## Wheaton College (2009)

Introduction

**Conference Program** 

17th ACMS Conference Schedule p. 1

Abstracts for Invited Talks p. 3

Abstracts for Contributed Papers p. 5

# **Contributed Papers**

- A Vision for ACMS p. 7 James Bradley, Calvin College (emeritus)
- Exploring the Limits of Computing Through Exhaustive Search p. 16 Jeffrey L. Lehman, Huntington University
- Algebra Investigator p. 25 Al Hibbard, Central College
- Sage: Math in Your Dorm Room, from Calculus to Research p. 31 Karl-Dieter Crisman, Gordon College
- Fire! Lessons Learned and Applied to Computer Systems p. 35 Kim P. Kihlstrom, Westmont College
- Supplemental Vocabulary Acquisition in the Desymbol Logic Translator p. 41 Darren F. Provine and Nancy Lynn Tinkham, Rowan University
- Monoids for Math Majors p. 45
  Brian D. Beasley, Presbyterian College
- Unwind with Knots p. 50 Catherine Crockett, Point Loma Nazarene University
- About Furuta's inequality and Aluthge transform on pseudo-Hilbert spaces p.
  61
  - Loredana Ciurdariu, "Polytehnica" University of Timișoara
- Approximating Sums of Infinite Series p. 74 Kara garrison and Thomas E. Price, The University of Akron
- A Quick Way to Find Arc Length Between Two Points of the Logarithmic Spiral p. 84
  - Peter Rothmaler, College of DuPage
- The Heavens and the Scriptures in the Eyes of Johannes Kepler p. 89 Dale L. McIntyre, Grove City College
- The Development of Mathematical and Spiritual Maturity in the Undergraduate Mathematics Curriculum p. 105 Angela Hare, Messiah College

- Arithmetic Sequences, Diophantine Equations and the Number of the Beast p. 115 Bryan Dawson, Union University
- Professor Peacock's Symbolical Algebra: Glimpses into the Life and Work of a Mathematical Reformer p. 122 Richard Stout, Gordon College
- Galileo's Solution to Dante's Riddle p. 132 Andrew Simoson, King College
- Toward a Christian Modal Structuralism p. 140 Walter J. Schultz, Northwestern College
- Can Critical Thinking be Redeemed p. 150 Jeremy Case, Taylor University
- History of Mathematics in the Service of School Mathematics Education p. 158
  - Calvin Jongsma, Dordt College
- Integrating Dynamic Software into Geometry Courses at Middle School, High School, and College Levels: Ten Lesson Plan and Instruction Materials Units Incorporating Geometer's Sketchpad p. 161 Jamie Blauw, Lauren Zylstra, and Dave Klanderman, Trinity Christian College
- Are Mathematical Entities Real? p. 166 Phillip E. Lestmann, Bryan College
- A Career Preparation Course for Students in Mathematics and Computer Science p. 172
  - Donna Pierce and Peter A. Tucker, Whitworth University
- Discussing Vocation as a Part of a Senior Capstone Class p. 183
  Maria Zack, Point Loma Nazarene University

2009 ACMS Conference Photograph p. 213

List of Participants p. 192

# Messiah College (2007)

Introduction p. 3

Conference Program p. 4

Parallel Session Schedule p. 7

Christian Perspective: Mathematics and Computer Science

- Chaos Theory and Metaphysical (In) Determinism p.
  9
  - Tim Rogalsky, Canadian Mennonite University
- Integrating Moral and Spiritual Themes in Middle School and High School Mathematics Teaching Units p. 21

Dave Klanderman, Trinity Christian College, and Sean Bird, Convenant Christian High School

- Portrayals of Mathematicians in Culture p. 26 Jeremy Case, Taylor University
- Six Ways, Yea Seven, that Scripture is Integral to our Science and Math Classes p. 29 Sean Bird, Covenant Christian High School
- The God-Fearing Life of Leonhard Euler p. 35 Dale McIntyre, Grove City College

