



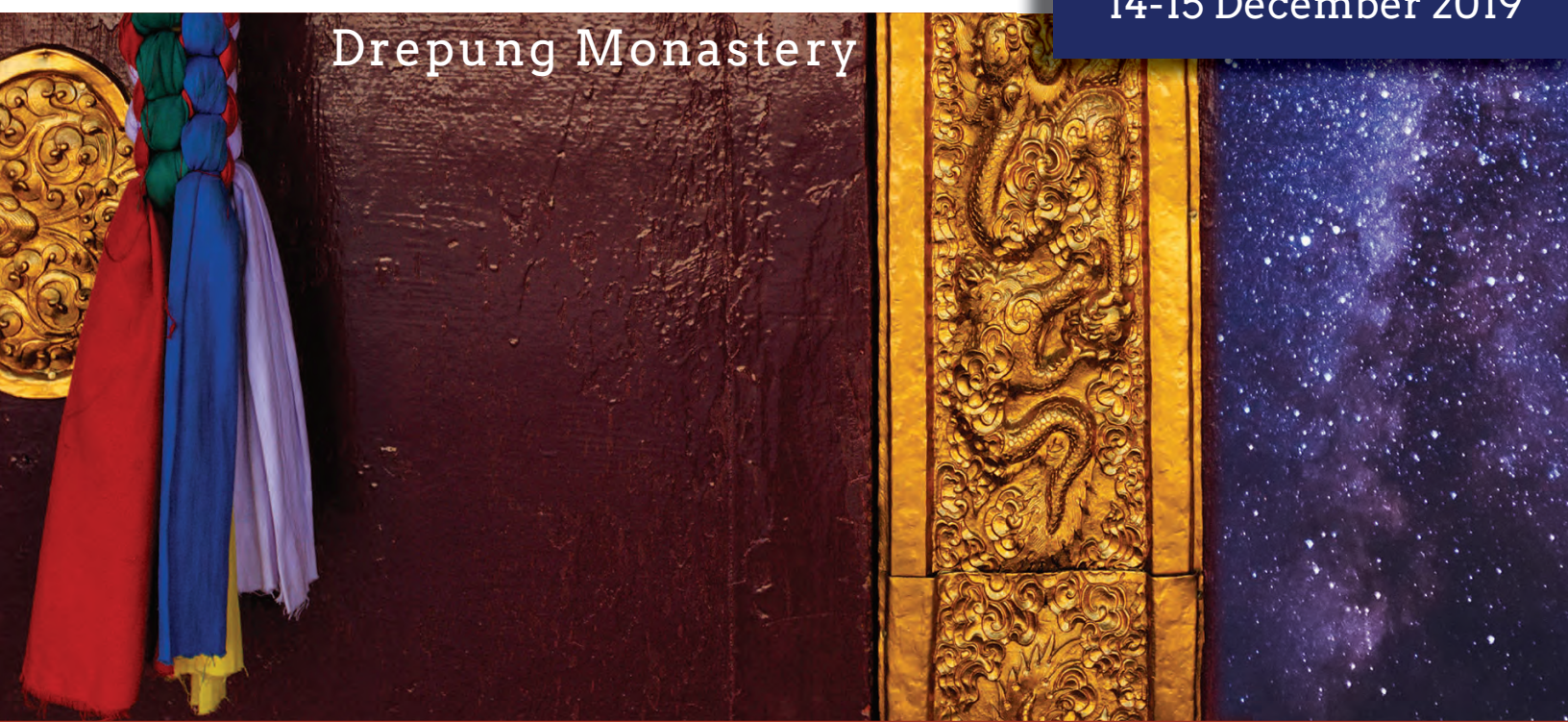
**EMORY-TIBET  
SCIENCE INITIATIVE  
GRADUATION EVENT**



**Celebrating  
A Historic  
Journey**

14-15 December 2019

Drepung Monastery



*Co-sponsored by **The Dalai Lama Trust** and **Emory University** in collaboration with Drepung Monastic University and The Library of Tibetan Works & Archives*



His Holiness the Dalai Lama with Emory-Tibet Partnership Co-Founders Lobsang Tenzin Negi and Dr. Robert Paul.



His Holiness the Dalai Lama watches as Dr. Robert Paul signs a formal agreement

# 2019 ETSI GRADUATION EVENT

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**W**elcome to the 2019 Emory-Tibet Science Initiative Graduation Event, coinciding with the auspicious occasion of His Holiness the Dalai Lama's inauguration of the new Drepung Gomang Debate Courtyard. We are honored that His Holiness the Dalai Lama will grace the occasion by presiding over the ETSI Implementation Phase completion ceremony.

This event marks a significant milestone, not just for ETSI, but for the monastics who have participated in the program over the last six years. In May 2014, ETSI launched its six-year-long implementation phase at three sites—all major academic centers of Tibetan Buddhism world—Gaden, Drepung and Sera monasteries. Monastic students, drawn from nine participating monasteries, gathered in classrooms and listened to their first ever science lectures.

This was a historic moment for the community as it involved a significant addition to the 600-year-old monastic curriculum. Importantly, the six monastic colleges of Gaden, Drepung and Sera introduced the ETSI program as a compulsory course of study for senior students who had completed a designated portion of their traditional monastic studies.

This groundbreaking achievement was soon followed by the introduction of ETSI for Nuns in 2017. Launched with support from the Library of Tibetan Works & Archives, the Department of Religion and Culture of Central Tibetan Administration and Drepung Loseling Monastery, forty-one nuns from five nunneries had their own landmark moment when they too joined the ETSI program.

Six years later, in the summer of 2019, the implementation phase concluded as 114 science faculty from sixty-seven research and academic institutions taught a total of 1496 monastic students on topics ranging from Newton's laws of motion to cosmology, the theory of evolution to epigenetics, and perception to cognitive neuroscience. ETSI's first cohort of graduating students included 233 monastics who successfully completed the rigorous six-year curriculum.

Co-sponsored by Emory University and the Dalai Lama Trust, with support from Drepung Monastery and the Library of Tibetan Works and Archives, the 2019 ETSI Graduation Event celebrates these and other important milestones: the successful unpacking of ETSI's curriculum; the development of comprehensive teaching and learning materials; and the emergence of monastic students who are literate in science and ready to engage with science at a deeper level. As the participating monasteries and nunneries commemorate the 600th anniversary of the parinirvana of Je Tsongkhapa—the founder of the Gelug School of Tibetan Buddhism—with various intellectual and religious activities, ETSI rejoices in its continued efforts to create a bridge between modern science and Tibetan Buddhism that can lead to mutual enrichment and new forms of knowledge.

## **THE ROBERT A. PAUL EMORY-TIBET SCIENCE INITIATIVE BACKGROUND AND HISTORY**

The Robert A. Paul Emory-Tibet Science Initiative (ETSI), a comprehensive educational program specifically designed to teach modern science to Tibetan monastics, commenced in 2006 when His Holiness the

Dalai Lama invited Emory University to collaborate with the Library of Tibetan Works and Archives (LTWA) on a comprehensive and sustainable science curriculum—an opportunity supported by the university. ETSI was founded with the intention to create bridges between complementary systems of knowledge by educating future scientific collaborators who can contribute to new discoveries in the science of mind and body. ETSI offers new analytical tools to Tibetan monastics while providing them with fresh perspectives on how to employ and adapt time-tested, Buddhist, contemplative methodologies for the relief of suffering in the world. Additionally, scientists and science educators are encouraged to learn more about the Buddhist science of mind and what it can contribute to the understanding of human emotions, the nature of consciousness, and integrative approaches to health and well-being.

With the launch of ETSI, there were a number of practical issues that had to be quickly addressed, including the recruitment of experienced science faculty to develop the curricula for each of subject areas. Once the initial teaching materials were developed, a pilot program (2008–2013) trained ninety-one monks and nuns—divided into two consecutive cohorts—in a five-year curriculum of biology, neuroscience, physics, and mathematics during six-week summer intensives taught in Dharamsala, India. At the conclusion of the pilot program, His Holiness the Dalai Lama presided over a graduation ceremony for the participating monastics and Gary Hauk, vice president of Emory University, joined to celebrate this historic achievement as the official representative of Emory University.

