

# MUSIC, THE BRAIN, MEDICINE, AND WELLNESS: A SCIENTIFIC DIALOGUE

A Scientific Symposium Presented in Association with the 40th Anniversary of the Santa Fe Chamber Music Festival

August 4-6, 2012 • Eldorado Hotel & Spa • Santa Fe, New Mexico



## SYMPOSIUM SYNOPSIS

Targeted attendees include research scientists, physicians, and health care professionals who are engaged in research in the fields of music and the brain, cognitive neuroscience, and the application of music to healing and music therapy in the treatment of cancer, neurologic diseases, mental disorders, and other chronic conditions.

The overall goal of the Symposium is to bring “world class” scientists, physicians, healthcare professionals, and therapists to Santa Fe to interface with “world class” musicians, and, to present cutting edge research and the state of the science in three areas of investigation: 1) how the development of the brain in early childhood and how cognitive development, language, emotion, and memory are influenced by various forms of music; 2) how music can be used to promote wellness and healing in patients with serious medical conditions including cancer, neurologic, developmental and cognitive disorders such as autism, and other chronic health conditions; and 3) how music promotes wellbeing in an individual and a community. We wish to define the state of the science for researchers and healthcare workers in this field, to define

the most important questions for future research, and to understand how music can be applied in the art and practice of healing in medicine. In addition, the Symposium will provide many opportunities for interactions and “demonstrative” projects between scientists and musicians, as well as forums and concerts open to the public and lay audiences.

### Questions addressed will include:

- What is the state of the science of the impact of music on the brain, medicine, and well being?
- What are the most critical questions for future research?
- How will this science inform new therapeutic approaches and clinical interventions?
- How can we best lead the field forward?



## FRIDAY, AUGUST 3, 2012

**6:00 PM**

PRE-SYMPOSIUM CONCERT /  
PUBLIC LECTURE

St. Francis Auditorium

*Music, The Brain, Medicine and Wellness:  
A Public Lecture and Music Demonstration*

**When Music Sings, the Brain Listens  
and the Heart Modulates**

**Kamal R. Chémali, MD**  
**Prisca Benoit, Piano**

## DAY 1

### SATURDAY, AUGUST 4, 2012

**7:00 AM – 8:00 AM**

Breakfast for Meeting Attendees  
Eldorado Hotel

**8:00 AM – 8:15 AM**

Meeting Opening: Welcome,  
Introductions, Meeting Scope  
and Purpose

**Conference Co-Chairs:**

**Cheryl L. Willman, MD**  
**Marc Neikrug**  
**Barrie Cassileth, PhD**

**8:15 AM – 8:30 AM**

Opening Remarks:

**Josephine P. Briggs, MD;** Director,  
National Center for Complementary  
and Alternative Medicine (NCCAM),  
National Institutes of Health

## DAY 1 – SESSION 1

**What is Music?** *How Do Harmony,  
Melody, Rhythm, and Tempo Impact Brain  
Function, Memory, and Emotion?*

**Session Co-Chairs:**

**Aniruddh Patel, PhD and  
Isabelle Peretz, PhD**

**8:30 AM – 9:10 AM**

Mapping Music to Memories

**Petr Janata, PhD**

**9:10 AM – 9:50 AM**

Music and Rhythm

**Aniruddh Patel, PhD**

**9:50 AM – 10:30 AM**

Music and Emotion

**Robert Zatorre, PhD**

**10:30 AM – 10:45 AM**

*Break and Discussion*

**10:45 AM – 11:15 AM**

Music, Emotion, and Behavior

**David Huron, PhD**

**11:15 AM – 12:00 PM**

INTERACTIVE PANEL / AUDIENCE  
PARTICIPATION AND DISCUSSION

Morning Speakers

**SCIENCE/MEDICINE:**

**Cheryl Willman, MD; Barry Ramo, MD;  
Gottfried Schlaug, MD, PhD**

**MUSIC:**

**Marc Neikrug, Artistic Director, Santa  
Fe Chamber Music Festival**

**INTERVENTION:**

**Concetta Tomaino, DA, MT-BC, LCAT**

**12:00 PM – 1:00 PM**

LUNCH FOR MEETING ATTENDEES  
Eldorado Hotel

## DAY 1 – SESSION 2

**What is Music?** *How Do Harmony,  
Melody, Rhythm, and Tempo Impact  
Auditory Perception, Cognitive  
Development, Behavior, and Language?*

