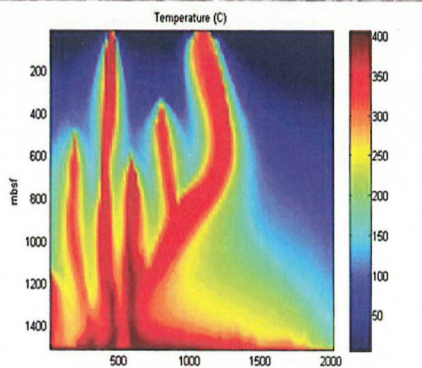


THE DEPARTMENT OF
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Presents

The 18th Annual Geosciences Student Research Symposium March 7th & 8th, 2013



18th Annual

Geosciences Student Research Symposium

Thursday March 7th, 2013: 10:00 - 5:30

Friday March 8th, 2013: 10:00 – 5:30

4069 Derring Hall

Department of Geosciences

Virginia Tech

Welcome to the Geosciences Student Research Symposium! GSRS is produced and organized by the graduate students of the Department of Geosciences at Virginia Tech. The symposium is designed to allow students the opportunity to prepare and present talks in their current research areas for both professional growth and public awareness.

Constructive feedback on student presentations by faculty, students, and visiting guests are highly encouraged. Evaluation forms will be available at the symposium for those interested. Completed forms should be returned to the boxes provided in the presentation room. Each talk is scheduled to last 12 minutes with three minutes for questions.

Both days of the symposium breakfasts and light snacks will be served in the 4th floor west lobby, and lunches will be provided in the Geosciences Museum (2062 Derring). A catered dinner in the Geosciences Museum will conclude this year's symposium, and all are welcome to attend.

We are extremely grateful and wish to extend our appreciation to the corporate, local, and alumni sponsors of this event: BP, Conoco-Phillips, Newmont, Range Resources, Chevron, Schnabel Engineering and a number of generous alumni! We also thank the Department of Geosciences for their generous support. Finally, to the faculty, volunteers, and student participants, for donating their time and expertise – without you this event would not take place.

Your 2013 GSRS Coordinating Committee:

Committee Chair: James Dale

Fundraising: Sarah Mazza

Abstract Book/Scheduling: Andrew Hawkins, Angela Gerhardt, Jesse Brocce, Drew Muscente

Food/Drink: Adam Angel, Aida Farough, Michelle Fame

Website: Sebastian Mergelsberg

TABLE OF CONTENTS AND SCHEDULE OF EVENTS

All events are in Derring 4069 unless otherwise noted.

THURSDAY, MARCH 7th, 2013

TIME	NAME	TITLE
9:00		BREAKFAST- 4th Floor, West Lobby
10:00	JAMES DALE	INTRODUCTION TO THE SYMPOSIUM
10:05	ANTHONY GIUFFRE	DECIPHERING AMORPHOUS CALCIUM CARBONATE CRYSTALLIZATION PATHWAY USING ISOTOPIC TRACERS
10:20	SARAH MAZZA	THERMAL STUCTURE OF THE SGURR BEAG THRUST, NW SCOTLAND
10:35	ZACKARY MUNGER	THE ROLE OF BIOGEOCHEMICAL AND HYDROLOGIC PROCESSES IN MANGANESE ATTENUATION IN A HYDROPOWER DAM TAILRACE
10:50	QIMIN WU	INVESTIGATION OF 3-D VELOCITY AND Q MODELS USING SURFACE WAVE MEASUREMENTS
11:05		BREAK- refreshments are available in the 4th floor West Lobby
11:20	VICTOR GUEVARA	THE IMPORTANCE OF LOCAL MINERAL EQUILIBRIA IN CALCULATION OF PRESSURE-TEMPERATURE HISTORIES: ARE BULK-ROCK COMPOSITIONS TRULY 'EFFECTIVE'?
11:35	MICHELLE FAME	TRANSIENT LANDSCAPES: EROSIONAL RESPONSE OF A SLOWLY UPLIFTING MOUNTAIN BELT TO LATE CENOZOIC GLACIATION, NORTHWEST SCOTLAND
11:50	KATHY DAVENPORT	CONTROLLED-SOURCE SEISMIC TRANSECT ACROSS A STEEP CONTINENTAL MARGIN
12:05	NATALIA BYKOVA	EDIACARAN SOFT-BODIED ORGANISMS FROM THE KHATYSPYT FORMATION, OLENEK-UPLIFT, NORTHERN SIBERIA
12:20		LUNCH – Geology Museum, Room 2062 (12:25-1:25 pm)
1:30	RYAN CAPOBIANCO	VOLUMETRIC PROPERTIES AND PHASE EQUILIBRIA OF CO ₂ - H ₂ O BINARY FLUIDS
1:45	LYNDSEY FUNKHOUSER	LOCATING THE REGIONAL GROUND-WATER DIVIDE IN A FRACTURED KARSTIC ENVRIONMENT
2:00	SHREYA SINGH	NUMERICAL MODELING OF TWO-PHASE FLOW AT THE MAIN ENDEAVOUR FIELD, JUAN DE FUCA RIDGE: THERMAL DECLINE OF THE VENT FIELD
2:15	LULWAH ALTHANI	DIAGENETIC HISTORY OF THE PERMIAN UNAYZAH A MEMBER, SOUTH HARADH, SAUDI ARABIA WITH IMPLICATIONS FOR EXPLORATION FOR "DEEP" GAS

