve sappian di che tempore
sia la mia vita, ch'è celata altrui.

Ma pur sí aspre vie né sí selvagge
cercar non so ch'Amor non venga sempre
ragionando con meco, et io co llui.

3. *Adagio*

Rotta è l'alta colonna e 'l verde lauro
che facean ombra al mio stanco pensiero;
perduto ò quel che ritrovar non spero
dal borrea a l'austro, o dal mar indo al mauro.

Tolto m'ài, Morte, il mio doppio thesauro,
che mi fea viver lieto et gire altero,
et ristorar nol pò terra né impero,
né gemma orïental, né forza d'auoro.

Ma se consentimento è di destino,
che posso io piú, se no aver l'anima trista,
humidi gli occhi sempre, e 'l viso chino?

O nostra vita ch'è sí bella in vista,
com perde agevolmente in un matino
quel che 'n molti anni a gran pena s'acquista!

my lord's enterprise victorious
on every side, above all my heart's:

those are the lovely eyes that always live
in my heart among the blazing sparks,
so that speaking of them never makes me tired.

Alone and thoughtful, through the most
desolate fields,
I go measuring out slow, hesitant paces,
and keep my eyes intent on fleeing
any place where human footsteps mark the sand.

I find no other defence to protect me
from other people's open notice,
since in my aspect, whose joy is quenched,
they see from outside how I flame within.

So now I believe that mountains and river-banks
and rivers and forests know the quality
of my life, hidden from others.

Yet I find there is no path so wild or harsh
that love will not always come there
speaking with me, and I with him.

The high column and the green laurel are broken
that cast a shade for my weary thoughts:
I have lost what I do not hope to find again
in north or south wind, from ocean to ocean.

You have taken my double treasure from me,
Death,
which made me live joyfully, and go nobly,
and the earth cannot restore it, nor empire,
nor oriental gem, nor power of gold.

But if destiny consents to this,
what can I do, except display my sad soul,
wet eyes forever, and my bowed head?

O this life of ours, which is so fair, outwardly,
how easily it loses in a morning
what many years with great pain have acquired!



Songs of Discovery

1. Equation

Caroline Caddy (b. 1944)

Someone said
 that working through difficult equations
 was like walking
 in a pure and beautiful landscape –
 the numbers glowing
 like works of art.
 And in the same crowded room
 a woman I thought I didn't like
 was singing to herself –
 talking and listening
 but singing to herself too
 and instantly
 with the logic of numbers
 I liked her
 as if she had balanced something
 I couldn't.
 The corridors are long and pristine
 but I'm not lost –
 just working
 towards some minute
 or overwhelming
 equipoise.

2. Information

David Ignatow (1919-1997)

This tree has two million and seventy-five thousand leaves. Perhaps I missed a leaf or two but I do feel triumphant at having persisted in counting by hand branch by branch and marked down on paper with pencil each total. Adding them up was a pleasure I could understand; I did something on my own that was not dependent on others, and to count leaves is not less meaningful than to count the stars, as astronomers are always doing. They want the facts to be sure they have them all. It would help them to know whether the world is finite. I discovered one tree that is finite. I must try counting the hairs on my head, and you too. We could swap information.

3. My mind is

E. E. Cummings (1894-1962)

my mind is
 a big hunk of irrevocable nothing which touch and
 taste and smell and hearing and sight keep hitting and
 chipping with sharp fatal tools
 in an agony of sensual chisels i perform squirms of
 chrome and execute strides of cobalt
 nevertheless i
 feel that i cleverly am being altered that i slightly am
 becoming something a little different, in fact
 myself
 Hereupon helpless i utter lilac shrieks and scarlet
 bellowings.

4. When I Heard the Learn'd Astronomer Walt Whitman (1819-1892)

When I heard the learn'd astronomer,
 When the proofs, the figures, were ranged in columns before me,
 When I was shown the charts and diagrams, to add, divide, and measure them,
 When I sitting heard the astronomer where he lectured
 with much applause in the lecture-room,
 How soon unaccountable I became tired and sick,
 Till rising and gliding out I wander'd off by myself,
 In the mystical moist night-air, and from time to time,
 Look'd up in perfect silence at the stars.



Two Songs, Op. 91

1. Gestillte Sehnsucht Friedrich Rückert (1788-1866)

Translation: Richard Stokes

In gold'nen Abendschein getaucht,
 Wie feierlich die Wälder stehn!
 In leise Stimmen der Vöglein hauchet
 Des Abendwindes leises Weh'n.
 Was lispeln die Winde, die Vögelein?
 Sie lispeln die Welt in Schlummer ein.

