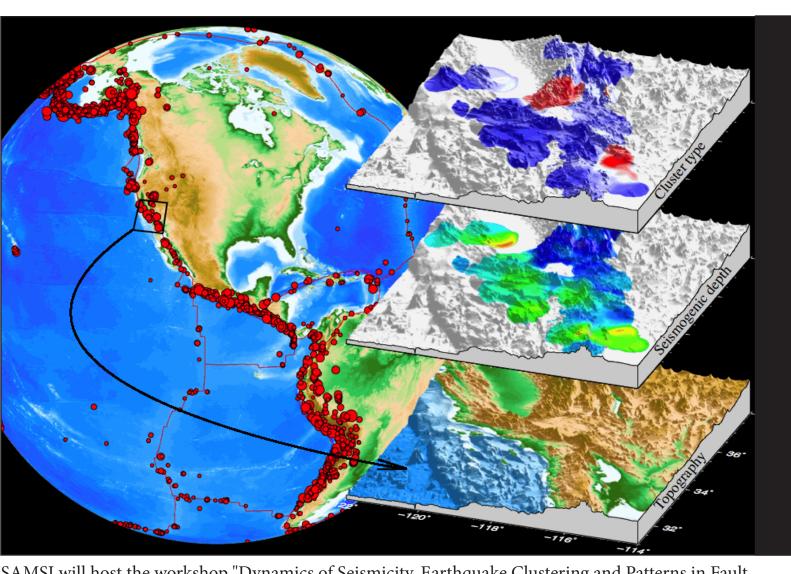


S	UN	MON	TUES		WED	TH	URS		FRI		SAT
			1	2	*+	3	*+	4	*+	5	*+
			★Celestial Mechanic	CE (BIDS	CPM Fields	THD DIMS	Pome				
			Luminy) Jan 1-Sept 3	30 ★ s in Epid	emiology, Ecol	logy & Put		AARMS	S, BIRS,		
6	*+	7 ★ + * Mathematics of Bio-		İ.	e, PIMS) Jan 1-∃ ★ <b>+ </b> ★		*+*	11	*+*	12	*+*
		Jan 7-April 5 ≭	Extreme Events in E		(San Diego) nces (Reading)	)					
		Dynamics of Tumor- Dispersive Shocks (C	-Immune Systems (Syc CIRM)	lney)						the M	ematics and elting Polar Ice (San Diego)
12	A A -A-	Mathematical Epider	miology and Complex	1			A A 4	10	A A	i	
13	*+*	14 ★★★ How Does Google	15 *+*	16	*+*	17	***	A Com Mathen	+ + * putational natician Com- imulation of	19	*+*
		Google? The Math Behind the Internet (Calgary)					ntion, a True le Problem	in-situ	Combustion vy Oil Recov-	(PIM	S)
Mathem	natical Epiden	Modeling Problems I niology and Complex	<mark>Related to Our Enviro</mark> Networks (AMSI) Jan		AIM)						
20	*+*	21 *+*	Pigs Didn't Fly But		***	24	*+*	25	***	26	***
			Swine Flu: the Math- ematics of Epidemics (Leicester)								
			Statistiques et Gestion Clouds, Climate, and	d Tropica		(IISC)					
Mathem 27	natical Epiden	niology and Complex	i	i	*+*	31	*+*	1	*+*	2	*+*
			The Challenge of Sustainability and								
			the Promise of Mathematics (Melbourne)								
2	A A 4	4	Mathema	1	idemiology and $\star + \star$	d Complex 7		(AMSI	) Jan 7-Feb 1	9	
3	*+*	4 ***	5 * + +	0	***	/ The Langu Life: Whe ematics Sp	n Math-	ð	*+*	9	*+*
		Stochastics in Geoph	ysical Fluid Dynamics	1	y & Epidemiol	Biology (Ì	Regina)			SPOI	M (Newcastle)
Waves a	nd Instabiliti	Probabilities/Ecole d es in Geophysical and	'hiver (CIRM) Feb 4-1 Astrophysical Flows (		ches) Feb 3-Fel	b 8					
10	*+*	11 *+*	12 *+*	13	*+*	14	***	15	*+*	16	*+*
Feb 9-H	Feb 12								athematics nt and Sound real)		
Probabi		Mathematics and Eco		HP)							
17	*+*		19 ***	20	*+*	21	*+*	22	*+*	23	*+*
		vnamics (MFO)									
		Dynamical Core Moo	deling for Atmospheri	ic and Oo	ceanic Circulat			e (AIMS	S) Feb 21-Feb 2	23	
Probabi 24	lities/Ecole d' ★ <b>+</b> ★	Thiver (CIRM) Feb 4-M $25 $ $\star + \star$	i	27	*+*	28	*+*	1	*+*	2	*+*
	A . A . A.	4							eb 4-March 1		A A A
3	*+*	4 <b>* + *</b> Climate Disruption: What Math and	5 *+**	6	*+**	7	*+**	8	*+**	9	****
		Science have to Say (San Francisco) *Mathematical Biolo	ogy (Lvon)								
		March 4-June 14 🛠	Biodiversity Manager	ment (IH	IP)						
10	*+**	11 *+**	12 ****	13	*+**	14	*+**	15	*+**	16	****
						IMA (Lor	ıdon)				
			of the Oceans and Atı and Evolutionary Biol								
17	*+**	18 <b>* + * *</b>	i	1	*+**	21	*+**	22	*+**	23	****
		The Mathematics									
24	*+**	of "Fracking" (Montreal) 25 *+**	26 ★+★❖		$\frac{(\text{Lisbon})}{\star + \star \star}$	<mark>ch 20-Maro</mark> 28	$\star + \star \star$	29	*+**	30	*+**
		The Mathematics of Planet Earth									··· • • •
		(Sheffield)	(Cape Town)	 1	MECC (Lisbon	) March 20	)-March 28				
		Spatial Management	of Biodiversity (IHP)	1							
				1						1	
31	*+**										
31	****										
31	****										