**How Music Can Be Used in  
Therapeutic Intervention?:**

**Session Co-Chairs:**

**Aniruddh Patel, PhD and  
Isabelle Peretz, PhD**

**1:00 PM - 1:30 PM**

Music, Cognitive Function,  
and Language

**Aniruddh Patel, PhD**

**1:30 PM – 2:10 PM**

Music, Language, and Intervention

**Isabelle Peretz, MD**

**2:10 PM – 2:50 PM**

Music and the Developing Brain

**Laurel Trainor, PhD**

**2:50 PM – 3:00 PM**

*Break and Discussion*

**3:00 PM – 3:40 PM**

Music and Intervention: Autism

**Pamela Heaton, PhD**

**3:40 PM – 4:00 PM**

INTERACTIVE PANEL / AUDIENCE  
PARTICIPATION AND DISCUSSION

Afternoon Speakers

**SCIENCE:**

**Michael Thaut, PhD; Robert Zatorre,  
PhD; Gottfried Schlaug, MD, PhD;  
Petr Janata, PhD**

**MUSIC:**

**Tara Helen O'Connor, Flute;  
Michael Rusinek, Clarinet –  
Pittsburgh Symphony**

**INTERVENTION:**

**Suzanne Hanser, EdD, MT**

## 5:00 PM

FESTIVAL CONCERT  
Lencic Performing Arts Center  
Santa Fe Chamber Music Festival

Brief Introduction of Concert  
by Symposium Faculty  
**Cheryl Willman, MD; Marc Neikrug;  
David Huron, PhD**

### JOHANN SEBASTIAN BACH

Piano Concerto No. 1 in D Minor,  
BWV 1052  
Piano Concerto No. 4 in A Major,  
BWV 1055  
Piano Concerto No. 5 in F Minor,  
BWV 1056  
Piano Concerto No. 7 in G Minor,  
BWV 1058  
*Inon Barnatan, piano; Jennifer Gilbert,  
violin; Harvey de Souza, violin;  
Hsin-Yun Huang, viola; Joseph Johnson,  
cello; Marji Danilow, bass*

## DAY 2

**SUNDAY, AUGUST 5, 2012**

### 7:00 AM – 8:00 AM

Breakfast for Meeting Attendees  
Eldorado Hotel

## DAY 2 – SESSION 1

*Music, The Brain, Motor Function, and  
Therapeutic Intervention:*

**What is the State of the Science in  
Neurologic Disorders and Stroke?**

**What are the Challenges and Key  
Questions for Future Research  
and Intervention?**

**Session Co-Chairs:  
Barrie Cassileth, PhD and  
Cheryl Willman, MD**

### 8:00 AM – 8:40 AM

Music, Movement, and Motor Control  
**Michael Thaut, PhD**

### 8:40 AM – 9:20 AM

Music and Stroke Recovery:  
Singing and Aphasia  
**Gottfried Schlaug, MD, PhD**

### 9:20 AM – 10:00 AM

Music and the Autonomic  
Nervous System  
**Kamal Chemali, MD**

### 10:00 AM – 10:10 AM

*Break and Discussion*

### 10:10 AM – 10:50 AM

Music Therapy: Stroke, Parkinson's  
Disease, Alzheimer's, and  
Degenerative Disorders

