



AMBROSE  
UNIVERSITY



Ambrose  
Research  
Conference

2018

**ARC**

**The World  
after Tomorrow**

April 4, 2018 • 9 am to 4:30 pm

On behalf of Ambrose University, welcome and thank you for taking the time to attend this year's Ambrose Research Conference (ARC)! Ambrose University is located in the traditional territories of the Niitsitapi (Blackfoot) and the people of the Treaty 7 region in Southern Alberta, which includes the Siksika, the Piikuni, the Kainai, the Tsuut'ina, and the Iyârhe Nakoda.

ARC aims to spotlight student, faculty, staff, and alumni research and scholarly activity, through a series of conference presentations and poster exhibits. In this year's conference, "The World after Tomorrow," we have over 45 presentations and 19 poster exhibits across the many disciplines represented at Ambrose.

Alongside attending individual sessions, the two plenary sessions ("The World after Tomorrow: An Interdisciplinary Conversation" and "The World after Tomorrow: The Future of Education"), and taking in many of the poster exhibits at the scheduled breaks throughout the day, we invite you to join us for a free lunch (\*available to the first 250 registrants, with a ticket – available at the registration tables).

We encourage you, whether you are already part of the Ambrose community or you are a visitor from the community at large, to take in as many presentations as you are able, to participate in the many good conversations around campus, and to enjoy the hospitality at Ambrose University.

Last, as we experience this year's conference, we also have an eye ahead to ARC 2019, centering on the theme "Uncharted: Conversations on the Hinterlands." *What topics in your discipline remain untapped or underexplored? What knowledge exists beyond what we commonly see or converse about, that may inspire new thoughts, ideas, or generations? Where might we push the boundaries of such conversations? ARC 2019 invites you to consider such conversations on the hinterland; to highlight potential challenges and points of convergence within and across disciplines as we engage in new, uncharted conversations.* We encourage you to mark your calendars for Wednesday, March 27, 2019 and join us for ARC 2019!

**Ambrose Research Committee**

Dr. Joel Thiessen (Chair, Professor of Sociology)

Dr. Beth Stovell (Associate Professor of Old Testament)

Dr. Monetta Bailey (Assistant Professor of Sociology)

Sandy Ayer (Director of Library Services and Archivist)



# The World After Tomorrow



Time/Room	A2131	A2133	A2141	A2210	G2195
<b>9:00-10:00 Presentations</b>	Symposium: The Psychology of Religious Experience in the World after Tomorrow	Christian Studies I	Memory and Imagination in Poetry	History Roundtable: Historiography	
<b>10:00-10:15 Break</b>	Posters on Display in Lower Atrium				
<b>10:15-11:00 Plenary Session #1</b>	Panel Discussion: The World after Tomorrow: An Interdisciplinary Conversation (Airhart)				
<b>11:00-11:15 Break</b>	Posters on Display in Lower Atrium				
<b>11:15-12:15 Presentations</b>	Author Meets Critics: Review of Dr. Rob Snow's book, <i>Daniel's Son of Man in Mark</i>	The Biology of Tomorrow	Discourse, Character, and Vice in Milton, Tolkien, and Spears (Britney)		Music and Conflicting Perspectives
<b>12:15-1:15 Lunch</b>	Gymnasium Ticket required (see registration table)				
<b>1:15-2:15 Presentations</b>	Behavioural Science Research: New Understandings of Human Experience	The Chemistry of Tomorrow		Author Meets Critics: Review of Dr. Gordon T. Smth's book, <i>Institutional Intelligence</i>	Music and a Better Tomorrow
<b>2:15-2:30 Break</b>	Posters on Display in Lower Atrium				
<b>2:30-3:15 Plenary Session #2</b>	Panel Discussion: The World after Tomorrow: The Future of Education (Airhart)				
<b>3:15-3:30 Break</b>	Posters on Display in Lower Atrium				
<b>3:30-4:30 Presentations</b>	Enabling Human Flourishing Through Responsible Business Practices	Tomorrow's Pedagogy in Earth and Space Science	New Research in History	Christian Studies II	Music and Faith Intersections

**9:00-10:00 am**

**A2131 – SYMPOSIUM: THE PSYCHOLOGY OF RELIGIOUS EXPERIENCE IN THE WORLD AFTER TOMORROW  
(Moderator: Dr. Alex Sanderson)**

**Presenters: Dr. Jim Cresswell, Kaylie Glasman, Kaitlin Henczel, and Carly Moore**

For the last century, the psychology of religious experience has been interpreted in different ways that lead to different projections about the value of religious experience in the future. This symposium explores such past discussions considering different forms of current religious experience to speculate on the future value researchers are likely to place on religious experience. Our first presenter, Henczel, discusses a Cormac McCarthy screen play on the topic of religious experience. Moore then presents a discussion of religious experience generated through hallucinogenic drugs. Glasman discusses an autobiographical account of religious experience. All three presentations offer discussions of different kinds of religious experience from the perspectives of divergent theorists such as William James, Sigmund Freud, and Abraham Maslow. They set the stage for the final paper by Cresswell, who discusses how the forgoing papers illustrate how different approaches value experience differently. This paper examines current trends in cognitive science that risk degrading the value of religious experience in society and so raises concerns about future research bypassing what matters to many religious practitioners.