ETSI then embarked in 2014 on a six-year-long implementation phase for the six monastic colleges of Sera, Gaden, and Drepung in south India, with three other

smaller monasteries, Rato, Tashi Lumpo and Sakya Monastery of Mundgod, participating. This program was comprised of summer intensives taught by faculty from Emory and other institutions, year-round study led by on-site instructors, translation and production of bilingual textbooks and instructional videos, and further curriculum refinement. Monks and nuns at other academic monastic institutions were—and are—able to participate in the ETSI program through the pedagogical materials created, which are available on-line and in hard copy.

ETSI also promotes the creation of a new lexicon of scientific terms in the Tibetan language, and facilitates the Tenzin Gyatso Science Scholars program, which brings monastics to Emory for two-year-long residencies in science education. Upon completion, the Tenzin Gyatso Science Scholars serve as indigenous monastic science teachers at their home monasteries and nunneries in India, helping to ensure the program's long-term sustainability.

Looking forward, ETSI is embarking in 2020 on its next stage of development, the sustainability phase, while ETSI for Nuns continues so that the participating nuns can finish the full six-year-long ETSI curriculum. The sustainability phase will work to further cultivate scientific knowledge, pedagogical skills and research methodology for a select group of monks and nuns who wish to deepen and strengthen their ability to teach science and to collaborate on research projects.

This mission of ETSI, now in its fourteenth year, has remained the same during this journey, however. Working to fulfill His Holiness the Dalai Lama's vision for innovative programs that bridge the strengths of the Tibetan and western civilization, ETSI seeks the mutual enrichment of both traditions, and ultimately, great benefits for humanity.

# PROGRAM SCHEDULE

## DAY ONE — SATURDAY, DECEMBER 14\*

### 9:00 am - 9:30 am

Inauguration by His Holiness the Dalai Lama of Drepung Gomang Monastery's New Debate Courtyard

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### 9:30 am - 10.00 am

#### ETSI's Implementation Phase Completion Ceremony

- Introductory Remarks: *Dr. Lobsang Tenzin Negi*, Executive Director, CCSCBE
  - Milestone Report: *Dr. Tsetan Dolkar*, Assistant Director, ETSI
  - Personal Remarks: *Dr. Arri Eisen*, ETSI Biology Faculty Leader
  - Personal Remarks: *Dr. Carol Worthman*, ETSI Neuroscience Faculty Leader
  - Recognition of Key Contributors: *Geshe Lhakdor*, Director LTWA
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### 10.00 am - 11.00 am

Remarks & Teaching by *His Holiness the Dalai Lama*

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### 12.00 am - 1.00 pm

Lunch

\* All events will be held at Drepung Gomang monastery's New Debate Courtyard unless otherwise specified.

**1.00 pm - 2.30 pm****Conferring of Diplomas & Certificates**

- Welcome *Geshe Lodoe Sangpo*
- Introductory Remarks *Mr. Tsondue Samphel*, Senior Interpreter, ETSI
- Keynote Speech *His Eminence Gaden Tri Rinpoche*
- Conferring of ETSI Diploma to the top graduating students: *Gaden Tri Rinpoche*
- Conferring of Certificates of Recognition *Gaden Tri Rinpoche*
  - I. To the heads of monastery science centers, translators and TAs
  - II. To ETSI Faculty
  - III. To ETSI Staff
  - IV. To LTWA Science Department Staff
- Conferring of ETSI Diploma to Graduating Students: *Dr. Carol Worthman, Dr. Arri Eisen, Geshe Lhakdor, Dr. Lobsang Tenzin Negi*
- Closing Remarks: *Ven. Ngawang Soepa*, Science Coordinator, Gomang Monastery

**2.30 pm - 3.00 pm****Refreshment****3:00 pm – 5:00 pm****Panel Discussion on Physics and Philosophy**

In Panel Session I, four speakers will share their experiences with the ETSI program and explore insights and challenges that they have encountered in their intellectual journey through the program. This will include conceptual challenges that the monastic students faced and new questions brought to light.

Moderator: *Dr. Heidi Manning*

Speakers: *Dr. David Henderson*, Philosophy of Science  
*Dr. Nicole Ackerman*, Physics  
*Geshe Thabkhe*, Physics  
*Geshe Tenzin Topden*, Philosophy of Science

## 6.30 pm at Drepung Loseling Debate Courtyard

### Screening of THE DALAI LAMA—SCIENTIST

With rare and never-before-seen footage, the film tells the story of His Holiness the Dalai Lama's lifelong journey into the world of science and technology, and how the world has changed as a result. From quantum physics and epigenetics to cognitive science and the nature of consciousness, the film tells the story of the life transforming dialogues that His Holiness had with the world's leading scientists and traces the significant changes in the direction of research and enquiry as he touched their lives in fundamental and often surprising ways.

## DAY TWO — SUNDAY, DECEMBER 15

### 1:00 pm - 3:00 pm

#### Panel Discussion on Biology and Neuroscience

In Panel Session II, four speakers will relate their experiences with the ETSI program, highlighting the insights they gained, the intellectual challenges they encountered, and the ways in which they resolved them.

Moderator *Dr. Arri Eisen*

Speakers *Dr. Kelsey Gray*, Biology

*Dr. Carol Worthman*, Neuroscience

*Geshe Lodoe Sangpo*, Neuroscience

*Ven. Thukten Dema*, Biology

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### 3:00 pm - 3:30 pm

#### Refreshment

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### 3:30 pm - 5:00 pm

#### Panel Discussion on Translation

Three of ETSI's translators will speak on the technicalities of science translation, the translation methodology employed by the ETSI translation team, and the potential impact on monastic science education by expanding and enriching the Tibetan language. They will discuss the translation efforts of different institutions and ways of integrating those efforts toward a common goal.

Moderator *Dr. Tashi Dawa*,

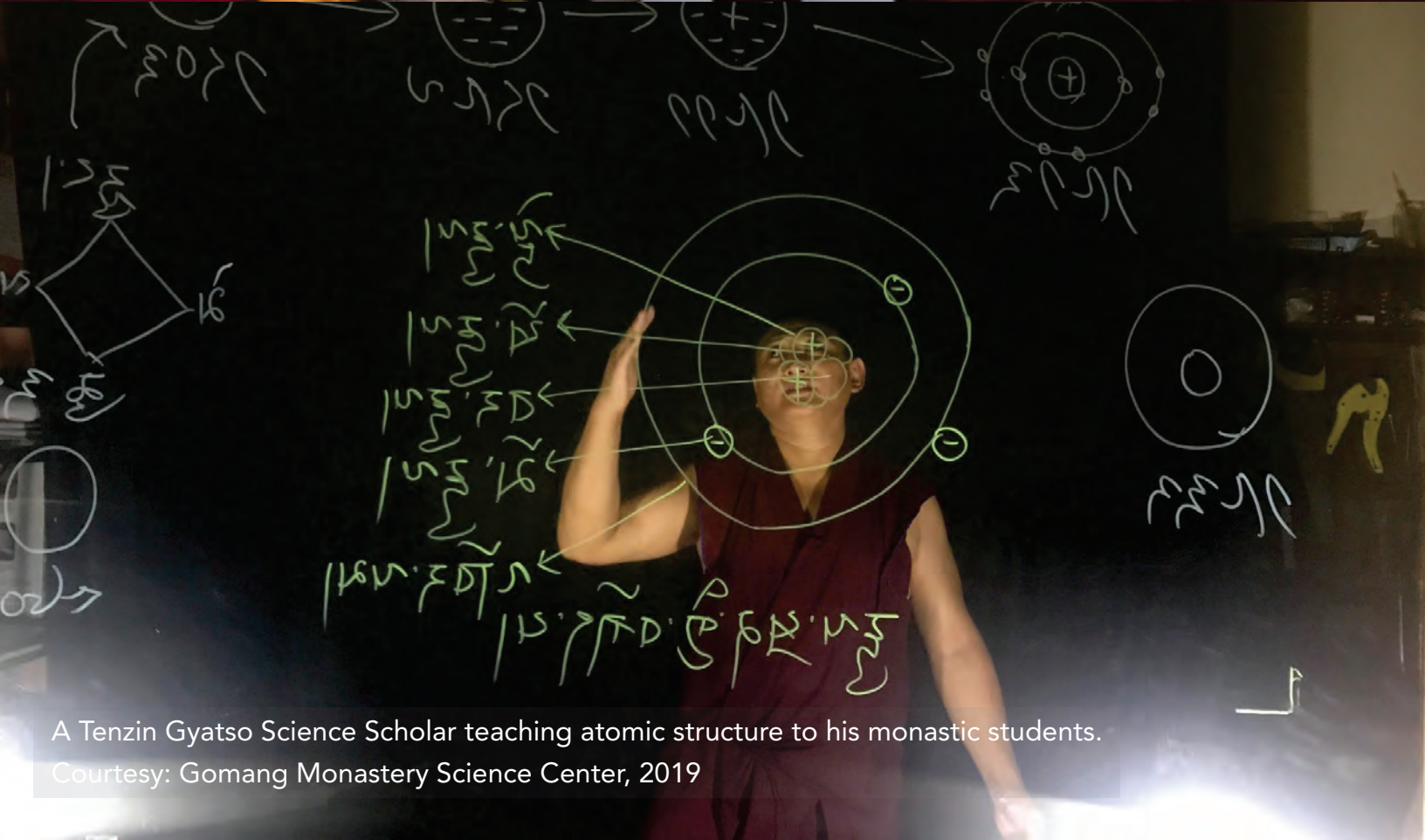
Speakers *Mr. Karma Thupten*, Translator, LTWA