**Concetta M. Tomaino, DA, MT-BC, LCAT**

### 10:50 AM – 11:30 AM

INTERACTIVE PANEL / AUDIENCE  
PARTICIPATION AND DISCUSSION

Morning Speakers

#### SCIENCE:

**Josephine Briggs, MD; Aniruddh Patel,  
PhD; Isabelle Peretz, PhD**

#### MUSIC:

**Arnold Steinhardt, Violin**

#### INTERVENTION:

**Lisa Wong, MD**

### 11:30 AM – 12:30 PM

LUNCH FOR MEETING ATTENDEES  
Eldorado Hotel

## DAY 2 – SESSION 2

*Music, Motor Function, and  
Therapeutic Intervention:*

**What is the State of the Science  
in Cancer, Chronic Disease, and  
Terminally Ill Patients?**

**What are the Challenges and Key  
Questions for Future Research and  
Clinical Therapeutic Intervention?**

**Session Co-Chairs:  
Barrie Cassileth, PhD and  
Cheryl Willman, MD**

### 12:30 PM - 1:10 PM

Music Intervention in Cancer Patients  
**Barrie Cassileth, PhD**

### 1:10 PM – 1:45 PM

Memorial Sloan Kettering  
Cancer Center Inpatient  
Music Cancer Therapy Program  
**Holly Mentzer, BM, MM, MA -  
Music Therapy**

### 1:45 PM - 2:15 PM

Music as Therapy vs. Music in Therapy  
in Outpatient Infusion Center  
**Timothy Ringgold, MT-BC**

### 2:15 PM – 3:00 PM

INTERACTIVE PANEL / AUDIENCE  
PARTICIPATION AND DISCUSSION

Afternoon Speakers

#### SCIENCE:

**Pamela Heaton, PhD; Michael Thaut,  
PhD; Cheryl Willman, MD**

#### MUSIC:

**Alan Gilbert, Music Director -  
New York Philharmonic;  
Harvey de Souza, Violin – Academy of  
Saint Martin in the Fields**

#### INTERVENTION:

**Concetta Tomaino, DA, MT-BC, LCAT;  
Suzanne Hanser, MT-BC**

### 3:30 PM

SYMPOSIUM PUBLIC CONCERT /  
LECTURE  
St. Francis Auditorium

*Music, The Brain, Medicine, and Wellness:  
A Public Lecture and Music Demonstration*

**Feeling the Beat:  
Are Humans Unique?**

**Aniruddh Patel, PhD**

Dr. Patel will discuss musical beat  
perception and why we move to  
the music! He will explain how this  
seemingly simple ability, which is at  
the foundation of much of the world's  
musical rhythms, actually requires  
specialized brain circuits that are  
found only in humans and a few other  
species. He will also discuss how this  
research is enhancing our ability  
to treat patients with Parkinson's  
Disease and other neurologic and  
movement disorders.

**Music and Emotion: Got A Feeling?**

**David Huron, PhD**

What precisely are music's mental  
attractions? Dr. Huron's early  
research centered on the perceptual  
foundations of melody and voice-  
leading, and he has also investigated  
sensory dissonance, musical  
similarity, and musical expectation.

His work on expectation is chronicled in the book *Sweet Anticipation: Music and the Psychology of Expectation*. His current research focuses on understanding how music evokes emotion. Dr. Huron emphasizes cross-cultural comparisons in pursuing his research, involving the analysis of Native American, Chinese, Japanese, Hasidic, Balinese, Korean, and sub-Saharan African music.

#### **6:00 PM**

##### **FESTIVAL CONCERT**

Lensic Performing Arts Center  
Santa Fe Chamber Music Festival

Brief Introduction of Concert  
by Symposium Faculty

**Cheryl Willman, MD; Marc Neikrug;  
Concetta Tomaino, DA, MD-BC, LCAT**

**MOZART** Piano Quartet in E-flat Major,  
K. 493

*Harvey de Souza, violin; Hsin-Yun Huang,  
viola; Kajsja William-Olsson, cello;  
Joyce Yang, piano*

**SCHOENBERG** Chamber Symphony  
No. 1 in E Major, Op. 9

*Alan Gilbert, conductor;  
Tara Helen O'Connor, flute;  
Liang Wang, oboe; Robert Ingliss, oboe;  
Ricardo Morales, clarinet;  
Michael Rusinek, clarinet;  
Stephen Ahearn, bass clarinet;  
Nancy Goeres, bassoon; Philip Myers,  
horn; Julie Landsman, horn;  
Jennifer Gilbert, violin; Harvey de Souza,  
violin; Hsin-Yun Huang, viola; Eric Kim,  
cello; Marji Danilow, bass*