Bathed in golden evening light,
 How solemnly the forests stand!
 The evening winds mingle softly
 With the soft voices of the birds.
 What do the winds, the birds whisper?
 They whisper the world to sleep.

Ihr Wünsche, die ihr stets euch reget
 Im Herzen sonder Rast und Ruh!
 Du Sehnen, das die Brust beweget,
 Wann ruhest du, wann schlummerst du?
 Beim Lispeln der Winde, der Vögelein,
 Ihr sehnenenden Wünsche,
 wann schlaft ihr ein?

But you, my desires, ever stirring
 In my heart without respite!
 You, my longing, that agitates my breast –
 When will you rest, when will you sleep?
 The winds and the birds whisper,
 But when will you,
 yearning desires, slumber?

[Was kommt gezogen auf Traumesflügeln?
 Was weht mich an so bang, so hold?
 Es kommt gezogen von fernen Hügeln,
 Es kommt auf bebendem Sonnengold.
 Wohl lispeln die Winde, die Vögelein,
 Das Sehnen, das Sehnen, es schläft nicht ein.]

[What comes borne on the wings of dreams?
 What blows upon me with longing, so fondly?
 It comes drawn from the distant hills,
 It comes upon throbbing golden sun.
 Well may the winds whisper, the little birds,
 But longing and yearning never sleep.]

Ach, wenn nicht mehr in gold'ne Fernen
 Mein Geist auf Traumgefieder eilt,
 Nicht mehr an ewig fernen Sternen
 Mit sehnenendem Blick mein Auge weilt;
 Dann lispeln die Winde, die Vögelein
 Mit meinem Sehnen mein Leben ein.

Ah! when my spirit no longer hastens
 On wings of dreams into golden distances,
 When my eyes no longer dwell yearningly
 On eternally remote stars;
 Then shall the winds, the birds whisper
 My life – and my longing – to sleep.

2. **Geistliches Wiegenlied**
Emanuel Geibel (1815-1884)

Die ihr schwebet
 Um diese Palmen
 In Nacht und Wind,
 Ihr heil'gen Engel,
 Stillet die Wipfel!
 Es schlummert mein Kind.

Ihr Palmen von Bethlehem
 Im Windesbrausen,
 Wie mögt ihr heute
 So zornig sausen!
 O rauscht nicht also!
 Schweiget, neiget
 Euch leis' und lind;
 Stillet die Wipfel!
 Es schlummert mein Kind.

Der Himmelsknabe
 Duldet Beschwerde,
 Ach, wie so müd' er ward
 Vom Leid der Erde.
 Ach nun im Schlaf ihm
 Leise gesänftigt
 Die Qual zerrinnt,
 Stillet die Wipfel!
 Es schlummert mein Kind.

Grimmige Kälte
 Sauset hernieder,
 Womit nur deck' ich
 Des Kindleins Glieder!
 O all ihr Engel,
 Die ihr geflügelt
 Wandelt im Wind,
 Stillet die Wipfel!
 Es schlummert mein kind.

Translation: Richard Stokes

You who hover
 Around these palms
 In night and wind,
 You holy angels,
 Silence the tree-tops!
 My child is sleeping.

You palms of Bethlehem
 In the raging wind,
 Why do you bluster
 So angrily today!
 O roar not so!
 Be still, and
 Calmly and gently over us;
 Silence the tree-tops!
 My child is sleeping.

The heavenly babe
 Suffers distress,
 Oh, how weary He has grown
 With the sorrows of this world.
 Ah, now that in sleep
 His pains
 Are gently eased,
 Silence the treetops!
 My child is sleeping.

Fierce cold
 Blows down on us,
 With what shall I cover
 My little child's limbs?
 O all you angels,
 Who wing your way
 On the winds,
 Silence the tree-tops!
 My child is sleeping.





SCIENCE, THE ARTS, AND THE HUMANITIES

Creativity, passion and the urge for expression and exploration are essential human qualities that inspire science, the arts, and the humanities, and thus constitute a common bond among them. WISL helps people explore, discuss, and cultivate the intellectual and emotional links between science, the arts, and the humanities. Our programs focus on the relationships, similarities, and differences in inquiry, creativity, and personal expression among scientists, artists, and humanists. A specific goal is to give musicians, artists, writers, and performers—present and future—an appreciation of science and enable them to see and understand the connections between science and the arts.

We are pleased to feature two world-premiere compositions this afternoon. John Berry's *Three Petrarchian Sonnets* is only one example of his creativity—he has also played his viola at various WISL public events. Julian Pozniak's *Songs of Discovery* was commissioned by WISL in 2015. That year, he joined Prof. Shakhshiri onstage at the Museum of Science in Boston during National Chemistry Week.

Wisconsin Initiative for
Science Literacy

www.scifun.org