*Geshe Dadul Namgyal*, Translactor, ETSI

*Mr. Tsondue Samphel*, Translator, ETSI



Monastic students studying the night sky with Professor Nicole Ackerman.



A Tenzin Gyatso Science Scholar teaching atomic structure to his monastic students.  
Courtesy: Gomang Monastery Science Center, 2019



# SPEAKERS & MODERATORS

## His Holiness The 14th Dalai Lama



Tenzin Gyatso, the 14th Dalai Lama, is the spiritual leader of the Tibetan people and one of the most revered and enduring leaders on the global stage. Born on July 6, 1935, in a small village called Takster in northeastern Tibet, the Dalai Lama was recognized at the age of two, in accordance

with Tibetan tradition, as the reincarnation of his predecessor, the 13th Dalai Lama. He received his formal education in Buddhist thought and the great Buddhist classics and received the Geshe Lharam degree, equivalent to a doctorate in divinity, following the conclusion of his final debate examinations at the great Prayer Festival in Lhasa in 1959. Winner of numerous international awards, including the Nobel Prize for Peace in 1989 and the US Congressional Gold Medal in 2007, His Holiness is universally respected for his steadfast promotion of understanding and tolerance across boundaries and a more compassionate and peaceful resolution of human conflict. He has traveled extensively, speaking on subjects including global peace, environment, universal responsibility, justice, equality, and compassion. Less well known is his intense personal interest in the sciences; he has said that if he were not a monk, he would have liked to be an engineer. As a youth in Lhasa it was he who was called on to fix broken machinery in the Potala Palace, be it a clock or a car. He has a vigorous interest in learning the newest developments in science, and brings to bear both a voice for the humanistic implications of the findings, and a high degree of intuitive methodological sophistication.

His Holiness has had a relationship with Emory University spanning almost two decades. In 1998 he presided over the formation of the Emory-Tibet

Partnership, and in 2006, invited Emory to partner with the Library of Tibetan Works and Archives to create a sustainable and comprehensive science curriculum for monastics, leading to the creation of the Emory-Tibet Science Initiative. In 2007, His Holiness graciously accepted an appointment at Emory University as Presidential Distinguished Professor. In this capacity he meets with Emory faculty and students both in Dharamsala, India, and in Atlanta, Georgia, USA. Most recently, His Holiness invited Emory to spearhead the creation of evidence-based, K-12 and university level curricula in compassion-based ethics, an on-going effort.



## His Eminence The 104<sup>th</sup> Gaden Tripa Lobsang Tenzin

His Eminence the 104th Gaden Tripa Lobsang Tenzin Rinpoche joined Sera Jey Monastery at the age of 16 and completed his studies and received Geshe Lharampa degree in 1979. He joined the Gyudmed Tantric College in 1980 and subsequently became the abbot of the tantric college. In 2010, he was appointed as Jangtse Choeje—the successor to seat of Gaden Tripa and on 24th June 2017 he was appointed as the 104th Gaden Tripa of Gelukpa School of Tibetan Buddhism by His Holiness the Dalai Lama.

Rinpoche started teaching even before he finished his formal studies and has continued to teach both monastic students as well as lay students across the world. Over the period of several decades, Rinpoche has taught thousands of students, and has been on teaching tours in many countries in Asia, Europe, and North America.



## Nicole Ackerman

Nicole Ackerman is an Associate Professor of Physics at Agnes Scott College. She received her S.B. in Physics from MIT, where she engaged in particle physics research at CERN (in Switzerland) and SLAC (in California, USA). She completed her PhD in Physics in 2013 at Stanford University, where she performed research within Radiation Oncology. Her research uses computational simulations to understand and improve new techniques in radiation-based cancer treatment and imaging. Recently she has participated in an international collaboration led by Oxford University to design a targeted treatment to prevent metastatic brain cancer. Her teaching ranges from Introductory Physics to Quantum Mechanics, though she cherishes teaching experimental skills and currently serves on the board of the Advanced Laboratory Physics Association (ALPhA). She has taught in ETSI at Drepung Loseling since 2015, teaching the 2nd and 3rd year physics curriculum to monks and the first three years to the nuns. She is the Physics faculty unit coordinator for the next phase of ETSI.

(LOBP), Department of Pediatrics, School of Medicine, Emory University (2011- 2015). In 2018, he was appointed as an assistant professor and the head of Department of Sowa-Rigpa.



## Thukten Dema

Ven. Thukten Dema is currently studying Madhamaka at Jangchub Choeling nunnery. She was one of the first two nuns to be selected as Tenzin Gyatso Science scholars. She did a two-year residency program at Emory University and attended science classes at Emory with undergraduate students. While at Emory she participated in numerous panel discussions to share her experience as a Buddhist nun studying in an American university. In the summer of 2019, Ven Thukten, after completing the two-year program, returned to her nunnery and since then has been helping with the science education program at her nunnery in different capacities as translator and TA. She has been appointed as the science coordinator of nunnery and the science teacher.



## Tashi Dawa

Tashi Dawa did his undergraduate, graduate and postgraduate studies at Central University of Tibetan Studies (CUTS), Sarnath, Varanasi focusing on Tibetan medicine (sowarigpa). His field of specialization for the graduate program was "Invasive Therapies in Tibetan Medicine". He worked as Guest Faculty, in the Department of Bhot Cikitsa Vidya, Faculty of Tibetan Medicine and Astro. Science, C.U.T.S. from 2005-2010. He also served as Consultant cum Coordinator for Departmental Units in various projects. He served as the regional coordinator for Central Council of Tibetan Medicine for 3 years and was elected as one of the standing executive members of the Council from 2009-2012. Dr. Dawa did Post-Doctoral Research Fellowship under Professor Raymond F. Schinazi, Laboratory of Biochemical Pharmacology

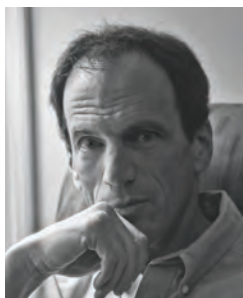


## Tsetan Dolkar

Tsetan Dolkar, Ph.D. is the Assistant Director of Emory-Tibet Science Initiative. Prior to that she served as the Senior Program Coordinator. She holds a bachelor's degree and a master's degree in political science from Panjab University, Chandigarh, India and completed her Ph.D. in political science from Phillips University in Marburg, Germany. She served as a program coordinator and a teaching assistant for Emory's Tibetan Studies Program and traveled with the students to Dharmasala in Spring 2014. She is deeply passionate about fulfilling His Holiness' vision of bringing science education to the monastic communities.