**A2133 – CHRISTIAN STUDIES I  
(Moderator: Dr. Rob Snow)**

**“How do you solve a problem like Maria?” An Examination of Martin Luther’s Views on the Virgin Mary (Roland Weisbrot)**

The Virgin Mary has largely been a taboo subject among Protestants as a result of reactionary sentiment to abuses in Medieval Roman Catholic theology and praxis. This has ultimately led many Protestants to having deficient or distorted views about the person of Mary and the role she plays in Christian thought and spirituality. By examining the beliefs of the sixteenth-century Reformer, Martin Luther, which include adherence to the doctrine of perpetual virginity and a belief that Mary deserves a place of veneration, this paper hopes to enable Protestants to develop a more robust and orthodox conception of the Virgin Mary that is true to historical Reformation teaching but liberated from the reactionary sentiment that diminishes her person.

**Zionism, Conditions of Covenant, and the Unwavering Evangelical Support for the State of Israel (Caleb Susuras)**

Christian Zionists must re-evaluate their theology by becoming informed, first, by studying the history of the Palestinian-Israeli conflict, second, by careful exegesis of the biblical passages used in support of Christian Zionism, and finally, by taking into account the ethical issues at stake for both the Palestinian and Jewish people.

## **Envisioning the Body: A Study of Non-Dualism in Christian Spirituality and Visual Art (Amy Lemke)**

The Christian life should not drift into a dualism where rational experience is separated from and given priority over that of the body. An embodied Christian spirituality values the role of the senses in the experience of God, and thereby incorporates the entirety of human experience into communion with God. While contemporary Christians may be more open and seemingly free in discussing bodily experience — be it emotional, sexual, traumatic, etc. — we have not fully grasped the role of the body in the spiritual life. While we may think of the Medieval mystics whipping and starving themselves to transcend the body, in truth they did so because they did not separate the body from their pursuit of the deeper spiritual life. The works of Medieval and contemporary artists are examined in this project as a means of illustrating various attitudes towards the body and the spiritual qualities found therein. This paper explores artistic interactions with both historic and contemporary understandings of the body to argue for a Christian spirituality based in a non-dualistic view of personhood.

## **A2141 – MEMORY AND IMAGINATION IN POETRY (Moderator: Dr. Darren Dyck)**

### **Types in Tennyson’s In Memoriam: Memory, Trance, and Union (Katrina Estok)**

In 1849, Alfred Tennyson finished writing his requiem poem *In Memoriam*, a commemoration of his dear friend Arthur Hallam. Today, scholars continue to study *In Memoriam* in order to understand both its structural and erotic significance. This paper focuses on eroticism as it applies to typological themes and structure in the poem. Specifically, while Tennyson’s memory of Hallam prior to the climax in section XCV is a type for Tennyson’s trance encounter with Hallam, both memory and encounter together reference an extra-historical and apocalyptic type, that is, final union between Tennyson and Hallam after death. This paper explores these typological themes in two ways: firstly, by defining typology in terms of Christian theology and applying it to the broader structure of *In Memoriam*, and secondly, by discovering how literary details in specific passages serve the larger typological framework.

### **Coleridge’s Romantic Imagination (Laura Holden)**

This paper will relate Samuel Taylor Coleridge’s concept of romantic imagination as put forth in his prose work *Biographia Literaria* to his poetry. The paper will examine the role imagination plays in the composition of poetry; it will also necessarily include an examination of Coleridge’s idea of “fancy” to explain the way in which imagination creates a participation with the divine. I will also explore the role of vision in relation to imagination: particularly Coleridge’s use of opiates in the creative process. Having established a Coleridgean definition of imagination, I will then analyze the ways in which Coleridge depicts this concept in his poems *Rhyme of the Ancyent Marinere* and *Kubla Khan*, specifically the redemptive capacity of imagination, and the depiction of the imaginative poet respectively.

## **A2210 – HISTORY ROUNDTABLE: HISTORIOGRAPHY (Moderator: Dr. Ken Draper)**

The session highlights the work of upper-year history students to summarize and synthesize key concepts and approaches developed over the course of their history degree. As the capstone course in the history program, HI 478 Historiography explores the various ways history has been understood and practiced from the ancient Greeks to the present. Drawing on this class, other courses and life experiences, students have been challenged to articulate their understanding of history and how the study of history brings meaning and understanding to deep questions of the human story.

## 10:00-10:15 am Break and Posters on Display in Lower Atrium

### **INFILTRATION OF THE NONES (Susan Tam)**

The nones have been part of the Canadian religious landscape for more than fifty years. The early 1970's saw the first significant self-identification of 'nones' and since that time the number has grown to one-quarter of the population. This paper introduces the 'none', explores some of the sociological changes which paved the way for their acceptance into society, examines why the nones have rejected organized religion and, how the church can reach out to them. The number of 'nones' will continue to grow in North America but will shrink as a percentage of the global community as they are not keeping pace with the population growth in developing countries, many of which represent the current religious minorities.

### **SO 203: INTRODUCTION TO CRIMINOLOGY (Coordinator: Dr. Monetta Bailey)**

SO 203 poster presentations will feature present and future issues of concern within specific areas of crime. Poster presentations will depict the present situation and future concerns of one area of criminal behaviour (e.g. gang involvement, organized crime, terrorism, sexual offences, violation of privacy laws, crime and technology, cyber-crime etc.). Presentations will demonstrate the application of criminological theories to investigate the chosen criminal area. In addition, students will present ideas around future concerns within the selected area of interest, with some insight into future research that may be conducted to highlight gaps or potential concerns presented in the literature.