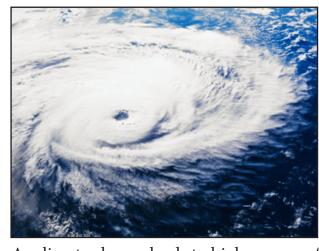
SAMSI will host the workshop "Dynamics of Seismicity, Earthquake Clustering and Patterns in Fault Networks", October 9-11, 2013. The workshop will highlight the key role of the mathematical sciences in studying seismicity dynamics in relation to properties of faults and the crust as an essential component of this interdisciplinary research endeavor.

Long Term Program





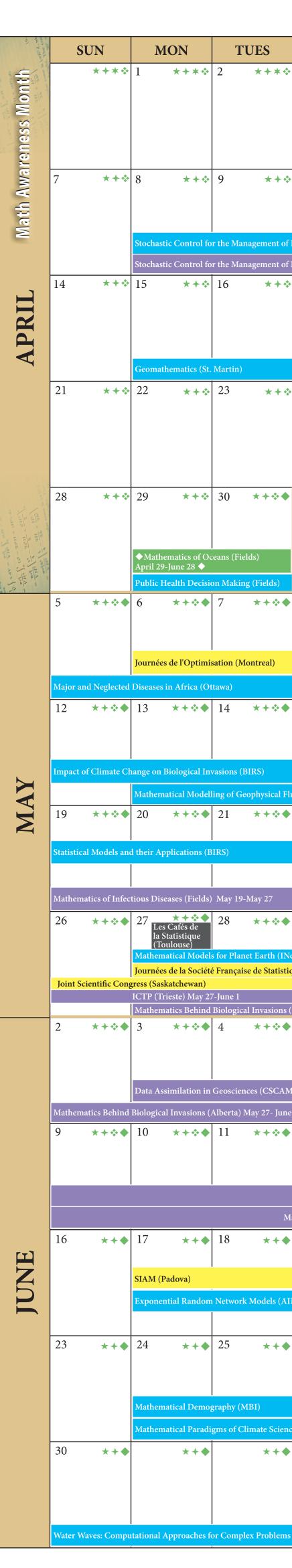


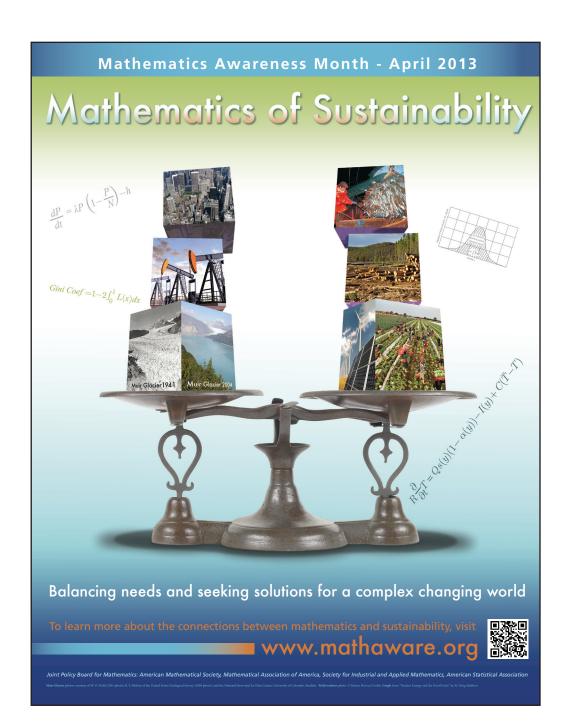


As climate change leads to higher sea surface temperatures, the environment in which tropical storms develop changes. The regions where tropical storms form expand, and their frequency, intensity, and duration increase.



The Moon stabilizes the axis of the Earth. Jacques Laskar showed in 1993 through simulations that, if we remove the Moon from the model of the solar system, then the axis of the Earth undergoes very large chaotic oscillations, similar to the oscillations of the axis of Venus or Mars, thus forbidding the seasons system that we now have. The obliquity of the Earth's axis oscillates between 22.1 and 24.5 degrees, with a period of 41,000 years. The present obliquity is 23.44 degrees, and is decreasing. Decrease in the obliquity favours warmer winters and cooler summers and, globally, a glaciation.



