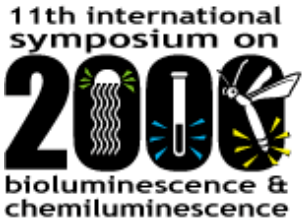
Session Details

This information will also be provided in the printed program and abstract booklet to be supplied at the symposium.



September 7, Thursday

Sept. 7 **Morning Session** **Location: Kiln**

Session A **Chemiluminescence and enzymology of light-emitting reactions**

Chairs: John Lee & Therese Wilson

8:30-8:55 am	**Keynote**	Hashem Akhavan-Tafti	Recent advances in chemiluminescent enzyme substrates
9:00-9:15 am	15 min	Dieter Weiss	Playing with luciferin-new results in the luminescence of a well known molecule
9:20-9:35 am	15 min	Edwin F. Ullman	Reversible thermal formation of excited states in donor assisted dioxetane CL
9:40-9:55 am	15 min	Luiz H. Catalani	The oxidation of indole derivatives catalyzed by HRP is highly chemiluminescent
10:00-10:55 am	Break		Refreshments served in Merrill Hall
11:00-11:15 am	15 min	Zhi-Jie Liu	Crystal structure of the photoprotein obelin solved at 1.1 angstrom
11:20-11:35 am	15 min	Hideshi Nakamura	Syntheses of the mechanism-based inhibitors of coelenterzine bioluminescence
11:40-11:55 am	15 min	David W. Tapley	Chemiluminescence as a product of sulfide oxidation in seawater

Sept. 7 **Morning Session** **Location: Fred Farr Forum**

Session B **Physiological control of luminescence**

Chairs: Fernand Baguet & Jerome Mallefet

8:30-8:45 am	15 min	Jerome Mallefet	Second messengers and luminescence in the brittlestar *Amphipholis squamata*
8:50-9:05 am	15 miin	Yannick Dewael	Calcium requirement in the luminescence control of three ophiuroid species
9:10-9:25 am	15 min	Dimitri D. Deheyn	Bioluminescence in the brittlestar *Amphipholis squamata* (Echinodermata) : an overview
9:30-9:45 am	15 min	Fernand Baguet	Nitric oxide in luminescence of photophores from *Argyropelecus hemigymnus*
9:50-10:50 am	Break		Refreshments served in Merrill Hall
10:55-1:10 am	15 min	Ruediger Hardeland	Intracellular views of bioluminescent systems in the genus *Pyrocystis*
11:15-11:30 am	15 min	Maja Berden	Weak ELF magnetic field effects on *Gonyaulax* sp. bioluminescence
11:35-11:50 am	15 min	Carrie A. McDougall	Mechanosensitivity in a bioluminescent dinoflagellate: role of the actin cytoskeleton

Sept. 7 **Afternoon Session** **Location: Kiln**

Session C **Luminescent reporter genes for imaging in animal models of human biology and disease**

Chairs: Christopher Contag & A.A. Szalay

1:15-1:45 pm	**Keynote**	Steve A. Kay	Molecular genetic analysis of circadian clocks
1:50-2:05 pm	15 min	Philip J. Hill	Dual reporters in bacterial pathogens
2:10-2:25 pm	15 min	Carolyn Bellinger-Kawahara	Death is no longer an endpoint: a predictive model of murine sepsis
2:30-2:45 pm	15 min	Shahrokh Shabahang	Visualization of bacteria in live animals using luciferase labeling
2:50-3:55 pm	Break	**POSTER SESSION #1**	Refreshments served in Merrill Hall
4:00-4:30 pm	**Keynote**	Robert S. Negrin	Luciferase imaging accelerates analyses of antineoplastic therapy in animal models
4:35-4:50 pm	15 min	Weisheng Zhang	In vivo expression patterns of heme oxygenase-1 gene in transgenic mice
4:55-5:10 pm	15 min	Darlene Jenkins	Luciferase-based in vivo imaging system to detect neoplasia and metastasis
5:15-5:30 pm	15 min	Yong A. Yu	Inducible gene expression in vivo using a Renilla luciferase-GFP fusion construct