Posters to be presented:

**Group A** (Jacob Ashton, Mykale Dick, Jordan Fazio, Victoria Hill, Natasha Proulx, Brittney Shelley)

**Group B** (Kassidy Kavanaugh, Rachel Nasr, Cassandra Neild, Caroline Saayman, Maris Wilks)

**Group C** (Zachary Creighton, Catarina Dimonekene, Bailey Innocent, Sayesha Kohli, Alessia Mosca)

**Group D** (Kyra Kruger, Marie-Helene Picard, Stephen Stewart, Faith Woodley)

**Group E** (Carl Bantaya, Rachel Joshua, Emalee Lane, Valerie Nicholson, Holly Tamlin)

**Group F** (Austin Carter, Carlos Flores, Maria Hernandez, Rachel McIntyre, Kaitlin Vail)

**Group G** (Hygeia Gloria, Alexandra Hoppe, Logan Sept, Emily Thacker, Katherine Thomson)

**Group H** (Brooke Ferguson-Thomas, Thomas Hastie, Annaliza Marcial, Laura Olesen)

**Group I** (Faye Janielle Idio, Shaun McTaggart, Sukhraj Nagra, Dinah Paul, Duane Richardson)

**Group J** (John Dekker, Habana Gutierrez Vior, Kirstie Hayhoe, Faith Mix, Brianna Shrout)

## **SC 215: CONTROVERSIES IN SCIENCE (Coordinator: Dr. Liza Abraham)**

Poster presentations include student research on various aspects of three different topics, namely, genetically modified organisms (GMO), alternative and complementary medicines (CAM) and special topics from cosmology. Presentations will cover the background, scientific evidence, the controversy surrounding the topic and future directions in the field of study. Some examples are Dark Energy and Dark Matter: The Dark Side, Autism and GMO, Chemistry and Pharmacology of Essential Oils, Health Benefits of Taichi, Long-term Health Effects of Glyphosate (Round-up), Ketogenic Diet and Health Effects, Paleo Diet and Health Effects etc.

**The Chemistry and Pharmacology of Essential Oils** (Julia Kemper)

**Early Humans, Did they have it Right? The Benefits of a Paleolithic Diet on Health** (Bethany Herman)

**Why Tai Chi is the Best Way to Start Being Active** (Jonathan Kurian)

**Dark Matter and Dark Energy: The Dark Side** (Cayd Greiner)

**Round Up - Weed Killer or Grave Digger?** (Logan Sept and Keaton Strom)

**Coffee Junkie?** (Jade Cloete)

**Keto Diet** (Rebekah Golin)

**Glyphosate and Autism** (Marie Picard)

**10:15-11:00 am**

**AIRHART – PLENARY SESSION: THE WORLD AFTER TOMORROW:  
AN INTERDISCIPLINARY CONVERSATION (Moderator: Dr. Darren Dyck)**

In this session, we consider three questions: Where are we going? What does your discipline tell us about the future? Why should it matter to the rest of us? Following three 10-minute presentations, Dr. Darren Dyck will moderate a conversation with Drs. Ryan Wilkinson and Bill McAlpine, and Angie Redecopp.

**The Future Perfect Tense: Is there a History of Tomorrow? (Dr. Ryan Wilkinson)**

When people learn that I'm a historian who studies the fall of the Roman Empire, they often follow up by asking me about the *future* of Western society. My answers are often somewhat disappointing, as history can't predict the future — but it *can* suggest an awful lot about it! As a specialist on the problem of how empires and other societies collapse, I'll be sharing some historical observations on our current trajectory and possible outcomes — both in terms of the general framework of Western social-political systems, and also in terms of the outlook for Christian communities facing the uncertain future.

**Practical Theology: Practicing the Gospel in the Twenty-First Century  
(Dr. Bill McAlpine)**

"Practical Theology should be understood as that aspect of the theological enterprise that focuses on the interpretation of the practices of church and world as an ongoing source of theological interpretation and understanding" (John Swinton). Practical Theology takes human experience seriously and therefore, if the task of Practical Theology is to mediate the relation between the Christian tradition and the specific problems and challenges of the contemporary social context, then it cannot be engaged solely from the vantage point of the academic office. What Practical Theology tells us about the future is that although human experience continues to change and adapt, there remain fundamental moorings relative to what it means to be human and what God desires for and from us as a human race that can only be ignored at our own peril. What that means is that open, robust dialogue between the theological guilds and those of human/behavioral sciences must be engaged.

**Business for Evil or Business for Good (Angie Redecopp)**

Why the profit only business model is not sustainable. Are businesses becoming more responsible or is it just marketing? Hear from Angie Redecopp, Associate Professor of Business, on purpose, responsible practices and increasing community engagement for the businesses of tomorrow. Also learn why business is so badly needed as a driver for change as we tackle the world's social, economic development and environmental challenges.