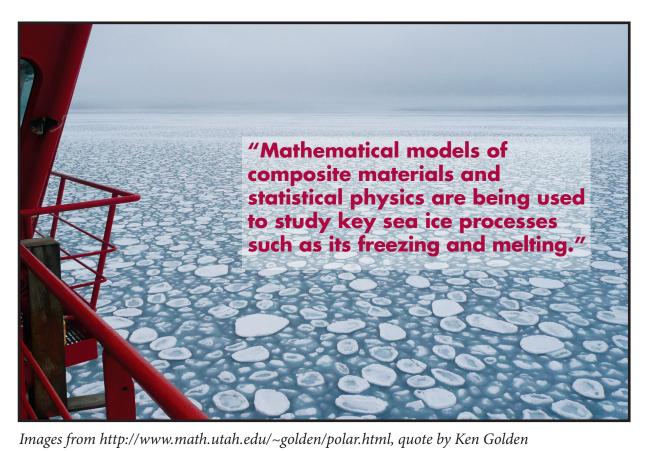


	WED	THURS	FRI	SAT
× 🌣			5 <b>*+</b> *	6 <b>*+</b> *
		★ Mathematics of I	Bio-Economics (IHP) Jan 7-April 5 ★	
► 🌣	10 *+*		12 *+*	13 *+*
		The New Archi- tecture of Our Financial System		
t of I	Renewable Energies (O	(Toronto)		
		CIRM) April 8-April 12		
► 🌣	17 ***	18 ***	19 ***	20 ***
		Hydrodynamic		
		Quantum Analogs (Quebec)		
► 🌣	24 ***	25 ★+❖	26 ★+❖	27 ★+❖
	1	<b>)</b>	2	1
•	1 ★+☆◆	2 *+**	3 ★+�◆	4 ★+�◆
)	8 *+**	9 *+*•	10 *+**	11 *+**
			10 A T ¥ ♥	11 A T W <b>V</b>
			Les Ponts de Königsberg, les	
			Digues de Hollande et la Chûte de Wall	
•	15 *+**	16 *+**	Street (Montreal)	18 *+**
LPL	uds (AIMS)			
•∎ili	ıids (AIMS) 22 ★+��	23 *+**	24 <b>*+*</b>	25 <b>*+*</b>
	Parkinson's Disease (	(Fields)	Schizophrenia (Field	s)
•	29 *+**	30 *+**	31 *+**	1 *+**
(INd	Epilepsy (Fields) IAM)			
	jue (Toulouse)			
ons (4	Alberta) May 27- June	14		
•	5 <b>*+*</b>	6 ***	7 ★+�◆	8 *+**
CAM	M) June 3-June 14			
une				
•	12 *+**	13 *+**	14 *+*	15 *+•
		<b>☆</b> Mathen	natical Biology (Lyon)	
	Data Assimilation	n in Geosciences (CSCA	March 4-June 14 <b>*</b> AMM) June 3-June 14	
Ma	Ì	blogical Invasions (Alb		
•	19 *+•	20 *+•	21 *+*	22 *+*
(AII	M)			
		sportation Networks (		20
•	26 *+*	27 *+•	28 *+*	29 *+*
ienc	e (INdAM)	1 1 A	<b>.</b>	
•	*+◆	*+◆	*+◆	*+◆
ems	(BIRS) June 30 - July 5			