Sept. 7 **Afternoon Session** **Location: Fred Farr Forum**

Session D **Evolution and phylogeny**

Chairs: Keith Wood & Jean-Francios Rees

1:15-1:40 pm	**Keynote**	Jean-Francois Rees	Dark matters: the origins of bioluminescence
1:45-2:00 pm	15 min	Uwe Stolz	Phylogeny of dorsal and ventral Luciferases in the beetle genus *Pyrophorus*
2:05-2:20 pm	15 min	Elizabeth Torres	Phylogeny of cypridinid ostracodes and the evolution of cypridinid luciferase
2:25-2:40 pm	15 min	Keith V. Wood	A three-dimensional model of Renilla luciferase
2:45-3:55 pm	Break	**POSTER SESSION #1**	Refreshments served in Merrill Hall
4:00-4:15 pm	15 min	Grzegorz Wegrzyn	Why do bacteria emit light?
4:20-4:35 pm	15 min	Timothy C. Johnston	GC ratio requirements drove the divergence of bacterial bioluminescence proteins
4:40-4:55 pm	15 min	Mark Branham	The evolution of sexual communication in fireflies
5:00-5:15 pm	15 min	Samuel Dupont	Bioluminescence is an indicator of genetic variability in *Amphipholis squamata*
5:20-5:45 pm	**Keynote**	Vassili A. Zakhartchenko	On the origin of impulse bioluminescence in eukaryotes

September 8, Friday

Sept. 8 **Morning Session** **Location: Kiln**

Session E **Firefly luciferase and ATP assays**

Chairs: Arne Lundin

8:30-8:45 am	15 min	In Progress
8:50-9:05 am	15 min	
9:10-9:25 am	15 min	
9:30-9:45 am	15 min	
9:50-10:30 am	Break	Refreshments served in Merrill Hall
10:35-11:00 am	**Keynote**	
11:05-11:20 am	15 min	
11:25-11:40 am	15 min	

Sept. 8 **Morning Session** **Location: Fred Farr Forum**

Session F **Oceanic bioluminescence**

Chairs: Edith A. Widder & Michael I. Latz

8:30-8:45 am	15 min	Josef I. Gitelson	Bioluminescent patrolling of marine ecosystems - BioAlarm
8:50-9:05 am	15 min	Mark A. Moline	Spatial and temporal variability of bioluminescence potential in coastal regions
9:10-9:25 am	15 min	Christen M. Herren	Fine-scale coastal bioluminescence using newly developed small bathyphotometers
9:30-9:45 am	15 min	Anne Sophie Cussatlegras	Diel variations of in situ bioluminescence
9:50-10:30 am	Break		Refreshments served in Merrill Hall
10:35-11:00 am	**Keynote**	Peter J. Herring	Large scale bioluminescent phenomena in the ocean
11:05-11:20 am	15 min	Douglas J. Neilson	A generalized technique for modeling bioluminescence in the ocean
11:25-11:40 am	15 min	Susanna B. Blackwell	The light that diving elephant seals may see

Sept. 8 **ALL DAY** **Location: Chapel**

Session G **Biosensors based on recombinant cells**

Chairs: Aldo Roda & Sylvia Daunert

8:30-8:55 am	25 min	Marko Virta	Designing luminescent whole-cell sensors: how to choose reporter gene
9:00-9:25 am	25 min	Michael L. Simpson	Bioluminescent bioreporter integrated circuits: bioreporters as electronic components
9:30-9:55 am	25 min	Gary S. Sayler	Development and field use of bioluminescent bioreporter strains for chemical sensing
10:00-10:40 am	Break		Refreshments served in Merrill Hall
10:45-11:10 am	25 min	Tina K. Van Dyk	Genome-wide expression profiling with *luxCDABE* gene fusions
11:15-11:30 am	15 min	Erik Joly	BRET: A novel technology for the measurement of signal transduction pathways in cells
11:35-11:50 am	15 min	Isabelle Trezzani	On-line control of fermentation processes using recombinant bioluminescent bacteria
12:00-1:00 pm		Lunch Break	
1:30-1:55	25 min	Philippe Corbisier	Biosensors for the detection of heavy metals, genotoxic compounds and antibiotics
2:00-2:25 pm	25 min	Simon Silver	Biosensors based on microbial toxic metal resistance
2:30-2:55 pm	25 min	Michael S. Denison	Mammalian cell bioassay systems for the detection of dioxins and related toxicants
3:00-3:25 pm	25 min	Jan Roelof van der Meer	Use of GFP-tagged biosensors to study bioavailability of pollutants on microscale
3:30-4:10 pm	Break		Refreshments served in Merrill Hall
4:15-4:30 pm	15 min	Patrizia Pasini	A chemiluminescent whole cell biosensor for assessing estrogenic activity
4:35-4:50 pm	15 min	Siouxsie Wiles	BIOMATE: Development of custom-designed bioluminescent sensors for toxicity testing
4:55-5:10 pm	15 min	Jorma Lampinen	VitotoxTM, a simultaneous microplate assay for genotoxicity and cytotoxicity
5:15-5:40 pm	25 min	Gregor Zlokarnik	FRET-based sensors of cellular signals and their application to drug discovery