**11:00-11:15 am**  
**Break and Posters on Display  
in Lower Atrium**

**11:15 am-12:15 pm**

**A2131 – AUTHOR MEETS CRITICS: REVIEW OF DR. ROB SNOW’S BOOK,  
DANIEL’S SON OF MAN IN MARK (Moderator: Dr. Colin Toffelmire)**

In this session, three Ambrose faculty, Drs. Jo-Ann Badley, Beth Stovell, and Colin Toffelmire, will critique Dr. Rob Snow’s book, *Daniel’s Son of Man in Mark*. At the conclusion of their presentations, Dr. Snow will give a response. Through the use of current intertextual methods and narrative criticism, Snow’s book offers a fresh examination of the Son of Man in Mark, developing the conclusions of Morna Hooker’s 1967 work, *The Son of Man in Mark: A Study of the Background of the Term “Son of Man” and Its Use in St. Mark’s Gospel*. Contrary to recent scholarship that argues that Mark’s Son of Man does not make any thematic or christological contribution to the Gospel and/or that the OT background of the Son of Man phrase is irrelevant, this work demonstrates that the Son of Man, when examined in light of Daniel 7, advances one of Mark’s major themes: the transition of the locus of Yahweh’s saving presence from the Jerusalem temple to a new covenant community that is not only founded on the Son of Man’s sacrificial death but also is vindicated at his coming in the heavenly temple.

**A2133 – THE BIOLOGY OF TOMORROW  
(Moderator: Dr. Matthew Morris)**

**Friend or Foe: Exploring the Genome of a Possible Invasive Species in Alberta  
(Breanne Schweitzer)**

Invasive species cost the Albertan government millions of dollars annually. Of central importance is understanding the dynamics of invasive populations - what genetic changes occur in invading populations as they adapt to new environments while coping with initially low population sizes? We looked at two populations of threespine stickleback (fish): a presumably invasive population from Mayliewan Pond (Northern Alberta), and the presumptive source population from Brannen Lake (Vancouver Island). In particular we compared the diversity and frequency of alleles in each population, with the hypothesis that there has not been sufficient time in 30 years for the Albertan population to evolve. We used Stacks and Genepop to determine the allele frequencies for over 200 000 polymorphic loci and compared the two populations using Excel. We determined the percent polymorphic loci, allelic differences,  $F_{is}$ ,  $F_{st}$ , and the observed and expected heterozygosity; these all helped in determining whether each locus was under Hardy-Weinberg Equilibrium within each population. Contrary to expectations of limited change since invasion, the two populations were genetically distinct. I will discuss some of the possible reasons for these differences, including genetic drift, inbreeding, natural selection, or the possibility that this local species is not invasive at all.

**The Effects of Glucose on Flour Beetle Populations (Robin Retzlaff and Erin Wiberg)**

Known for the damage and economic loss it causes to grain or flour stores, the confused flour beetle, *Tribolium confusum*, was subjected to a series of non-parasitic stressors to determine ways in which to eliminate or reduce the presence of the beetle. In this presentation, we will demonstrate that glucose is not significantly correlated with flour beetle population size.

### **Regenerative Degenerates (Chaz Comia and Rayne-Joy Dack)**

Though small, simple, and ill-known creatures (especially when compared to larger and more familiar animals), planarian flatworms stand out in the animal kingdom for their remarkable ability to regenerate whole lost portions of their body, to the point of becoming two (or more) genetically identical individuals. Invertebrate biology students at Ambrose University conducted experiments comparing the known regenerative capabilities of *Dugesia* sp. to that of *Polycelis* sp., a freshwater species found in Alberta whose regenerative capacity has yet to be documented. Applied research in flatworm regeneration could result in ground-breaking applications in the field medicine.

### **A2141 – DISCOURSE, CHARACTER, AND VICE IN MILTON, TOLKIEN, AND SPEARS (BRITNEY) (Moderator: Dr. Jonathan Goossen)**

#### **An Analysis of Dialogue in Tolkien's *The Lord of the Rings* (Jared Poon)**

In *The Lord of the Rings*, J.R.R. Tolkien writes character and dialogue with impressive skill. Through his dialogue, Tolkien conveys the unique thoughts and emotions of many different characters. This paper will focus on the Council of Elrond, where Tolkien allows a number of characters to speak for a lengthy period of time. Despite their length of speech, Tolkien distinguishes the dialogue of each character through word choice as well character motivation. By looking at each person's dialogue through the lens of dialogue theory, I will critically analyze the characters as well as how their speech shapes their character and the overall plot.

#### **Pride Goes Before A Fall (Rachel VanderWoude)**

The character of Satan from John Milton's *Paradise Lost* has been a contentious subject of study among Milton scholars for hundreds of years: some claim him as a tragic hero, others describe him as a well-crafted villain. This paper enters into the debate over Satan by way of Aristotle's tragic theory, claiming that while he is no tragic hero, Satan still possesses the tragic hero's signature trait: *hamartia*, a mistake in judgment. The paper argues that Satan's *hamartia* is his pride and *hubris*, his unwillingness to be humbled by God. This pride is what repeatedly leads to Satan's downfall, shown in Milton's use of parallel Greek myths, the Renaissance concept of the Great Chain of Being, and snake imagery.