**Computer Science** 

- Connection-Oriented Computer Science Education p. 47
  - Kim Kihlstrom, Westmont College
- Integrating Ethics into the Database Course With a Focus on Data Modeling and Normalization p. 61 James F. Glasgow, Malone College

Curricular Issues

- Breathing Life into the Liberal Arts Math Course: Ten Teaching Tips p. 74 Mark Colgan, Taylor University
- Tanzania, Mathematics, and Me: Reflections from my work with Tanzanian Teachers p. 78 Mandi Maxwell, Trinity Christian College
- Teach a Course in the Math of Voting and Choice p. 85
   Keel Dieter Griemen, Gonden College
  - Karl-Dieter Crisman, Gordon College
- Write about Mathematicians in Non-Major Courses p.89
   Karl-Dieter Crisman, Gordon College

Mathematics

- Bach (to the Calculus of) Variations p. 92 Charles Hampton, The College of Wooster
- Counting Tulips: Three Combinatorial Proofs p. 102 Eric Gossett, Bethel University
- Exploring Loci In Geometry p. 114 Owen Byer and Deidre Smeltzer, Eastern Menonite University
- Mathematical Knowledge and Liebniz' Epistemology p. 141 Jonathan Zderad, Northwestern College
- Optimize Your Math Services Through Networking
  p. 148
  - Patrice Conrath, Bethel University
- Trigonometry Without Sines and Geometry Without Angles p. 150 Phillip Lestmann, Bryan College

Mathematics Aesthetics

• The Beautiful and Sublime in Mathematics p. 162 Paul Zweir, Calvin College

Philosophy and Mathematics

- An Augustinian Perspective on the Philosophy of Mathematics p. 163 James Bradley, Calvin College
- Modeling Growth in Christian Evangelism p. 173 Marvin Bittinger, Indiana University / Purdue University
- Rules and Insights: Connecting the Mathematical and Linguistic Abilities of C.S. Lewis p. 183 Kim Jongerius, Northwestern College
- Vocation and the Ordinary Christian p. 190 Greg Crow and Maria Zack, Point Loma Nazarene University
- Voltaire: A Study in Finding a Needle in a Haystack p. 204 Andrew Simoson, King College

List of Participants p. 211

Conference Photograph p. 213

# Huntington University (2005)

Introduction p. 7

Conference Program p. 9

Invited Address

• Nicole Oresme and His Mathematics p. 17 Fernando Q. Gouvêa, Colby College

Philosophy and Mathematics

- Review of John Byle's Book Entitled The Divine Challenge p. 37 Russ Howell, Westmont College
- Mathematics from a World-View Perspective p. 41 Jonathan Zderad, Northwestern College
- Does the Success of Mathematics Defeat Naturalism?
  p. 55
  Russell W. Howell, Westmont College
- Mathematics as Poesis: A Preliminary Project Report p. 63
   Sam Stueckle, Trevecca Nazarene University, Troy Riggs, Union University, and Jeremy Case and Ken Constantine, both of Taylor University
- Jesus, Plato, Math, and Theology p. 71 Paul Moffet, Canadian Mennonite University (student)

Christian Perspective and Mathematics and Computer Science

- Bibliography of Christianity & Mathematics p. 81 Gene B. Chase, Messiah College
- The Consequences of Believing in an Infinite God p. 89
  - John Noonan, Mount Vernon Nazarene University
- Reflections upon the Relationship Between Mathematical and Biblical Truth p. 93 Dale McIntyre, Grove City College
- Integration of Faith, Learning, and Christian Vocation with First-Year Mathematics Majors p. 99 Doug Phillippy & Angela Hare, both of Messiah College
- A Christian Constructivist? The Impact of Worldview on Learning Theories and the Mathematics Education Research Community p. 109 Dave Klanderman, Trinity Christian College and Jeffrey Barrett, Illinois State University
- Call for a Non-Euclidean, Post-Cantorian Theology p. 115
  - Saburo Matsumoto, The Master's College
- Blaise Pascal Mathematician, Mystic, and Disciple p. 137
  - Tim Rogalski, Canadian Mennonite University
- Filtering the Bible and Filtering Spam p. 145 Gene B. Chase, Messiah College