## Arri Eisen

Arri Eisen is the Nat Robertson Distinguished Teaching Professor in Science & Society at Emory University. He received his BS in biology with honors from UNC-Chapel Hill and his PhD in biochem-



istry from the UW-Seattle. His scholarship during his 30 years at Emory has engaged basic science, science and religion, science education, and bioethics; and he teaches undergraduates, graduate students, post-docs, and professionals across disciplines.

Dr. Eisen is one of the founders of the Emory Tibet Science Initiative and is the leader of the ETSI Life Sciences group.



### **Kelsey Gray**

Kelsey Gray studied biomedical science and philosophy at the Ohio State University. Her undergraduate research experience studying skin cancer genetics motivated her pursuit of a Ph.D. in genetics and molecular biology at the

University of North Carolina. As part of a series of incredibly fortunate events, she was offered a postdoctoral position with the Emory-Tibet Science Initiative at Emory University the week before her dissertation defense in December 2017. She investigated the perceived relevance of science education and metacognitive regulation practices of Tibetan Buddhist monks and nuns learning science. In September 2019, she was welcomed to the Drepung Loseling Meditation and Science Center as a Fulbright-Nehru Academic and Professional Excellence Fellow where she is developing monastic science education research studies and teaching biology courses.



### **David Henderson**

Born in a small city on the plains of the US, and raised by wonderfully loving working-class parents, Dr. David Henderson somehow found himself attending Wichita State University, where he received both his BA and MA. He received his PhD in Philosophy

from Washington University in St Louis. He subsequently taught at the University of Memphis for almost 20 years before becoming the Robert R

Chambers Distinguished Professor of Philosophy at the University of Nebraska, Lincoln, where he has now taught for 12 years. His research mainly focuses on epistemology and the philosophy of the natural and social sciences. His books include *Interpretation and Explanation in the Human Sciences* and (with Terry Horgan) *The Epistemological Spectrum*.



### **Geshe Lhakdor**

Geshe Lhakdor is the Director of the Library of Tibetan Works and Archives in Dharamsala, India, perhaps the most important Tibetan institution in exile dedicated to the preservation and dissemination of Tibetan culture. He

holds a bachelor's degree and a master's degree in English from Panjab University, Chandigarh. From 1976-1986 he studied Buddhist philosophy at the Institute of Buddhist Dialectics, in Dharamsala, India. He received his Master of Prajnaparamita (Perfection of Wisdom) in 1986 and in 1989 his Master of Madhyamika (Middle Way Philosophy) with distinction in both. In 1989 he also received his Master of Philosophy (MPhil) from the University of Delhi. In 1995 he received his Geshe Degree (Doctor of Divinity), the highest degree of learning in Tibetan Buddhism, from the Drepung Loseling Monastic University in South India. From 1989-2005 he served as His Holiness the Dalai Lama's religious assistant and English translator, accompanying His Holiness to more than thirty countries before becoming director of the Library of Tibetan Works and Archives at His Holiness' request. Geshe Lhakdor has translated, co-translated and co-produced several books by His Holiness, including *The Way to Freedom*, *The Joy of Living and Dying in Peace*, *Awakening the Mind and Lightening the Heart*, and *Stages of Meditation*, among others. Geshe Lhakdor is a trustee of the Foundation for Universal Responsibility, established by His Holiness, Director of the Central Archive of His Holiness, a member of the Advisory Board of the Institute of Tibetan Classics in Montreal, Canada, and Honorary Professor at the University of British Columbia, Canada.



**Heidi Manning**

Heidi Manning is currently the Dean of the College of Arts and Sciences at Misericordia University in Dallas Pennsylvania. Previously, she was a Professor of Physics at Concordia College for twenty years. She earned her Bachelor of Arts degree in physics from Gustavus Adolphus College in St. Peter, Minnesota and her Ph.D. in physics from the University of Minnesota. Her research focus is on developing instruments for understanding planetary atmospheres. She has helped to develop instruments that have explored the Earth's atmosphere, Mars, and Saturn and its many moons. In 2017, she was part of the ETSI faculty and taught the Year Four physics curriculum to the monks at Drepung Loseling and taught the inaugural group of nuns the Year One physics curriculum



**Dadul Namgyal**

Dadul Namgyal completed Geshe Lharampa Degree in 1992 at Drepung Loseling Monastic University. He also holds a Master's degree in English Literature from Panjab University, Chandigarh, India. Geshe Dadul served as Principal of

Drepung Loseling School for five years before joining Central University of Tibetan Studies (CUTS), Sarnath, India, as Lecturer in the Department of Indian Buddhism for seven years. In June 2007, he started serving as one of His Holiness the Dalai Lama's English language interpreters for religious topics. In this capacity, he traveled extensively with His Holiness' entourage for two and a half years. Since 2010, Geshe Dadul has served as Senior Resident Teacher at Drepung Loseling Monastery Inc., Atlanta. At the same time, he began his current position as one of Emory-Tibet Science Initiative's senior interpreters. Geshe Dadul has translated and authored several books including a Tibetan translation of His Holiness the Dalai Lama's Power of Compassion, and a language manual, Learn English through Tibetan, in addition to a critical edition of Tsongkhapa's Speech of Gold. His translation into Tibetan of Jay Garfield's Western Idealism and Its

Critics was published by CUTS under the title nub phyogs pa'i sems gtso'i grub mtha' dang der rgoal ba rnam kyis lugs.



**Lobsang Tenzin Negi**

Lobsang Tenzin Negi, Ph.D. is a Professor of Practice in Emory University's Department of Religion and the founder and spiritual director of Drepung Loseling Monastery, Inc., in Atlanta, GA. He was the co-founder and director of

the Emory-Tibet Partnership, a unique multi-dimensional initiative founded at Emory University in 1998 that has matured into Center for Contemplative Science and Compassion Based Ethics in 2017. As director, he also oversees the Emory-Tibet Science Initiative (ETSI). Additionally, he developed Cognitively-Based Compassion Training (CBCT), a compassion meditation program based on Tibetan contemplative methods and taught as both a research protocol and to the public for personal enrichment. Dr. Negi was born in Kinnaur, a remote Himalayan region adjoining Tibet. A former monk, he began his monastic training at the Institute of Buddhist Dialectics in Dharamasala, India and continued his education at Drepung Loseling Monastery in south India, where in 1994 he received his Geshe Lharampa degree. He completed his Ph.D. at Emory University in 1999; his interdisciplinary dissertation centered on traditional Buddhist and contemporary Western approaches to emotions and their impact on wellness. Dr. Negi is the Executive Director of Center for Contemplative Science and Compassion Based Ethics that houses the programs formerly administered under the Emory-Tibet Partnership, including ETSI, CBCT®(Cognitively-Based Compassion Training), and SEE Learning™.



**Tsondue Samphel**

Tsondue Samphel received his B.S. in physics from Emory College in 2006. Prior to that, he studied at the Institute of Buddhist Dialectics, India where he obtained his M.A. and B.A. equivalents in Buddhist studies. Tsondue joined

ETSI as a translator-cum-research assistant in

2006. He has ever since been working for the ETSI and its science education project. He has translated, reviewed and edited ETSI primers. Tsondue is also involved in an ongoing effort to create and build up scientific lexicon in Tibetan. He is currently working as the international program coordinator for Social, Emotional and Ethical Learning (SEE Learning), a K-12 education program at Emory University to teach social, emotional and ethical intelligence to the students.



### Lodoe Sangpo

Lodoe Sangpo spent his early years in the Kham region of Tibet. Coming from a very simple family, he had little educational opportunity and thus left Tibet to enter Gaden Jangtse Monastery in 1992. He has completed his 6-year

Geluk exams and received Geshe Lharampa degree and is currently studying tantra at Gyuto Tantric College. In 2006, Ven. Lodro Sangpo began studying science with the Science Meets Dharma program. Additionally, he was able to attend five workshops offered by Science for Monks at the Library of Tibetan Works and Archives as part of their Science Leadership Institute. In 2008 he began participating in the Emory-Tibet Science Initiative, completing five years of summer intensives before taking up a three-year long residency at Emory University as a Tenzin Gyatso Science Scholar. After returning from Emory University Ven. Lodro Sangpo served as the science coordinator at Gaden Jangtse Monastery, taught science to his fellow monastics and participated in numerous science and religion conferences.