#### **Popular Music: Feminism, Britney Spears, and Pedophilia (Bronwyn Schuman)**

Several cultural theorists argue that females can only succeed within popular music if they follow the career trajectory from innocent child to sexually liberated idol. This paper explores ideas of both pedophilia and feminism within popular music through a lens of cultural theory. The career path of Britney Spears serves as a model of the typical female popular artist, showing the dictatorial structure of the popular music industry and the false autonomy of young female artists. Spears' "...Baby One More Time" is an example of the pornographic content in popular culture which can lead to the early sexualisation of children. This paper expresses the hope that the discussion of rights within popular culture will broaden to include the rights of children, both performing inside and listening outside, who remain unprotected from the abusive influences and actions of popular culture industries.

## **G2195 – MUSIC AND CONFLICTING PERSPECTIVES (Moderator: Dr. Don Quantz)**

### **Arvo Pärt's Tintinnabuli Aesthetic: Ancient-Future Orthodoxy, Suffering, and the Anti-Aesthetic (Katrina Estok)**

The purpose of this paper is to both describe Arvo Pärt's post-1976 tintinnabuli style and respond to recent criticisms leveled against Pärt. Descriptively, Pärt's tintinnabuli aesthetic juxtaposes two voices in order to reveal how prayer and sacrament enable the individual to transcend the tension between time and timelessness, temporality and eternity, and earthly suffering and divine forgiveness. While several critics claim that Pärt's aesthetic represents both the retrogressive anti-aesthetic and an escape from rather than embodiment of suffering, such criticisms ultimately indicate a misunderstanding of the Eastern Christian tradition, which is inseparable from Pärt's aesthetic. When Pärt's aesthetic is understood in the context of his theology, his music obviously challenges anti-aesthetic theoretical concepts and conveys suffering in a non-dialectical but nevertheless deeply private and meaningful manner. Centrally, this paper shows that Pärt's aesthetic must be understood in the context of the Eastern Christian tradition from which it arises.

### **Out of Tune? A Discussion of the Trajectory of Canadian Music Education in Conjunction with the Kodály (Kara Friesen)**

Music education based on concepts introduced by Zoltán Kodály has become a valued and effective component of music education for children first in Hungary, then in other countries worldwide. What makes the concepts found in Kodály methodology so effective that educators in Hungary and other parts of the world adopted them and still use them today?

### **The Musical Poetics of French Spectralism (Joel Untinen)**

The relationship between the French spectral composers and their contemporaries in 1970's France is complex. With their music and writings taken together as an object of enquiry, what Dahlhaus defines as a "system of musical poetics," a contradiction emerges between their theoretical writing and the ways in which their music can be interpreted. The spectralist musical poetic, with its modernist musical works on the one hand and its politicized writings on the other, can be seen as both a product of the historical character of its musical material and simultaneously opposed to it. This contradiction emerges from a dissolution of the modernist notion of the abstract, contained within Adorno's concept of the negative dialectic and animated by a theory of mediation. Thus, the music of the spectralists harkens back to notions of structural organicism and kindles the modernist notion of progressivism lit by Schoenberg at the turn of the century.

**12:15-1:15 pm  
Lunch in Gymnasium  
(Ticket Required,  
See Registration Table)**

**1:15-2:15 pm**

**A2131 – BEHAVIOURAL SCIENCE RESEARCH: NEW UNDERSTANDINGS OF HUMAN EXPERIENCE (Moderator: Dr. Jim Cresswell)**

**Understanding Resistance and Conformity among Racialized Immigrant Youth in the Criminal Justice System (Dr. Monetta Bailey)**

In an attempt to understand youth criminal behaviour as resistance, this paper draws on the literature which suggests that deviance among racialized and immigrant youth can be seen as resistance to marginalization from the dominant society, rather than understanding deviance as a response to material strain. This suggests that the tension between multiculturalism and belonging is one that is often produced in diverse societies, resulting in various expressions of resistance and conformity. I incorporated the literature on belonging, which is rooted in our understanding of multiculturalism and marginalization, in order to understand expressions of resistance among racialized immigrant youth. While incorporating the literature of belonging, I draw on the work of scholars who define belonging both in terms of feelings of acceptance and “feeling at home,” as well as the ability to access and express the rights, freedoms and responsibilities that are associated with full citizenship.

**Comparing Religious Nones in Canada and the United States (Dr. Joel Thiessen)**

At present nearly one-quarter of Canadian and one-fifth of American adults claim to have no religion, with even larger figures present among North American teens and young adults. As scholars explore this growing phenomenon on either side of the 49th parallel, little has been done to compare religious nones in Canada and the United States. By means of a secondary analysis of existing Canadian and American General Social Survey data, this paper will address 1) what trends exist regarding the past and current rates of religious nones in the two countries; 2) how these rates vary by region within and across nations; 3) the extent to which the demographic composition of the Canadian and US nones are similar or different; and 4) which of the major frameworks used in sociology of religion and religious studies help us better understand and explain religious nones in North America.

**Local Motion Signals Integration Determines Global Kinetic Pattern Perception (Dr. Alan Ho)**

A rotating 2-dimensional (2D) ellipse about its center can produce three alternating 2D and 3D visual percepts in human observers over a prolonged viewing session. However, the underlying neural mechanism producing such perceptual switches is not well understood. By breaking down the outline of an ellipse that is rotating at a constant speed into sixteen evenly separated short segments (of 12 min arc in thickness) that all appeared to move to-and-fro from its center of rotation, and adding tangentially moving random dots inside all segments which common speed could be systematically varied over different test conditions, we were able to 1)change the perceived rotational speed of the ellipse, and 2)differentiate the conditions under which the visual system integrates local motion signals over the stimulus space to produce different global percepts.