	SI	JN	MON	TUES	WED	THURS	FRI		SAT
					3 *+■	4 *+■		6	*+■
	Water Wa	ves: Compu	itational Approaches fo	or Complex Problems	(BIRS) June 30 - July 5	5			
	7	★ <b>+</b> ■	;			1	12 *+■	13	*+■
			MPE Australia 2013 (	Melbourne)					
			SIAM (San Diego)			T 1 100 C			
			Climate Change and	the Ecology of Vector-		Ecology and Statistic	s (NSW)		
	14	*+■	15 ★+■	16 ★+■	17 ★+■	18 *+■	19 ★+■	20	*+∎
ΓX									
JULY			Tipping Points in Cli	mate Systems (ICERM	)				
			Dynamical Systems a	nd Mathematical Biolo	ogy (AARMS) July 15-	Aug 9			
	21	★+■	22 ★+■ 23 ★+■ 25 ★+■ 26 ★+■   Planetary Motions, Satellite Dynamics, and Spaceship Orbits (CRM)						★+■
			Biodiversity in a Cha						
			Evolutionary Equatio	ns with Application in	Natural Sciences (AII	MS) July 22-Aug 2		<b>I</b>	
			nd Mathematical Biolo			1			
	28	★+■	29 ★ <b>★ ★ ★ ★ ★ ■ CEMAD (Victoria)</b>	30 ★+■	31 *+	1 ★+■	2 *+	3	★+■
			Mathematics of Clima	ate Change, Related H	azards & Risks (CIMA	T)			
	Introduction to the Mathematics of Seismic Imaging (MSRI) July 29-Aug 9								
	Dynamica 4	al Systems a ★ <b>+</b> ■	nd Mathematical Biolo		Aug 9 7 ★ <b>+</b> ∎□	8 ★+■□	9 ★+■□	10	★+■□
			Commodities Ener						
			Finance (Fields) Aug	5-Aug 30 🗖					
		I	WCA 2013 (Guallajua	Introduct		cs of Seismic Imaging			
	11	*+∎□	12 ★+■□	13 ★ <b>+</b> ■□		thematical Biology (A. 15 ★★■□		17	*+■□
H									
UST			Branching Diffusions	and Random Trees (C	CRM)				
G	18	*+=□	19 ★+■□	20 ★+■□□	21 *+■□□	22 ★ <b>+</b> ■□□	23 *+■□□	24	★+■□□
AU									
	0.5		□ Infectious Disease Aug 19-Sept 13 □					01	
	25 🖈	*+■□□	26 ★+■□□	27 ★+■□□	28 *+■□□⊙	29 ★+■□□⊙	30 ★+■□⊙	31	★★■⊒⊙
				⊙ Mathematical Cha	llongos in Quantum	<b>D</b> Commodition En o			
				Information (INI) Au			rgy & Environmental elds) Aug 5-Aug 30 □		
	1 🔸	<b>· + ■</b> □⊙	DGS 2013 (Lisbon) A 2 ★+■□⊙		4 ★+■□⊙	5 ★ <b>+</b> ∎⊒⊙	6 ★+■□⊙	7	★★■⊒⊙
	CELME	C VI (Viter	IAMG (Madrid)						
	CLEWIE	o vi (viter	,				DGS 2013 (I	isbon)	Aug 26-Sept 7
	8 🔸	<b>·+∎</b> ⊒⊙	9 ★+∎⊒⊙	10 ★★∎⊒⊙⊚	11 ★★∎⊒⊙⊚	12 ★+∎⊒⊙⊚	13 ★+∎⊙⊚	14	★★∎⊙⊚
			◎Materials for a Sust Future (IPAM) Sept 9			☐ Infectious Dis	sease Dynamics (INI) Aug 19-Sept 13 🗖		
ER				Materials for a Sustain					
B	15 🖈	< ✦∎⊙⊚	16 ★+∎⊙⊚	17 ★+∎⊙⊚Ѻ	18 ★+∎⊙⊚⊙	19 ★+∎⊙⊚Ѻ	20 ★+∎⊙⊚Ѻ	21	* <b>+</b> ∎⊙⊚ <b>0</b>