**MEDELSSOHN** Octet in E-flat Major,  
Op. 20

*Jennifer Gilbert, violin;  
Arnold Steinhardt, violin; Alan Gilbert,  
violin; Harvey de Souza, violin;  
John Dalley, viola; Michael Tree, viola;  
Peter Wiley, cello; Eric Kim, cello*

## **DAY 3**

**MONDAY, AUGUST 6, 2012**

#### **7:00 AM – 8:00 AM**

Breakfast for Meeting Attendees  
Eldorado Hotel

## **DAY 3 – SESSION 1**

Music and Well Being: From the  
Individual to the Community

#### **Session Co-Chairs:**

**Suzanne Hanser, PhD and  
David Huron, PhD**

#### **8:00 AM – 8:45 AM**

Music, Culture, and Community  
**David Huron, PhD**

#### **8:45 AM – 9:45 AM**

Music in Everyday Life - Interventions  
for Wellness, Stress Management, and  
Quality of Life

**Suzanne Hanser, PhD; Lynn Gorman  
DeVelder; Adrian Anantawan**

#### **9:45 AM – 10:15 AM**

Music Moving Forward:  
Adaptation and Evolution

**Adrian Anantawan**

#### **10:15 AM – 10:30 AM**

*Break and Discussion*

#### **10:30 AM - 11:10 AM**

Scales to Scalpels: Doctors Who  
Practice the Healing Art of Music  
and Medicine

**Lisa Wong, MD**

#### **11:10 AM – 12:00 PM**

INTERACTIVE PANEL / AUDIENCE  
PARTICIPATION AND DISCUSSION

Morning Speakers

#### **SCIENCE:**

**Josephine Briggs, MD; Cheryl Willman,  
MD; Barrie Cassileth, PhD**

#### **MUSIC:**

**Inon Barnatan, Piano; Marc Neikrug,  
Santa Fe Chamber Music Festival**

#### **INTERVENTION:**

**Suzanne Hanser, PhD; Concetta  
Tomaino, DA, MT-BC, LCAT**

#### **12:00 PM**

**Conference Closing Remarks  
and Adjournment**

**Presentation of the  
Key Scientific Questions**

## Accreditation

The University of New Mexico School of Medicine, Office of Continuing Medical Education is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Office of Continuing Medical Education designates this live activity for a maximum of 15.5 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This activity is approved for 15.5 contact hours by the University of New Mexico Office of Continuing Medical Education, an approved provider of continuing nursing education by the New Mexico Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

Certificates of nursing credit will be issued at the end of the symposium 12:30 pm on August 6, 2012, in exchange for symposium evaluations.

## Contact Information

This symposium is presented by the University of New Mexico Cancer Center and the Office of Continuing Medical Education. For additional information contact:



SCHOOL of MEDICINE

Office of Continuing Medical Education  
MSC09 5370, 1 University of New Mexico  
Albuquerque, New Mexico 87131-0001  
(505) 272-3942 - FAX (505) 272-8604  
Visit our website at  
<http://som.unm.edu/cme>

Individuals requiring special accommodations should contact the Office of Continuing Medical Education at (505) 272-3942. UNM is in compliance with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

## Registration Information

Advance registration is encouraged. Please register early to avoid disappointment. Minimum and maximum numbers have been established for this symposium and social events. Registrations paid in cash must be in the exact amount of tuition. The Office of CME does not maintain a petty cash fund. Cash payments must be made in the exact amount of tuition. It is UNM Policy to charge offerer \$15.00 plus normal merchant bank fees for each returned check.