### Ngawang Sopa

Sopa joined Drepung Gomang Monastery at the age of ten. He began his formal schooling at his monastery school and finished 8th grade. The traditional monastic studies came next, and for the next sixteen years he engaged in acquiring a deep understanding of the five great treatises of Tibetan Buddhism through memorization, debate and reflection. In 2018, having completed the full curriculum of his monastery,

he entered the Geluk examination and is currently in his third year. Ven. Sopa joined the Emory-Tibet Science Initiative's summer intensive course in 2015 and has since become an active member of his monastery's science community and an important part of his monastery's science education program serving as coordinator and secretary of his monastery's science center. He recently completed the four-year Science Leadership Program offered by Sager Science Leadership Institute.

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### Thabkhe

Thabkhe came to Sera Jey Monastery from Penpo in central Tibet. His family were farmers without formal education, and he attended a Chinese primary school before becoming a monk at a very young age. In 1992, Geshe

Thabkhe was able to leave Tibet and enter Sera Jey Monastery in Bylakuppe, south India. An avid student of Buddhist philosophy, he has completed his 6-year Geluk exams and received Geshe Lharampa degree and is currently studying tantra at Gyuto Tantric College. Beginning in 2004 he attended science classes offered by Science Meets Dharma and participated in the Science Leadership Institute hosted by the Library of Tibetan Works and Archives a total of five times. He was chosen to participate in the Emory-Tibet Science Initiative pilot phase and completed the entire five-year curriculum. In 2012, Thabkhe arrived at Emory University where he studied science for three years as a member of the first cohort of Tenzin Gyatso Science Scholars, focusing on work in physics. After returning from Emory University, he began teaching introductory physics and philosophy of science to younger monks. He has also collaborated with western scientists to investigate the impacts of monastic debate from a cognitive neuroscience perspective.



### **Tenzin Topden**

Topden became a monk at a very young age and joined Sera Mey Monastery when he was twelve. He undertook the monastic studies and completed the Geshe lharampa degree in 2006. Having selected as a Tenzin Gyatso Science Scholar, Geshe Topden spent two years at Emory University attending science classes and doing lab work with undergraduate students, sharing his Buddhist knowledge with the Emory community. After the completion of the program, he returned to Sera Mey Monastery and served as the program coordinator for the ETSI's summer intensive program. Currently, he is the Director of the Sera Mey Science Center and the principal of the monastery's school.



### **Karma Thupten**

Born in Tibet, studied in TCV and Delhi University and currently working at LTWA as the Head of its Science Department and one of its principal science translators Karma Thupten is interested in understanding the intricacies

of Tibetan Buddhism and foundational questions in physics. Karma has organized and translated various programs related with the promotion of scientific education in Tibetan monastic communities, helping build bridges between scientific and Tibetan Buddhist communities. Karma has also undertaken various science publications of the Library, including his translation, *Tibetan Buddhism and the Modern Physics: Towards a Union of Love and Knowledge*, by Professor Victor Mansfield.



### **Carol Worthman**

Carol Worthman holds the Samuel Candler Dobbs Chair in Anthropology, Emory University, and directs the Laboratory for Comparative Human Biology. She took her PhD in biological anthropology at Harvard University, having also studied endocrinology at UCSD and neuroscience at MIT. Professor Worthman deploys a biocultural approach in comparative interdisciplinary research on human development and pathways to differential mental and physical health. She has conducted crosscultural biosocial research in thirteen countries, as well as in rural, urban, and semi-urban areas of the United States. Since 2007, she also leads the neuroscience component of the Emory-Tibet Science Initiative.

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Monastic students at Gaden Monastery looking at a chromosome sample in an ETSI biology class as Professor Nyibum looks on. Summer 2019.



Monastic students creating gene codes in a biology class. Gaden Monastery, summer 2019.



## IMPLEMENTATION PHASE 2014- 2019

### Scope:

- 9 Tibetan Buddhist monasteries and 5 nunneries have participated in ETSI implementation phase programs
- 1496 monks and 41 nuns have attended ETSI summer intensive workshops
- 206 faculty from 109 academic institutions have taught in ETSI programs

### Outputs:

- Primers: 20 science textbooks specifically designed and developed for the monastic students and two supplementary reading texts and one science dictionary
- English-Tibetan Modern Science Dictionary
- Video Lectures: 367 in-class bilingual videos filmed at the locations
- Distance Learning Videos: 112 bilingual modules covering various scientific topics
- Presentation Slides: Bilingual presentation slides covering various scientific topics that can be used both as teaching and learning tools
- Several books on science and numerous articles written by ETSI students in Tibetan
- 24 monastic scholars (4 cohorts) have completed 2-year residency program at Emory and returned to their monasteries and nunnery



- 6 monastic scholars (5th cohort) are currently studying at Emory
- TGSS are serving their institutions in various roles including science teachers, translators, teaching assistants, science coordinators
- TGSS are serving in leadership positions such as Abbot, Education Director, Directors of Science Centers

## Impacts:

- On Tibetan Language: Creation of scientific terms in Tibetan and contribution to the scientific literature by the ETSI faculty and translators. In the last 6 years, more than 5000 scientific words have been created in the Tibetan language
- On Monastic Culture: Increase in monastics' interest in the study of science; growing awareness of scientific concepts in the monasteries and nunneries; inclusion of ETSI curriculum in the core monastic curriculum at major Tibetan monastic academic institutions and assessment of science literacy through Ge-lug examinations—the examination for the geshe lharam degree, the highest monastic degree and equivalent to a western PhD
- On Intellectual Development: Formation of various social media groups amongst monastics to discuss scientific concepts; growing use of scientific concepts in monastic debates

## SUSTAINABILITY PHASE **2020 -2025**

- This is a 6-year program to train a select group of monastics to become indigenous monastic science teachers and researchers
- Students will be selected from participating monasteries and nunneries on merit basis
- This includes a 6-week summer pedagogy program and a 2-week winter research program for 3 years
- Trainings will be given in physics, biology, neuroscience, pedagogy and philosophy of science and scientific research methodology
- Involves a core group of faculty members with expertise in pedagogy, research and/or various scientific units

## ETSI's International Translation Conference (2009-2019)



Participants of the 10th International Conference on Standardizing Scientific Terms in Tibetan, March 2018, Emory University.

**1st International Conference on Science Translation into Tibetan,**  
23-26 March 2009, Emory University

**2nd International Conference on Science Translation into Tibetan,**  
22-25 March 2010, Emory University

**3rd International Conference on Science Translation into Tibetan,**  
28 March-1 April 2011, Emory University

**4th International Conference on Science Translation into Tibetan,**  
26-31 March 2012, Emory University

**5th International Conference on Science Translation into Tibetan,**  
25-29 March 2013, Emory University

**6th International Conference on Standardizing Scientific Terms in Tibetan,**  
24-28 March 2014, Emory University

**7th International Conference on Science Translation into Tibetan,**  
17-27 March 2015, Emory University

**8th International Conference on Standardizing Scientific Terms in Tibetan,**  
16-18 & 23-24, March 2016, Emory University

**9th International Conference on Standardizing Scientific Terms in Tibetan,**  
14-17 & 21-24 March 2017, Emory University

**10th International Conference on Standardizing Scientific Terms in Tibetan,**  
21-23 & 26-30 March 2018, Emory University

**11th International Conference on Standardizing Scientific Terms in Tibetan,**  
16-29 December 2019, Drepung Losel Ling Meditation and Science Center, Mundgod, India

### ETSI NUNS PROGRAM

	2017	2018	2019
Nunnery			
Jangchub Choeling	19	19	19
Dolma Ling	8	8	8
Jamyang Choeling	10	10	9
Geden Choeling	2	2	2
Tsogyal Shedrub Dargyeling	2	2	2
<b>All Total</b>	<b>43</b>	<b>41</b>	<b>40</b>

\* two nuns selected for the 4th cohort Tenzin Gyatso Science Scholars attended the ETSI summer program