Sept. 8 **Afternoon Session** **Location: Kiln**

Session H **Behavior and ecology**

Chairs: James Morin & Andrew Moiseff

1:30-1:45 pm	15 min	Abner B. Lall	Spectral tuning of bioluminescence emission and visual sensititivity among beetles
1:50-2:05 pm	15 min	Albert D. Carlson	Central control of larval firefly luminescence
2:10-2:25 pm	15 min	Raphael De Cock	Bioluminescence in Lampyrid larvae: tests on the hypothesis of aposematisms with toads
2:30-2:45 pm	15 min	Jonathan Copeland	Mechanisms of synchrony in a coastal Georgia (USA) firefly
2:50-3:05 pm	15 min	Andrew Moiseff	Mating behavior of a synchronous North American firefly
3:10-3:25 pm	15 min	James F. Case	A neurobehavioral approach to firefly flash code evolution
3:30-4:10 pm	Break		Refreshments served in Merrill Hall
4:15-4:30 pm	15 min	Michael I. Latz	Hydrodynamic basis of flow-stimulated dinoflagellate bioluminescnce
4:35-4:50 pm	15 min	Lorenza Salpietro	Effect of habitat on intraspecific diversity of bioluminescence in ophiuroids
4:55-5:10 pm	15 min	James G. Morin	Diversity of luminescent display patterns in Carribean ostracod crustaceans
5:15-5:40 pm	**Keynote**	Edith A. Widder	Revealed in a flash: Signal complexity among coelenterate bioluminescence displays

Sept. 8 **Afternoon Session** **Location: Fred Farr Forum**

Session I **Advancements in detection technologies**

Chairs: Fritz Berthold & Gustav Bernroider

1:30-1:55 pm	**Keynote**	Gustav Bernroider	The metabolic cost of information behind ultra-weak light emissions
2:00-2:15 pm	15 min	Erika M. Hawkins	Design of homogeneous bioluminescence reagents
2:20-2:35 pm	15 min	Isuke Imada	Analysis of neutrophile-derived active oxygens using a chemiluminescence probe L-012
2:40-2:55 pm	15 min	Bradley Rice	High-sensitivity in vivo imaging and analysis tools for bioluminescent reporters
3:00-3:15 pm	15 min	Ruth Siewe	Importance of luminometer design for the development of new luminescent applications
3:20-4:10 pm	Break		Refreshments served in Merrill Hall
4:15-4:30 pm	15 min	John C. Voyta	The NorthStar(TM) HTS Workstation Luminescence Detection System
4:35-4:50 pm	15 min	David Trudil	ATP method for the screeing for bacteria in food and water samples
4:55-5:10 pm	15 min	David J. Squirrell	Rapid bacterial detection using adenylate kinase (AK) in a magnetic bead immunoassay
5:15-5:30 pm	15 min	Patrick Ferris	Development of a method for the detection of intraluminal colonisation in catheters

September 9, Saturday

Sept. 9 **Morning & part of Afternoon Session** **Location: Kiln**

Session J **Luminescence applications in medicine & disease, clinical chemistry and microbiol.**

Chair: Robert Allen & Ian Cree

8:30-8:55 am	**Keynote**	Robert C. Allen	Molecular oxygen, phagocyte microbicidal action and luminescence
9:00-9:15 am	15 min	Pasquale De Sole	Effect of methotrexate on PMN and monocyte CL of patients with rheumatoid arthritis
9:20-9:35 am	15 min	Paul Hengster	The function of neutrophil granulocytes after radiotherapy
9:40-9:55 am	15 min	Luba Y. Brovko	Bioluminescence for the developing of bacterial biosorbents for food-borne pathogens
10:00-10:45 am	Break		Refreshments served in Merrill Hall
10:50-11:15 am	**Keynote**	Ian A. Cree	Development of an ATP-based chemosensitivity assay
11:20-11:35 am	15 min	Pål C Nyrén	Pyrosequencing™ - a new method for fast DNA sequencing
12:00-1:00 pm		Lunch Break	
1:30-1:45 pm	15 min	Nobutaka Suzuki	Decomposition of "environmental hormones" by singlet oxygen
1:50-2:05 pm	15 min	Hans Güsten	Immobilized chemiluminescent reagents to measure ambient ozone in the sub-ppb range
2:10-2:25 pm	15 min	James Hillis	Response of an enhanced chemiluminescence assay to selected substances
2:30-3:40 pm	Break	**POSTER SESSION #2**	Refreshments served in Merrill Hall