History of Mathematics

- Integrating Catholic and Marianist Historical Perspectives in a Mathematics Course for Elementary Education Majors p. 159 Mary Wagner-Krankel, Saint Mary's University
- Teaching the History of Mathematics Using Architecture and Art p. 173 Maria Zack, Point Loma Nazarene University
- James Clerk Maxwell and Why Read Biographies p. 179
   Sean Bird, Covenant Christian High School
- VI.31: A Generalization of the Pythagorean Theorem p. 193 Tim Sipka, Alma College

Mathematics

- Determinants and Zero Divisors in Rings of Matrices p. 199
   Gary Raduns, Roberts Wesleyan College
- Visualizing the Fourth Dimension p. 205 Steven Lay, Lee University
- The Artificial Gravity Pitch p. 217 Andrew Simoson, King College
- Explicit Null Space of the Discrete Laplacian p. 229 Hanna VanderZee, University of Illinois - UC
- The Other Side of the Equation: De-simplification, a Prerequisite for Calculus p. 237 Stephen Brown, Olivet Nazarene University

## **Computer Science**

- The Five Orders of Ignorance: Knowledge, Ignorance, and the Nature of Software p. 243 Phil Armour, Corvus International inc/Number Six Software
- Asserting CS != Can't Socialize: Building Community in a Computer Science Program p. 249 Kim Kihlstrom, Westmont College
- Object Information Repository in Christian Theory of Technology p. 259
   Longy O. Anyanwu, Trinity Christian College
- Artificial Intelligence: Can we Create Machines in Our Own Image? p. 271
   Derek Schuurman, Redeemer University College
- Technology and Formation: How Does Computing Shape Us? p. 277
   Cary G. Gray, Wheaton College

#### Curricular Issues

- A Christian Perspective for a First Course in Calculus p. 285
   Darrell E. Allgaier, Grove City College
- Writing math lessons that integrate Christian beliefs: The Kuyers Institute Grant Project p. 289

Dave Klanderman, Trinity Christian College, & Gary Talsma, Calvin College

List of Participants p. 295

Conference Photograph p. 299

# Point Loma Nazarene University University (2003)

Introduction, p. 5

Conference Program p. 7

Invited Address

 Light Meals and Morsels from Mathematics Magazine p. 10 Paul Zorn, St. Olaf College

**Christian Perspectives** 

- Making Connections: Using Analogies to Enrich Understanding of Mathematical Ideas and Biblical Truths p. 17 Ron Benbow, Taylor University
- A Christian Perspective on Mathematics History of Mathematics and Study Guides p. 27 Johan H. de Klerk, Potchefstroom University
- General-Education Mathematics Course from a Christian Perspective p. 34 Saburo Matsumoto, The Master's College
- Mathematics, Science, and George MacDonald p. 46 David L. Neuhouser, Taylor University
- The Inverse Problem: Christianity through a Mathematical Lens p. 59 Sharon K. Robbert, Trinity Christian College
- Non-Random Equidistant Letter Sequence Extensions in Ezekiel p. 69

Richard E. Sherman, Consulting Actuary and Nathan Jacob, Bar-llan University

- Mathematics and the Love of God: An Introduction to the thought of Simone Weil p. 89 Scott Taylor, UCSB
- Creationism A Viable Philosophy of Mathematics p. 98
   Jonathan Zderad, Northwestern College