If you are paying by credit card, we have on-line registration capability at the UNM CME website, <http://som.unm.edu/cme>. A confirmation letter will be e-mailed to you. Please present your confirmation letter at the registration desk upon arrival at the symposium. If you do not receive a confirmation letter, please contact the Office of CME at (505) 272-3942 to verify your attendance. Registration includes symposium materials, meals, refreshment breaks, and beverages. Your pre-registration will be confirmed.

Telephone (505) 272-3942 and FAX (505) 272-8604 registrations will be accepted only with VISA/MasterCard. Faxed registrations, which do not have credit card information provided, will not be processed.

Symposium Registration Fees		
	<b>"EARLY" REGISTRATION</b> (postmarked on or before 3/30/2012)	<b>REGULAR REGISTRATION</b> (postmarked after 3/30/2012)
<b>For Health Professionals with Advanced Degrees (MD, DO, PhD, MA/MS)</b>	\$295.00	\$335.00
<b>General Public/Non-Medical Professional</b>	\$295.00	\$335.00
<b>For Allied Health Professionals (PA/NP, Nurses, Music Therapists, and Other Allied Health Professionals)</b>	\$245.00	\$285.00
<b>For Full Time Students (Undergraduate, Graduate Level) *</b>	\$160.00	\$200.00
<b>Additional Concert and Public Lecture Package \$100 **</b>		
6:00 PM Friday, August 3 - Symposium Public Concert / Lecture, St. Francis Auditorium		\$25
5:00 PM Saturday, August 4 - Festival Concert, The Lensic Performing Arts Center		\$30
3:30 PM Sunday, August 5 - Symposium Public Concert / Lecture, St. Francis Auditorium		\$25
6:00 PM Sunday, August 5 - Festival Concert, The Lensic Performing Arts Center		\$55
	Value	\$135
* Must provide proof of student status full-time status. Will not receive professional credit.		
** While tickets last, "Additional Concert and Public Lecture Package" for \$100, or individual events may be purchased for Symposium registrants only.		

## Tuition Remission

All eligible UNM Faculty and Staff may enroll using a tuition remission (waiver) to cover tuition costs listed on the registration form. Properly completed and original remissions must accompany the registration form. Proper completion includes all required signatures. No refund or credit will be issued for non-attendance. The on-line UNM Tuition Form may be accessed at <http://som.unm.edu/cme/CME%20Forms/Index.html>

## Cancellation

If you cannot attend, the Office of Continuing Medical Education will refund tuition, less a \$40.00 administrative fee provided it is received in writing prior to July 27, 2012. No refunds will be issued after this date or for non-attendance. Symposiums are subject to cancellation. In the event this symposium is cancelled, the Office of CME is not responsible for any airfare, hotel, or other costs incurred by participants.

## Symposium Location / Accommodations

The symposium will be held at the Eldorado Hotel and Spa, 309 West San Francisco St., Santa Fe, New Mexico 87501. A block of rooms has been reserved for participants of this symposium at the Eldorado Hotel and Spa for the nights of August 3 – August 5, 2012. Special rates are available to you if you make your room reservations no later than Tuesday, July 3, 2012.

To make room reservations, participants should contact the Eldorado Hotel and Spa directly:

Eldorado Hotel and Spa  
309 West San Francisco St.  
Santa Fe, New Mexico 87501  
Phone: 800-955-4455 or Email: [rez@eldoradohotel.com](mailto:rez@eldoradohotel.com)  
[www.eldoradohotel.com](http://www.eldoradohotel.com)

*Please identify yourself as a participant of the Music, The Brain, Medicine and Wellness Symposium*

### **Participant rate is: \$289.00 (Deluxe King)**

All reservations must be guaranteed with a one night's deposit in the form of a credit card.

We have also secured a courtesy block of rooms for the nights of 8/3/2012 through 8/6/2012 at the following nearby hotels. These hotels are just a short walk from the symposium site. Attendees should call the hotel(s) directly and identify yourself with the "Music, The Brain, Medicine and Wellness" Symposium.