Sept. 9 **Morning Session** **Location: Fred Farr Forum**

Session K **Genes, proteins, & luciferins in BL systems**

Chairs: J. Woodland Hastings & Christopher Szent-Gyorgyi

8:30-8:45 am	15 min	Byron Ballou	Properties of a new luciferase from the copepod *Gaussia princeps*
8:50-9:05 am	15 min	Alan P. Escher	Secreted Renilla luciferase as a marker of gene expression in mammalian systems
9:10-9:25 am	15 min	Kevin P. Francis	Engineering bioluminescent gram-positive bacteria for in vivo monitoring
9:30-9:45 am	15 min	Steven H.D. Haddock	Dietary requirement for coelenterazine in cnidarian bioluminescence
9:50-10:20 am	Break		Refreshments served in Merrill Hall
10:25-10:40 am	15 min	Liyun Liu	N-terminal histidines are responsible for the decrease in luciferase activity at pH 8
10:45-11:00 am	15 min	John Makemson	Measurement of acyl-homoserine lactones with mass spectrometry
11:05-11:20 am	15 min	Aileen P. Paguio	Synthetic luciferase genes as better reporter molecules
11:25-11:40 am	15 min	Christopher Szent-Gyorgyi	New bioluminescent proteins from coelenterazine-dependent systems
11:45-12:00 am	15 min	Vadim R. Viviani	The new bioluminescent system of the dipteran *Orfelia fultonii*

Sept. 9 **Afternoon Session** **Location: Fred Farr Forum**

Session L **Advances in GFP**

Chairs: William Ward & Mikhail Matz

1:15-1:40 pm	**Keynote**	Mikhail V. Matz	Diversity and evolution of GFP-like fluorescent proteins
1:45-2:00 pm	15 min	Alexander P. Savitsky	Origin of yellow and red fluorescence of novel proteins from corals
2:05-2:20 pm	15 min	Catherine M. Thomson	Heterodimerization between blue and green forms of the *Aequorea victoria* GFP
2:25-2:40 pm	15 min	Yubao Wang	Study of protein-protein interactions using LRET from renilla luciferase to GFP
2:45-3:45 pm	Break	**POSTER SESSION #2**	Refreshments served in Merrill Hall
3:50-4:15 pm	**Keynote**	C. Neal Stewart	GFP in plant biotechnology and agriculture
4:20-4:35 pm	15 min	David A. Zacharias	Biochemistry, oligomerization and chromophore structure of DsRed, a RFP from coral
4:40-4:55 pm	15 min	Alexey Terskikh	"Fluorescent yimers": proteins that change color over time.
5:00-5:15 pm	15 min	Robert M. Hoffman	Whole-body optical imaging of green fluorescent protein-expressing tumors growth
5:20-5:35 pm	15 min	Mario Pazzagli	Public understanding of science and health: The Florence Project.
5:40-5:55 pm	15 min	William W. Ward	GFP as an educational tool in biotechnology distance learning

Sept. 9 **Afternoon Session** **Location: Kiln**

Session M **Bioluminescent symbioses--Quorum sensing**

Chairs: Margaret McFall-Ngai & Edward Ruby

2:30-3:40 pm	Break	**POSTER SESSION #2**	Refreshments served in Merrill Hall
3:45-4:10 pm	**Keynote**	Peter Greenberg	TBA
4:15-4:30 pm	15 min	Edward A. Meighen	Multiple regulatory proteins control induction of luminescence in *Vibrio harveyi*
4:35-4:50 pm	15 min	Margaret J. McFall-Ngai	The effects of bacterial luminescence on host development
4:55-5:10 pm	15 min	Edward G. Ruby	Cheaters never prosper: linking luminescence activity to symbiotic competence
5:15-5:30 pm	15 min	Spencer V. Nyholm	Recruiting symbiotic vibrios during the colonization of a squid light organ