SEPTEMBER			●Ecosystem Dynami (MBI) Sept 16-Dec 20						
LL			Sustainability and Complex Systems (MBI)						
EF	22 **	⊦∎⊙⊚Ѻ	Mathematics for an E 23 $\star + \blacksquare \odot \odot \odot \bigcirc$	volving Biodiversity ( 24 ★★■⊙⊚⊙	CRM) 25 ★ <b>+</b> ∎⊙⊚⊙	26 ★+∎⊙⊚●	27 ★+∎⊙⊚Ѻ	28	* <b>+</b> ∎⊙⊚ <b>0</b>
					La Prévision des Grandes Catastrophes				
			Solar Cells (IPAM)		(Montreal)				
	Uncoveria	ng <u>Transpo</u> r	Mathematics of Seque	ence Evolution: Biolog cal Flows (BIRS)	ical Models (CRM)			Indig	enous Popula-
			30 +∎⊙⊚⊙						
	tion Healt	th (BIRS)							
			s (BIRS, CRM, Fields, miny) Jan 1-Sept 30 ★						



Image provided by Barbara Cozzens, Wyoming Director of the Greater Yellowstone Coalition.





Mathematics of Planet Earth is a world-wide initiative to bring awareness to global issues and the role that mathematics can play in their solution

A PLANET TO DISCOVER: oceans; meteorology and climate; mantle processes, natural resources, solar systems

A PLANET SUPPORTING LIFE: ecology, biodiversity, evolution

A PLANET ORGANIZED BY HUMANS: political, economic, social and financial systems; organization of transport and communications networks; management of resources; energy

A PLANET AT RISK:

climate change, sustainable development, epidemics; invasive species, natural disasters

Unprecedented in its all-encompassing scope and geographic reach, the MPE2013 year brings to the forefront the universality of mathematics, with the hopes of making the general public aware of the insights it provides into many human endeavors, of its capability of predicting natural phenomena and processes, as well as its power of creating and shaping new discoveries. The year is also aimed at bringing the mathematics community together to work on the challenges facing the planet, at a time when all human activities have global significance and impact. At the same time, we need not only inspire the new generation, but also develop new educational programs for them, that sow the seeds of the needed mathematical insights and cultivate vital quantitative skills, in a multidisciplinary and interconnected world that requires a workforce adaptable to fast changes and simultaneous challenges.

— Bogdan Vernescu, President , National Professional Science Master's Association (NPSMA)