## **A2133 – THE CHEMISTRY OF TOMORROW (Moderator: Dr. Liza Abraham)**

### **Synthesis of Iron Nanoparticles (Youseff Wahba)**

The applications of iron nanoparticles are numerous, ranging from magnetic data storage and resonance imaging (MRI) to the treatment of industrial sites contaminated with chlorinated organic compounds. We followed a number of different methods for preparing iron nanoparticles (e.g. using a solution of Fe<sup>3+</sup>/Fe<sup>2+</sup>, as well as FeCl<sub>2</sub>·4H<sub>2</sub>O with green tea). We characterized the iron nanoparticles that were obtained using Ultraviolet–visible spectroscopy. We also tested the nanoparticles using a number of different compounds and dyes, in order to observe their reactivity, and thereby determine the method that leads to the formation of the most effective (practically usable) iron-nanoparticles.

### **Design and Development of a Natural Preservative (Teagan Warkentin)**

In regards to the theme World After Tomorrow I will be looking into a natural preservative design. Natural compounds can be less dangerous and healthier for human skin and consumption and can be used instead of the manmade compounds used today. By using four microorganisms: E. coli, Streptococcus aureus, Candida albicans, and Aspergillus niger I can test different natural compounds in preserving a face cream. For my project I will be testing lipids/fatty acids: onocolic acid, and lauric acid. I will also be comparing them the popular preservative potassium sorbate. I will also be testing 6 essential oils (to be determined), and proxy ethanol against all four organisms. Combinations will then be determined to see which one kills all four microbes the best. Because this project will be ongoing after the conference I will be presenting the results for E. coli, a gram negative bacterium, and hopefully most of the results for Streptococcus aureus, a gram positive bacterium.

## **A2210 – AUTHOR MEETS CRITICS: REVIEW OF DR. GORDON T. SMITH'S BOOK, *INSTITUTIONAL INTELLIGENCE: HOW TO BUILD AN EFFECTIVE ORGANIZATION* (Moderator: Dr. Kyle Jantzen)**

Following preliminary comments from Dr. Gordon T. Smith on his book, *Institutional Intelligence: How to Build an Effective Organization*, three Ambrose faculty, Drs. Jim Cresswell and Jonathan Goossen, and Mark Buchanan, will critique this book. At the conclusion of their presentations, Dr. Smith will give a response. In this book, Smith unpacks the core of institutional intelligence - the wisdom of working effectively within an organization. At the same time, he shows how team leaders, directors, executives, board members, key stakeholders, and employees can avoid what is often their greatest source of stress on the job - working with the institutional character of their organizations. Focusing on the non-profit sector, Smith unlocks the essential elements of how institutions function in a productive, healthy manner. Church staff, educators, and those in service agencies can all thrive by understanding these dynamics instead of fighting against them. By developing this essential vocational capacity, we and those around us can not only fulfill ourselves but also a mission that is larger than we are.

**G2195 – MUSIC AND A BETTER TOMORROW  
(Moderator: Mr. Edwin Gandt)**

**Singing for Respiratory Health: The Future of Music and Medicine  
(Dr. Rachel Goldenberg)**

According to data from the Canadian Institute for Health Information, over 64,000 people in Alberta are living with chronic obstructive pulmonary disease (COPD). Only 1000 of those patients have publicly funded access to ongoing rehabilitative care, leaving many people in limbo. With an aging population, the number of people living with lung disease is expected to increase dramatically. Singers learn to control their breath both on inhalation and exhalation as they meet the demands of the music. Furthermore, singers learn about alignment and movement, becoming aware of their bodies. In this presentation, we will explore the similarities between singing and respiratory physiotherapy, including the many physical principles that make singing a viable form of airway clearance. We will also present preliminary data from the “Breathe, Sing, Move!” program, which combines singing lessons with physiotherapy to promote better lung health.

**“The Voices of the Future”? Vocal Synthesis Technology in Live Musical Performance (Alyssa Michaud)**

In 2003, Yamaha Corporation released Vocaloid, a vocal synthesis program marketed as a “singer in a box.” Although expected to sell only a handful of copies to studio professionals, the application became an unexpected success with amateurs, and a large user community coalesced online, collaboratively producing highly polished works. In 2009, the first live concert featuring a holographic performer with synthesized vocals took place in Japan, and Vocaloid concerts reached U.S. shores in 2011. Recent scholarship on virtual performance has examined the feelings of discomfort and detachment that non-human performers can cause for viewers, and Vocaloid concerts have drawn similar criticisms from reviewers. This paper connects Vocaloid to histories of similar automation-related anxieties in music, comparing the cultural narratives surrounding this new technology with those in the past, and shedding light on a shift in the way amateurs in the 21st century use technology to create music and build community.

**2:15-2:30 pm  
Break and Posters on Display  
in Lower Atrium**

## **2:30-3:15 pm**

### **Airhart – PLENARY SESSION: THE WORLD AFTER TOMORROW: THE FUTURE OF EDUCATION (Moderator: Dr. Pam Nordstrom)**

In this session, Dr. Pam Nordstrom moderates a conversation with Drs. Gordon T. Smith and Sherry Martens about the future of education.