# CELEBRATING A HISTORIC JOURNEY

## PARTICIPANTS DURING SIX YEAR ETSI IMPLEMENTATION PHASE

Sites		2014	2015	2016	2017	2018	2019
Drepung	Drepung Loseling	65	116	149	204	236	298
	Drepung Gomang	50	100	108	171	243	235
	Sakya	2	4	6	5	7	24
	Rato	5	8	10	14	17	20
	<b>Total</b>	<b>122</b>	<b>228</b>	<b>273</b>	<b>394</b>	<b>503</b>	<b>559</b>
Gaden	Gaden Jangtse	78	70	117	146	212	223
	Gaden Shartse	25	26	43	67	74	95
	<b>Total</b>	<b>103</b>	<b>96</b>	<b>160</b>	<b>213</b>	<b>286</b>	<b>318</b>
Sera	Jey	65	130	190	255	293	362
	Mey	50	94	123	159	195	221
	Tashi Lhunpo	5	10	16	31	25	36
	<b>Total</b>	<b>120</b>	<b>234</b>	<b>330</b>	<b>432</b>	<b>513</b>	<b>619</b>
<b>TOTAL STUDENTS</b>		<b>345</b>	<b>558</b>	<b>763</b>	<b>1039</b>	<b>1302</b>	<b>1496</b>

PHILOSOPHY OF SCIENCE	Video Tutorials	Language	In-Class Video	Language
Introduction	8	Tibetan & English	14	Tibetan & English
<b>Total</b>	<b>8</b>		<b>14</b>	

**Total Philosophy Videos = 22**

PHYSICS	Video Tutorials	Language	In-Class Video	Language
Year 1- Introduction to Physics	10	Tibetan & English	20	Tibetan & English
Year 2- Mechanics	9	Tibetan & English	27	Tibetan & English
Year 3- Properties of Matter, Heat, & Sound	4	Tibetan & English	21	Tibetan & English
Year 4- Electricity & Magnetism	1	Tibetan & English	24	Tibetan & English
Year 5- Atomic & Nuclear Physics & Relativity	5	Tibetan & English	21	Tibetan & English
Year 6- Cosmology	0		21	Tibetan & English
<b>Total</b>	<b>29</b>		<b>134</b>	

**Total Physics Videos = 163**

BIOLOGY	Video Tutorials	Language	In-Class Video	Language
Year 1 - Introduction to Biology	4	Tibetan & English	20	Tibetan & English
Year 2- Evolution	4	Tibetan & English	21	Tibetan & English
Year 3- Genes & Cells	3	Tibetan & English	18	Tibetan & English
Year 4 - Development & Physiology	4	Tibetan & English	16	Tibetan & English
Year 5 - Immunology & Disease	0		22	Tibetan & English
Year 6- Synthesis & Epigenetics	0		21	Tibetan & English
<b>Total</b>	<b>15</b>		<b>118</b>	

**Total Biology Videos = 133**

NEUROSCIENCE	Video Tutorials	Language	In-Class Video	Language
Year 1- Introduction to Neuroscience	23	Tibetan & English	17	Tibetan & English
Year 2- Perception & Vision	16	Tibetan & English	16	Tibetan & English
Year 3- Neurons & Neuronal Activities	17	Tibetan & English	16	Tibetan & English
Year 4- Emotions & Memory	4	Tibetan & English	15	Tibetan & English
Year 5- Mind/Body & Internal Regulation	0		16	Tibetan & English
Year 6- Cognitive Neuroscience	0		21	Tibetan & English
<b>Total</b>	<b>60</b>		<b>101</b>	

**Total Neuroscience Videos = 161**



## ETSI IMPLEMENTATION PHASE: FACULTY PARTICIPANTS & THEIR INSTITUTIONAL AFFILIATION

Year	Faculties	Institutions	Participating Institutions
Year I 2014	24	3	Emory University, College of Holy Cross, and University of Michigan
Year II 2015	42	15	Agnes Scott College, Dartmouth College, Elon University, Emory University, Georgia Gwinnett College, Georgia State University, Georgia Institute of Technology, Lafayette College, Morehouse College, Northeastern University, Pennsylvania State University, UC Merced, University of Nebraska, USAF Academy, and Yale University
Year III 2016	61	27	Agnes Scott College, Berry College, California State University, Caltech, College of Charleston, Elon University, Emory University, Georgia State College, Georgia Tech College, Georgia Gwinnett College, College of Holy Cross, Lafayette College, Mercer University, Merlab, Morehouse College, Northwestern University, Pennsylvania State University, Syracuse University, UC Berkeley, UC Merced, University of Hawaii, University of Michigan, University of Nebraska, UT Southwestern, Washington University of St. Louis, Wesleyan University, and Yale University
Year IV 2017	78	46	Agnes Scott College, Auburn University, Menri Bon Monastery, California Polytechnic State University, California State University, Clemson University, Colorado State University, Concordia College, Dartmouth College, Davidson College, Drepung Losel Ling monastery, Elon University, Emory University, Gaden Jangtse Monastery, Georgia Gwinnett College, Georgia Southern University, National Institute of Neurological Disorder and Stroke, Johns Hopkins University, Lafayette College, Loyola University Maryland, Merlab, Morehouse College, Mount Holyoke College, Northwestern University, Pennsylvania State University, Science for Monks, Seattle Children's Research Institute, Sera Jey monastery, St. Mary's College of California, St. Petersburg College, Stanford University, UC Merced, University Hawaii, University of Nebraska Lincoln, University of Nebraska Omaha, University of North Carolina, University of Southern California, University of Hawaii, University of Massachusetts, Dartmouth College, University of Miami, University of Michigan, University of Tennessee, University of Washington, University of Wisconsin, and Wesleyan University
Year V 2018	99	58	Agnes Scott College, Auburn University, University of California Berkeley, CALTECH, Clemson University, College of The Holy Cross, Davidson College, Drepung Gomang monastery, Drepung Loseling Science Center, Elon University, Emory University, Flatiron Institute, Georgia Gwinnett College, Georgia Southern, Health Partner, High Plains Animal Hospital, Interdisciplinary Center (IDC) Herzliya, Johns Hopkins University, Lafayette College, Loyola University Maryland, McGill University, Menri Bon Monastery, Merlab, Morehouse College, Mount Holyoke College, Nature Bridge, Naval Nuclear Power Training Command, Northwestern University, Pennsylvania State University, Rhodes College, San Diego State University, Seattle Children's Research Institute, Sera Jey monastery, SNOLAB, St. Mary's College of California, Sud Associates, UC Merced, United States Air Force Academy, University of British Columbia, University of California, San Diego, University of California, Irvine, University of Groningen, University of Hawaii, University of Illinois at Chicago, University of Massachusetts, Dartmouth, University of Miami, University of Michigan, University of Nebraska, University of North Carolina, University of North Georgia, University of Pittsburg, University of Richmond, University of Tennessee, University of Washington, University of Wisconsin, University of Texas of Southwestern, Washington University, and Wesleyan University
Year VI 2019	114	67	Agnes Scott College, Boise State University, Menri Bon Monastery, Boston Consulting Group, Bridgewater College, California Institute of Technology, Clayton State University, Clemson University, Columbia University, Davidson College, Delaware State University, Drepung Loseling Science Center, Duke University, Elon University, Emory University, Georgia College and State University, Georgia Gwinnett College, Georgia Institute of Technology, Georgia State University, Johns Hopkins University, Kansas State University, Lafayette College, Maastricht University, McGill University, Missouri Southern State University, Morehouse College, Morgan State University, Nature Bridge, New York University, Northwestern University, Pennsylvania State University, Philadelphia College of Osteopathic Medicine, Rockford University, Seattle Children's Research Institute/Uni of Washington, Sera Jey Monastery, SNOLAB, Southeast Missouri State University, Sud Associates, Texas A&M University, University of Arizona, United States Air Force Academy, University of Birmingham, University of British Columbia, University of Calgary, University of California, Davis, University of California San Diego, University of Cincinnati, University of Colorado, University of British Columbia, University of Delhi, University of Hawaii, University of Hradec Kralove, University of Maryland, University of Massachusetts, Dartmouth, University of Michigan, University of Nebraska, University of North Carolina, University of Richmond, University of Southern Maine, University of Tennessee, University of Texas Southwestern, University of Washington, University of Wisconsin, Madison, UT of Southwestern, Vanderbilt University Medical Center, Wesleyan University, and Yale University