THURSDAY, MARCH 7th, 2013

TIME	NAME	TITLE
2:30	ANDREW HAWKINS	ACRITARCH BIOSTRATIGRAPHY OF THE SIDUPING SECTION: ARE EDIACARAN ACRITARCHS FACIES INDEPENDENT?
2:45	HECTOR LAMADRID	CHEMICAL AND THERMAL EVOLUTION OF THE FINLANDIA EPITHERMAL Pb-Zn-Ag-Au DEPOSIT, COLQUI DISTRICT, CENTRAL PERU
3:00		BREAK- refreshments are available in the 4th floor West Lobby
3:15	LINDSAY SABEY	BODY-WAVE SEISMIC INTERFEROMETRY IN THE SALTON SEA GEOTHERMAL FIELD, CALIFORNIA
3:30	ADAM ANGEL	INFLUENCE OF MINERALIZATION PATHWAY ON THE UPTAKE OF STRONTIUM IN CALCIUM CARBONATE
3:45	CODY MASON	VERTICAL CRUSTAL MOTIONS AND GEOMORPHOLOGY OF THE COACHELLA VALLEY, CALIFORNIA
4:00	TATIANA DELLEDERA	TRACE ELEMENT DISTRIBUTION ANALYSIS IN QUARTZ TO AID IN TEMPERATURE PROFILE CONSTRAINTS IN THE SUTLEJ VALLEY, HIMALAYAS
4:15	KRISTEN MCCALL	METAMORPHIC DIFFERENTIATION TO EXPLAIN MICROSTRUCTURES PRESERVED IN THE HAIMANTA GROUP METASEDIMENTS: EVIDENCE FOR PROGRADE METAMORPHISM AND EXHUMATION, NORTHWEST INDIA
4:30	AIDA FAROUGH	EXPERIMENTAL STUDY ON CONTROLS ON FLUID CHEMISTRY AND PERMEABILITY EVOLUTION DURING SERPENTINIZATION REACTIONS
4:45	ANGELA GERHARDT	GEOCHEMICAL ANALYSIS OF LATE CAMBRIAN AGE TRILOBITE EXTINCTIONS WITHIN THE NOLICHUCKY FORMATION
5:00	WILLIAM FLEMMING	A GEOMETRIC MORPHOMETRIC STUDY OF AN UPPER ORDOVICIAN TRILOBITE ASSEMBLAGE (AMPYXINA POWELLI), SOUTHWEST ROANOKE COUNTY, VA
5:15	DAVID MERCIER	MAGMA-HYDROTHERMAL HEAT TRANSFER AND ICE MELTING DURING THE NON-ERUPTIVE EVENT AT MT. SPURR, ALASKA, 2002-2006

FRIDAY, MARCH 8th, 2013

9:00		BREAKFAST- 4th Floor, West Lobby
10:05	KRISTIN DORFLER	MELTING, MELT REMOVAL, AND CRYSTALLIZATION OF AL-RICH XENOLITHS IN MAFIC MAGMA AT 0.8 GPa
10:20	JING XUE	WAVEFRONT HEALING AND TOMOGRAPHIC RESOLUTION OF MANTLE PLUMES