## **3:15-3:30 pm**

### **Break and Posters on Display in Lower Atrium**

## **3:30-4:30 pm**

### **A2131 – ENABLING HUMAN FLOURISHING THROUGH RESPONSIBLE BUSINESS PRACTICES (Moderator: Dr. Randy Poon)**

#### **How companies use Workspace Design to Impact Entrepreneurial Outputs and Workplace Behavior (Marlin Adhikary, Carter Bergen, Zander Coutts)**

The purpose of this research paper is to reveal a correlation between how a thoughtfully designed workspace contributes to creative collisions, employee wellness, and entrepreneurial outputs. By analyzing the top 150 acclaimed companies and projects who have been recognized for their workspace designs, we have established a rubric for how we examine the impact of a workspace. Using this information, we also established a list of the 10 companies that have done this best. We have collected this information using online resources and contacting individuals within some of these companies. Our research considers studies within the Industrial Psychology, Mental Health, and Design fields to build an understanding of the impact design has. The researchers on this team comprise of three co-founders of a corporate consulting firm that helps companies implement smarter workspaces.

#### **International Supply Chains and Human Rights: Holding Canadian Companies Accountable (Ashley Heigold and Angie Redecopp)**

To what extent are Canadian companies responsible for their supply chains and is slavery disclosure legislation a viable tool to regulate it? There has been an increase in litigation against Canadian companies by foreign claimants; international conventions and frameworks (soft law) on business and human rights; and pressures from both the public and peers in some industries to clean up supply chains. It seems that the responsibility of Canadian companies for their supply chains is increasing. The UK's Modern Slavery Act and California's Transparency in Supply Chains Act hold companies accountable through mandated public disclosure. Could this work in Canada? What should such legislation contain if enacted here? Hear from Ashley Heigold, a senior business student doing an independent study in advanced business law and Angie Redecopp, former lawyer and Ambrose professor who prepared a brief on this for a federal government working group.

## **A2133 – TOMORROW’S PEDAGOGY IN EARTH AND SPACE SCIENCE (Moderator: Dr. Stephen Jeans)**

### **Tomorrow’s Pedagogy in Earth and Space Science: Integrating and Learning from Academic Disciplines (Dr. Stephen Jeans)**

Unconventional pedagogical approaches in science education, assignments that incorporate an open-ended component, potentially produce a successful course product and perhaps motivate students to a richer exploration of academia (Jeans and Charter, 2017). The impact of this approach for future Earth and Space Science curricula led the instructor to further explore three aspects of that academic undertaking with a sample of participants, questioning: the significance of the open-ended component, what was learned and/or valued about the process, and what knowledge, skill, and/or attribute might be taken into the future. Case examples from a data set of 512 students back analysis and ground discussion on the questions addressed, and for findings from the sample participants the instructor utilizes assignment feedback along with scrutiny of participant self-reflection. Conclusions suggest the value to tomorrow’s teaching from risks taken today and inform a pedagogy based on permitting the incorporation of other disciplines with science education.

### **Preparations for Teaching Others about Science: Solutions that Ought to Connect the Dots (Kara Friesen)**

Science students are eager learners, in examining telescopes at observatories or completing assignments. But what about students of other disciplines who are fulfilling a science requirement, can an assignment engage them too? This report provides first-hand observations from such a student learning science by developing and relaying astronomy knowledge to others in a dot-to-dot puzzle about a constellation. The activity drew out three findings. Student learning was evident because a component of astronomy was well understood, enough to confidently identify some difficult areas of a constellation in the night sky. Student engagement was evident because of the decisions that needed to be made to incorporate a large volume of details into the puzzle without making it too difficult for others to use. Student becoming teacher was evident as review of the puzzle by the professor and peers became solutions for remaking a learning activity that is more user-friendly and instructive.

### **Student Exploration with a Future Focus: Characterization Communicating about Content (Daniel Osah)**

Can science course content be combined with a personal creative interest, and perhaps in doing so, reveal practical lessons to bolster success in other academic studies? Self-reflection by a science major explores the fusion between learning about the naming of astronomical phenomena (which has a mythology base) with a passion for art and design. Truly “astronomical” in scope, astronomy requires time and structure to comprehend. Therefore, valued choices made about the assignment are; following a personal passion which allows a student to zoom into an aspect for study that fits, and starting the assignment work early in the term. The scale of difficulty varies with each assignment part, so peer review and feedback is a valuable consideration discussed also. Lessons learned to support future academic work include; technological limitations ensuring the product can be created, and to pace the project ensuring that it is done well along with having fun.

### **The Expanding Landscape of the Learner: Insights on Appreciating Science Education (Janelle Slingerland)**

Reviewing contributions that open-ended assignments made to understanding and skills development, an undergraduate questions what insight natural science disciplines might have for a student of photojournalism. Extending an interest in landscape photography and applying that hobby to a new skill of astrophotography were among the learning objectives. Other than for comprehending science fiction, science literacy can be overlooked. Interpretation of landscapes altered through geology along with amazing photographs that connect learning of the stars, moon phases, planets, and constellations are outcomes of great value. The insight learned is that applied knowledge is gained if the participant can move out of their comfort zone. Enjoyment of learning now seen in connections to English Literature, the writing of poets and authors about stars and mountain or coastline descriptions, links processes imagined of natural formation along with appreciation for science of the beauty — God's gift of geology and astronomy to interpret creation.