## Tenzin Gyatso Science Scholars Program



Cohort 1 (2010-2013) Left to right: Thabkhe, Gelek Gyatso, Lodoe Sangpo, Yungdrung Konchok, Sherub Tenzin, Ngawang Norbu



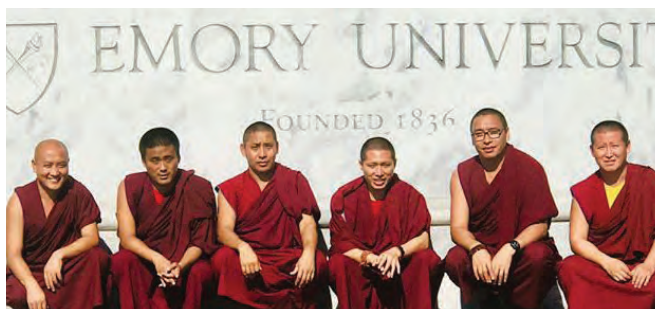
Cohort 2 (2013-2015) Left to right: Jamyang Gonpo, Jampa Khechok, Sonam Choephel, Tsundu Chopel, Thupten Tsering, Lobsang Gonpo



Cohort 3 (2015-2017) Left to right: Legpa Gyatso, Tenpa, Tenzin Topden, Lobsang Namgyal, Tenzin Thinley, Tsering Phuntsok



Cohort 4 (2017-2019) Left to right: Rigzin Norbu, Rangdol Yeshe, Stanzin Wangdan, Yeshe Dorjee, Thukten Dema, Lobsang Pelmo



Cohort 5 (2019-2021) Left to right: Lobsang Dhondup, Thupten Khetsun, Tenzin Gyaltzen, Kalden Gyatso, Choden, Tenpa Chopel

- Science Teachers: 20 out of 24 TGSS have taught science at their respective monasteries.
- Science Translators: 21 out of 24 TGSS have translated during the ETSI summer intensive programs.
- Teaching Assistants: 20 out of 24 TGSS have served as TAs during the ETSI summer intensive programs.
- Science Coordinators: 14 out of 24 TGSS have worked as science coordinators at their respective monasteries.

# ETSI's Publications



English-Tibetan Modern Science Dictionary



The Dharma of Science



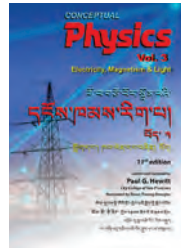
Brain Facts



Conceptual Physics, Vol 1: Mechanics



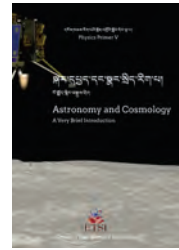
Conceptual Physics, Vol 2: Properties of Matter, Heat, & Sound



Conceptual Physics, Vol 3: Electricity, Magnetism, & Light



Conceptual Physics, Vol 4: Light, Atomic & Nuclear Physics, & Relativity



Physics Primer V: Astronomy & Cosmology



Life Science Primer I: Evolution



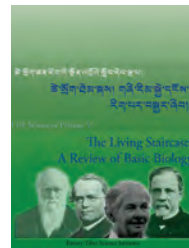
Life Science Primer II: Genes & Cells



Life Science Primer III: Development & Physiology



Life Science Primer IV: Disease, Immunology, & Epidemiology



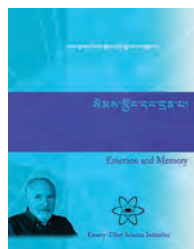
Life Science Primer V: The Living Staircase



Neuroscience Primer I: Perception & Vision



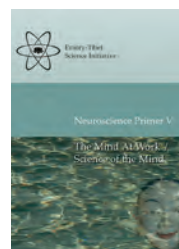
Neuroscience Primer II: Neurons & Neuronal Activities



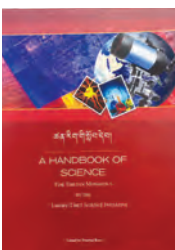
Neuroscience Primer III: Emotion & Memory



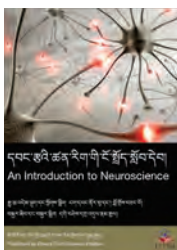
Neuroscience Primer IV: Living in a Dynamic World



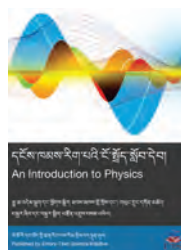
Neuroscience Primer V: Mind at Work/Science of Mind



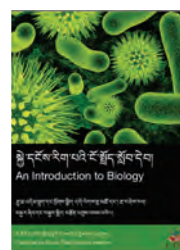
A Handbook of Science



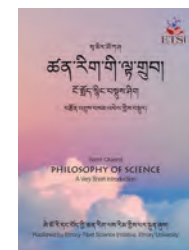
An Introduction to Neuroscience



An Introduction to Physics



An Introduction to Biology



Philosophy of Science

# ORGANIZERS

## THE DALAI LAMA TRUST

The Dalai Lama Trust, India was founded in 2003 by His Holiness the 14th Dalai Lama. The Trust was established to support the advancement and welfare of people in general and Tibetans in particular, by funding and providing financial support through grants and donations, for the activities of individuals and institutions belonging to, associated with and working for the



welfare of the Tibetan community; the study, preservation and promotion of the culture and heritage of the ancient civilization of Tibet in its many facets.

Among numerous charitable activities, the Dalai Lama Trust supports the people oriented activities and projects including, to encourage and cultivate Ahimsa and non-violence for individual growth and broader social change; to foster dialogue between science and religion; to provide aid for the propagation and advancement of education and learning; to provide medical relief or aid to the poor, destitute and homeless; to encourage a sense of Universal Responsibility in the young through educational system; to support or contribute towards the eradication of poverty and suffering wherever and in whatsoever form it may exist; to work towards the preservation of environment and promotion of world peace and understanding; to open, maintain and run hospitals, dispensaries, clinics and houses for the poor and residence for staff and the trust also provides scholarships, stipends and grants to deserving students, etc.

The Dalai Lama Trust is a registered char-

itable body. Its income is derived mainly from royalties from sales of His Holiness the Dalai Lama's books; monetary offerings made to His Holiness by devout members of the public; or just straightforward voluntary offerings. It is governed by a board of trustees, chaired by its founder.

## EMORY UNIVERSITY

Emory College was founded in 1836 in the small town of Oxford, Georgia, moving to its present location in the heart of Atlanta in 1915. Since that time, Emory has grown into one of North America's most prestigious universities with nearly 15,000 students and more than 13,000



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faculty and staff in four undergraduate colleges, and seven graduate and professional schools including medicine, law, business, nursing, public health, theology, and the arts and sciences.

Continuously striving to meet the challenges and opportunities that come with rapid globalization, Emory recognizes that, "In a world of increasing interdependence and diminishing borders, global engagement is no longer a peripheral concern but a necessity." This is a necessity that Emory embraces with commitment and compassion, driven by the goal of building a better future for all.

A deep tradition of academic innovation thrives at Emory—from interdisciplinary scholarship and courses that spring from topics as current as today's headlines to world-class research and medical

break-throughs. Blending a formula of acclaimed faculty, service-based learning opportunities, and academic rigor with current affairs and fresh ideas, Emory is a vibrant incubator for new knowledge, nurturing intellectual insights, scientific discoveries, and experiential learning that impact lives every day.

This formula attracts award-winning students, acclaimed faculty experts, and leading researchers who bring their academic passions—and curiosity—into an intellectual arena rich with possibilities. Throughout Emory’s history, the university has held fast to demonstrating common cause in situations where we are needed most. In this way, faculty, staff, and students make good on Emory’s almost-limitless capacity for social transformation.

Community, for Emory, is a system of deep roots that radiate outward. In innumerable ways, across every facet of the University’s expertise, we grow partnerships beyond our gates, using knowledge to solve real-world problems.