FRIDAY, MARCH 8th, 2013

TIME	NAME	TITLE
10:35	KAI DENG	SEQUENCE STRATIGRAPHY OF SUBSURFACE LATE JURASSIC ARAB D FORMATION, HAWIYAH AND HARMALIYAH FIELDS, SAUDI ARABIA
10:50	JOSHUA VALENTINO	TRANSCIENCE AND GLACIAL EROSION IN SOUTH CENTRAL ALASKA: A MULTI-CHRONOLOGIC APPROACH
11:05		BREAK- refreshments are available in the 4th floor West Lobby
11:20	ALEXANDRA KEENAN	EMPETRO: MATLAB GUI INCORPERATING THERMOBAROMETERS FOR THE END-USER
11:35	MEIJING ZHANG	MORE ACCURATE AND POWERFUL TOOL FOR MANAGING GROUNDWATER RESOURCES AND PREDICTING LAND SUBSIDENCE IN LAS VEGAS VALLEY
11:50	LOWELL MOORE	BUBBLES MATTER
12:05	PAVITHRA SEKHAR	ANALYSIS OF MARTIAN GEOID AND TOPOGRAPHY BASED ON TEMPERATURE DEPENDENT LAYERED VISCOSITY MANTLE CONVECTION CALCULATIONS
12:20		LUNCH – Geology Museum, Room 2062 (12:25-1:25 pm)
1:30	TY BULLER	ESTUARINE DEPOSITS OF THE UPPER MISSISSIPPIAN PRINCETON FORMATION, ANNUAL CYCLICITY AND HYDROCARBON POTENTIAL OF THE PRIDE SHALE: APPALACHIAN BASIN, USA
1:45	JAEWON CHOI	THE RESPONSE OF TWO-PHASE HYDROTHERMAL SYSTEMS TO CHANGING MAGMATIC HEAT INPUT AT MID OCEAN RIDGES
2:00	ZHEN DAI	MORPHOLOGICAL RECORD OF THE MICROBIAL MATS: OBSERVATIONS FROM THE MESOPROTEROZOIC GAOYUZHUANG FORMATION IN NORTH CHINA
2:15	CHRISTINA BLUE	THE EFFECT OF CARBONATE CONCENTRATION AND PH ON THE MAGNESIUM CONTENT OF AMORPHOUS CALCIUM CARBONATE (ACC)
2:30	NICHOLAS HEAVERLO	STRESS AND STRAIN RATE ESTIMATES FOR AUREOLE ROCKS OF PAPOOSE FLAT PLUTON, WHITE-INYO MOUNTAINS, EASTERN CALIFORNIA
2:45	THEODORE THEM	GEOCHEMICAL RECONSTRUCTION OF THE TOARCIAN OCEANIC ANOXIC EVENT FROM WESTERN NORTH AMERICA
3:00		BREAK- refreshments are available in the 4th floor West Lobby
3:15	JAMES DALE	TRANSPORT AND TRANSFORMATION THROUGH THE ENVIRONMENT OF CERIUM OXIDE NANOPARTICLES FROM DIESEL EXHAUST
3:30	ANNA HARDY	PRELIMINARY RESULTS OF DENSE SEISMIC NETWORK MONITORING IN THE EPICENTRAL AREA OF THE 1886 CHARLESTON, SC, EARTHQUAKE

FRIDAY, MARCH 8th, 2013

TIME	NAME	TITLE
3:45	RACHEL CORRIGAN	HYDROTHERMAL ACTIVITY AT SLOW SPREADING RIDGES: PARAMETIZATION AND CHEMICAL ANALYSIS OF THE RAINBOW FIELD
4:00	SEBASTIAN MERGELSBERG	BIOMINERALIZATION IN TERRESTRIAL CRUSTACEANS
4:15	DREW MUSCENTE	PLANTS IN THE MAZON CREEK LAGERSTÄTTE PRESERVED THROUGH MULTIPLE TAPHONOMIC PATHWAYS
4:30	RYAN BRANDON	PACKER AND TRACER TESTING FOR THE CHARACTERIZATION OF A CRYSTALLINE BEDROCK AQUIFER
4:45	PATRICK BOYLE	USING SEISMIC-REFLECTION EXPRESSION OF CONTOURITE DRIFTS TO UNDERSTAND THE DYNAMICS OF THE DEEP WESTERN BOUNDARY CURRENT: NEWFOUNDLAND RIDGE, OFFSHORE CANADA
5:00	KUI LIU	GLOBAL PHASE-VELOCITY MAPS OF RAYLEIGH WAVES BETWEEN 20 AND 200 SECONDS
5:15	KYLE ASHLEY	IMPROVING PRESSURE ESTIMATION IN HIGH PRESSURE TERRANES WITH RAMAN SPECTROSCOPY: INNOVATIONS AND IMPLEMENTATION ON BLUESCHISTS FROM SIFNOS, GREECE

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