### **The Hopeful Future of Science Education: Reflection on the Past Enriches Astronomy Teaching (Isaac Steffan)**

In this presentation a science major demonstrates how modern astronomy linked with ancient claims in faith texts can enrich both within an integrated course assignment. Asking; are things that happened a long time ago, but not records of science, still important to include in the undergraduate science classes delivered at university now and into the future? The value of two findings helps to address this question; first that science is objective, and second that there can be an intrinsic link between science and other disciplines. The foundation of science is discussed, discovering order in nature to determine what might have been. However, from the very first scientists this discipline has searched out what matters, to understand nature, using processes of science (e.g., through mathematical formula) while often combining research from another discipline (e.g., ancient reports of a matter taken from religious texts). Therefore, science need not be an isolated study.

## **A2141 – NEW RESEARCH IN HISTORY (Moderator: Dr. Kyle Jantzen)**

### **Canadian Pop Culture and National Identity: Stuart McLean’s “Vinyl Cafe” (Nolan Ens)**

Drawing on the recent historiography of Canadian popular culture and national identity, this paper will examine Stuart McLean’s award-winning “Vinyl Cafe” radio show to consider ways in which its stories, essays, and songs both reflect and contribute to Canadian identity.

### **Placing Memory in High River’s Built Environment (Jennifer Matte)**

Based on an analysis of oral history interviews, this paper will explore significant memories of High River residents to understand how residents “place” their memories in the local landscape. In doing so, it will identify common stories, themes, places and spaces which have shaped the High River’s collective memory and communal identity.

### **Cricket: A Case Study in Alberta’s Sporting History (Daniel Randell)**

Drawing on historic newspaper coverage in various Alberta communities, this paper will explore Alberta’s historical affiliation with England’s national sport. It will consider ways in which cricket’s early twentieth-century decline corresponds with the rise of baseball across the province, ultimately leading to the virtual extinction of cricket in Alberta.

### **Chaos, Challenge, and Cooperation: An Inquiry into Post-War Ethnic German Migration and Resettlement in Canada (Roland Weisbrot)**

This paper explores the experiences of ethnic German refugees who immigrated to Canada after the Second World War, between 1947 and 1960. Utilizing oral history interviews, this paper investigates how German refugees and immigrants actually experienced their transition to Canadian life, which was often more traumatic than would have seemed at the time.

## **A2210 – CHRISTIAN STUDIES II (Moderator: Dr. Rob Snow)**

### **The Role of Voice in the Experience of God (Amy Lemke)**

Voice is the central instrument of Christian communication and worship. Scripture repeatedly demonstrates the importance of the voice in a person’s experience of God, but in a variety of guises: the narrative voice of the writer, the spoken conversations between God and his people, the sung praises of the community, the words of prayers inspired by a groaning Spirit, and the linguistic confusion of Babel reversed at Pentecost through the unifying gift of tongues. In each of these situations, the voice plays a significant but discreet role in the divine-human exchange. This paper asks: what is the nature of the role of the voice in the experience of God? The voice is central to the human experience of God because, in the divine-human relationship, it is a key means through which personal transformation is expressed and enacted.

### **The Life before Death – How Funerals are Changing (Ron Baker)**

Our society's values and changing mores (the characteristic customs and conventions of a community), are reflected in current funeral practices. Funeral directors in our society are charged with the active work of oversight of funerals. Their observations, practices and concerns are invaluable in exposing current societal shifts. The study will comprise the following: (a) A select overview of funeral practices impacting Western funeral traditions; (b) A recognition of five current influences on funeral traditions: individualism/existentialism, immigration/pluralism, respect for/sanctity of life, loneliness/geographic alienation, authority/responsibility; (c) A suggestion for ministry preparation related to funeral practices in the current cultural setting.

## **G2195 – MUSIC AND FAITH INTERSECTIONS (Moderator: Mr. Ian Charter)**

### **What Do You Hear? (Katrina Friesen)**

Injustice fills our world, and God hears the cries of not only people, but things. The Bible speaks of wages, blood, and all of creation groaning and crying out to God in situations of injustice. Come hear a discussion of my choral composition "What Do You Hear?", which gives voice to these cries God hears and challenges us to open our ears to hear what God hears. What will these social justice issues look like in the world after tomorrow? Are we willing to first hear of them so we can tune our ears to them in the world around us?

### **Structurally Sound: Exploring the Relationship of Music and Architecture in the Church (Hannah Willmann)**

Considering music as "liquid architecture" and architecture as "frozen music" offers us a potent means for identifying cultural values in spaces designed for musical performance. The relationship between church architecture and worship music reveals the beliefs and values of a church body and its interaction with the culture in which it is established. This paper incorporates case studies of contemporary and historic churches in Calgary. Through these case studies, I will show that musical repertoire, architectural design and external cultural factors function as mutual influences, not as independent entities. Famous historical churches from Italy are also considered as archetypes of mutual musical and architectural influence. In this paper I will consider how our worship and architecture might engage our culture in the world after tomorrow.



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