## CENTER FOR CONTEMPLATIVE SCIENCE AND COMPASSION-BASED ETHICS

The Emory-Tibet Partnership (ETP), as the center was originally known, was inaugurated by His Holiness the Dalai Lama in 1998 as an affiliation between Emory University and Drepung Loseling Monastery. Over the course of two decades, ETP matured into a multi-dimensional organization bridging the best of the Tibetan and western academic traditions, signified by the installation of His Holiness as a Presidential Distinguished Professor at Emory in 2007, the first and only time he has accepted an appointment with a western university. Emory has partnered with His



Holiness the Dalai Lama on a variety of innovative educational programs, including the creation and implementation of the Robert A. Paul Emory-Tibet Science Initiative (ETSI)— and SEE Learning™ (Social, Emotional and Ethical Learning), an educational framework for what the Dalai Lama has often termed ‘secular ethics,’ that includes kindergarten through university curricula and teacher preparation and training programs. Encouraged by this effort, the Gaden Phodrang Trust of the Dalai Lama expressed its wish to support continued collaboration through the establishment of a new center to carry on this work and accompanying research. Thus, the Center for Contemplative Science and Compassion-Based Ethics was formed in 2017 to house the programs formerly administered under the Emory-Tibet Partnership, including ETSI, SEE Learning™, and CBCT® (Cognitively-Based Compassion Training). With the vision of a compassionate and ethical world for all, the Center seeks to promote human flourishing by developing educational programs, facilitating dialogue, and engaging in research.

## LIBRARY OF TIBETAN WORKS AND ARCHIVES

In the early years of exile, refugees escaping to India carried hundreds of manuscripts out of Tibet. On the arduous journey across the Himalayas, these precious texts were often guarded above all else. Once safe in India, many of these sacred manuscripts were offered to His Holiness the Dalai Lama. In order to preserve them, His Holiness conceived of and founded the Library of Tibetan Works and Archives in 1970. Located within the premises of the Central Tibetan Administration, the LTWA





was accorded the status of National Library, Museum and Archive by the parliament-in-exile. The Library is now a repository for significant collections of artifacts, manuscripts and other records, while also serving as a centre for language and cultural education. It houses ten full-fledged departments including two significant libraries, a museum, audio-visual archives, research & translation bureau, cultural research and publication departments, oral history and science departments, and the administration.

In recent years, the LTWA was designated as a Resource Centre for National Mission for Manuscripts of the Government of India. As a centre for education, the LTWA has welcomed scholars from all corners of the globe, supporting research and study of the Tibetan language and culture, both classical and modern. Educational programs in language, philosophy, culture and other fields

of Tibetan study are run on a regular basis. Other educational activities include specialized seminars and programs.

With His Holiness the Dalai Lama's guidance, the LTWA has spearheaded the provision of science education for Tibetan monastics since 1999, partnering with Science for Monks to produce workshops and exhibits on specialized scientific topics for and with Tibetan monastics, and with the Emory-Tibet Science Initiative (ETSI) to create a comprehensive six-year long science curriculum. In partnership with ETSI, the LTWA participates in the creation of a new science lexicon in the Tibetan language, as well as in the production and dissemination of bilingual science textbooks and other science educational materials. At the heart of LTWA's participation in the ETSI is the development and inclusion of a sustainable science education program within the monastic core curriculum.

## THANK YOU

The Emory-Tibet Science Initiative would like to acknowledge the generous support of:

**The Dalai Lama Foundation**  
**The Joni Winston Fund**  
**The John Templeton Foundation**  
**The John Templeton Religious Trust**  
**Judith McBean Foundation**  
**Robert and Lexie Potemkin**  
**Jaynn Kushner**  
**Libby Cates and Hugh Kelly**  
**Drepung Loseling Monastery, Inc., Atlanta, Georgia**  
**Lexie and Robert Potamkin**

For their guidance and steadfast support, we offer special thanks to the staff of the Office of His Holiness the Dalai Lama and:

Mr. Chhime Rigzing  
 Mr. Tenzin Takhla  
 Mr. Tseten Samdup  
 Mr. Jamphal Lhundup

Special thanks to those at Emory University whose commitment has made the Emory-Tibet Science Initiative possible:  
 President Emeritus James Wagner  
 President Claire Sterk  
 Vice-President Gary Hauk  
 Dr. Robert A. Paul, former Dean of Emory College  
 Dr. Philip Wainright, Vice-Provost, Global Strategy and Initiatives  
 Ambassador Marion Creekmore Jr.  
 Dean Michael Elliot

Special thanks to Drepung Gomang Monastery for providing the venue and kind logistical assistance and coordination.

Special thanks to Drepung Loseling Monastery for coordinating accommodations and other logistics for the Emory delegation.

### EMORY-TIBET SCIENCE INITIATIVE FACULTY LEADERS

#### ETSI PILOT PROGRAM AND IMPLEMENTATION PHASE (2008-2019)

Arri Eisen, Biology  
 Carol Worthman, Neuroscience  
 Mark Risjord, Philosophy of Science  
 John Malko, Physics  
 Jane O'Connor, English

#### ETSI SUSTAINABILITY PHASE (2020 – 2025)

Nicole Ackerman, Physics  
 Arri Eisen, Biology  
 Gillian Hue, Neuroscience  
 Meena Balgopal, Pedagogy  
 Mark Risjord, Philosophy of Science  
 Tsondue Samphel, Buddhism/Science  
 Nicole Gerardo, Research  
 Cary Robert Nusslock, Research

### EMORY-TIBET SCIENCE INITIATIVE EXTERNAL ADVISORY BOARD

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 Christof Koch, Allen Institute for Brain Science  
 Susan Bauer-Wu, Mind and Life Institute  
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 John Durant, Massachusetts Institute of Technology  
 Scott Gilbert, Swarthmore College  
 Owen Flanagan, Duke University  
 Geshe Ngawang Samten, Central University for Tibetan Studies

# CENTER FOR CONTEMPLATIVE SCIENCE & COMPASSION-BASED ETHICS (CCSCBE), EMORY UNIVERSITY

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## CENTER STAFF

Lobsang Tenzin Negi,  
*Executive Director*

Tsetan Dolkar,  
*Assistant Director for ETSI*

Geshe Dadul Namgyal,  
*Senior Translator/Interpreter, ETSI*

Tsondue Samphel,  
*Senior Translator/Interpreter, ETSI; International Program Coordinator, SEE Learning*

Dawa Tsering,  
*Translator/Interpreter, ETSI*

Tenzin Sonam,  
*Translator, ETSI; Assistant Research Scientist, SEE Learning*

Karma Tenzin,  
*Program Coordinator, ETSI*

Carol Beck,  
*Associate Director for Operation and Communications*

Amber Sims,  
*Senior Accountant*

Steven Goard,  
*Senior Web Developer*

Michelle Heker,  
*Program Coordinator*

Hannah Smith,  
*Administrative Assistant*

Brendan Ozawa- deSilva,  
*Associate Director for SEE Learning*

Lindy Settevendemie,  
*Project Coordinator, SEE Learning*

Christa Tinari,  
*Senior Instructional Content Developer, SEE Learning*

Rama Sow-Niang,  
*Program Coordinator, SEE Learning*

Tyralynn Frazier,  
*Associate Research Scientist, SEE Learning*

Timothy Harrison,  
*Associate Director for CBCT*

Zipporah Slaughter,  
*Program Coordinator for CBCT*

Samuel Fernandez-Carriba  
*Program Coordinator, CBCT*

PROGRAM

**DAY ONE**

**SATURDAY** DEC. 14

**DAY TWO**

**SUNDAY** DEC. 15

**MORNING SESSION**

9:00 - 11:00am

**SESSION 1**

Inauguration of Drepung Gomang's New Debate Courtyard and ETSI Implementation Phase Completion Ceremony

12:00 - 1:00pm

Lunch

12:00 - 1:00pm

Lunch

**AFTERNOON SESSION**

1:00 - 2:30pm

**SESSION 2**

Conferral of Diplomas and Certificates of Recognition

**AFTERNOON SESSION**

1:00 - 3:00pm

**SESSION 5**

Panel Discussion on Biology and Neuroscience

2:30 - 3:00pm

Tea Break

3:00 - 3:30pm

Tea Break

3:00 - 5:00pm

**SESSION 3**

Panel Discussion on Philosophy of Science and Physics

3:30 - 5:00pm

**SESSION 6**

Panel Discussion on Translation

6:30pm

Movie Screening: The Dalai Lama-Scientist



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Compassion-Based Ethics

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