Hilton Santa Fe Historic Plaza  
100 Sandoval Street  
Santa Fe, New Mexico 87501  
505-988-2811 or 800-HILTONS  
Website: [www.hiltonofsantafe.com](http://www.hiltonofsantafe.com)

Hotel Santa Fe The Hacienda and Spa  
1501 Paseo de Peralta  
Santa Fe, New Mexico 87501  
877-955-7835  
Email: [stay@hotelsantafe.com](mailto:stay@hotelsantafe.com)  
Website: [www.hotelsantafe.com](http://www.hotelsantafe.com)

## How To Attend:

- On-line at [www.MusicAndTheBrainSantaFe.com](http://www.MusicAndTheBrainSantaFe.com)
- On-line at: <http://som.unm.edu/cme/2012/2012-Conferences.html>
- Fax your registration 24 hours/day to (505) 272-8604
- Call (505) 272-3942 between 8:00 am and 5:00 pm M.S.T.
- Mail to: UNM, Office of CME, MSC09 5370, 1 University of New Mexico, Albuquerque, NM 87131-0001

*Register now to avoid disappointment.*

# REGISTRATION FORM

University of New Mexico Cancer Center and the Santa Fe Chamber Music Festival 40th Anniversary present  
 Music, The Brain, Medicine and Wellness: A Scientific Dialogue  
 August 4-6, 2012 • Santa Fe, New Mexico

Name: \_\_\_\_\_ Specialty: \_\_\_\_\_

Title:  MD  DO  PhD  DEd  PA  NP  Nurse  Other: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Fax: \_\_\_\_\_ Phone: \_\_\_\_\_

Email: \_\_\_\_\_

	<b>"EARLY" REGISTRATION</b> (postmarked on or before 3/30/2012)	<b>REGULAR REGISTRATION</b> (postmarked after 3/30/2012)
<b>For Health Professionals with Advanced Degrees (MD, DO, PhD, MA/MS)</b>	<input type="checkbox"/> \$295.00	<input type="checkbox"/> \$335.00
<b>General Public/Non-Medical Professional</b>	<input type="checkbox"/> \$295.00	<input type="checkbox"/> \$335.00
<b>For Allied Health Professionals (PA/NP, Nurses, Music Therapists, and Other Allied Health Professionals)</b>	<input type="checkbox"/> \$245.00	<input type="checkbox"/> \$285.00
<b>For Full Time Students (Undergraduate, Graduate Level) *</b>	<input type="checkbox"/> \$160.00	<input type="checkbox"/> \$200.00

I would like to purchase the Additional Concert and Public Lecture Package for Symposium Registrants \*\* \$100

I would like to purchase individual events \*\*

<input type="checkbox"/> 6:00 PM Friday, August 3 - Symposium Public Concert / Lecture, St. Francis Auditorium	\$25
<input type="checkbox"/> 5:00 PM Saturday, August 4 - Festival Concert, The Lensic Performing Arts Center	\$30
<input type="checkbox"/> 3:30 PM Sunday, August 5 - Symposium Public Concert / Lecture, St. Francis Auditorium	\$25
<input type="checkbox"/> 6:00 PM Sunday, August 5 - Festival Concert, The Lensic Performing Arts Center	\$55

Value \$135

*Register now while tickets last!*

Meals:  Non-Vegetarian  Vegetarian

Please indicate method of payment:

<input type="checkbox"/> Check (Make payable to UNM Office of CME)	Mastercard/Visa Account #
<input type="checkbox"/> UNM Tuition Remission Form (copy enclosed)	Expiration Date Amount \$
<input type="checkbox"/> Purchase Order # _____ (copy enclosed)	Include last 3 numbers of code on back of card
<input type="checkbox"/> MasterCard / Visa	Signature

Make check payable to UNM Office of Continuing Medical Education and mail it along with this form to: UNM Office of CME, MSC09 5370, 1 University of New Mexico, Albuquerque, NM 87131-0001. Telephone (505) 272-3942 and Fax (505) 272-8604 registrations accepted for VISA or MasterCard only. Faxed registrations, which do not have credit card information provided, will not be processed.

\* Must provide proof of student status full-time status. Will not receive professional credit.

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