Talks in Computer Science

- A Christian Appraisal of Stephen Wolfram's A New Kind of Science p. 110 Gene B. Chase, Messiah College
- Artificial Service vs. Artificial Servants p. 120 Wayne Iba, Westmont College
- Men Are From The Server Side, Women Are From The Client Side - A Biblical Perspective On Men, Women and Computer Science p. 126 Kim Potter Kihlstrom, Westmont College

Mathematical Gems

- Linear Regression as a 1-Variable Optimization Exercise p. 138 Ken Constantine, Taylor University
- A Pseudo-History of Number Systems (or The Way Mathematicians Wish the Number Systems Had Been Invented Because It Makes a More Cohesive Story)
   p. 142
   Richard Laatsch, Miami University (RT)
- Some Fibonacci Gems p. 143
  Peter Rothmaler, College of DuPage

Talks in Mathematics

- Mathematical Models and Reality p. 146 John Byl, Trinity Western University
- What is Random Event? A Project for Finite Math or Statistics p. 162 Jeremy Case, Taylor University

- The Search for the Real Josephus Problem p. 66 Eric Gossett, Bethel College
- Slippery Order: Mathematical Alternatives to Blind Chance and Necessity p. 173 Troy Riggs, Union University
- A Greater Tantalizer p. 178 Andrew Simoson, King College

Talks in Mathematics Education

- Learning To Construct Proofs In A First Course On Mathematical Proof p. 188
   Peter R. Atwood, Cornerstone University
- Exploiting the Confidence Interval-Hypothesis Test Equivalence in Basic Statistics Classes p. 197 Ken Constantine, Eastern Nazarene College
- Integrating Laptops into a Mathematics Curriculum p. 201
   Dr. Mary Wagner-Krankel, St. Mary's University

Saturday Sermon Text

• SOS Checks and Career Management p. 206 Russell W. Howell, Westmont College

List of Participants p. 211

# Calvin College (2001)

Introduction, p.3

Conference Program, p.5

Invited Address

• Why Natural Selection Can't Design Anything, p.9 William Dembski, Baylor University and the Discovery Institute Christian Perspective on Mathematics

- Theism and Mathematical Realism, p.33 John Byl, Trinity Western University
- Mathematics as Worship, p.49 David Stucki, Otterbein College
- Integration of a Christian Perspective in the Mathematical Sciences, p.57 Johan de Klerk, Potechefstroom University
- What Mathematical Paradoxes Teach Us About Paradoxes in Christianity, p.67 Paul Bialek, Trinity International University
- Parables for Mathematicians: (with Good News for Curved Beings), p.73 Ashley Reiter Ahlin, University of Chicago
- Mathematics Memory Verses: Weekly Devotionals for Math Class, p.79 Mark Colgan, Taylor University

Talks from Teaching Experiences

- Three Problems from Number Theory, p.83 Robert Brabenec, Wheaton College
- Mathematics Study Abroad Trips, p.91 Maria Zack, Point Loma Nazarene University

Talks with a Mathematical Focus

- Gravitational Acceleration in Hades, p.97 Andrew Simoson, King College
- On Periodic Points of Maps of Trees and the Expansive Property, p.109
   Fred Worth, Henderson State University
- The Soviet Concept of Correlation of Force, p.115 James Bradley, Calvin College

A Paper from Computer Science

• ThML: Theological Markup Language for the Christian Classics Ethereal, p.123 Library, Harry Plantinga, Calvin College Abstracts of Other Talks, page 139

List of Participants, page 144

## Gordon College (1999)

INTRODUCTION

## CONFERENCE PROGRAM

#### ABSTRACTS OF INVITED PAPERS

- "Euler's Sums and Euler's Crumbs", p.1 William Dunham, Muhlenberg College
- "The Calvin Center Writing Project", p.3

#### PAPERS WITH A PHILOSOPHICAL EMPHASIS

- "The Deconstruction of Mathematics", p.7 David Stucki, Otterbein College
- "Determinism, Chaos, and the Meaning of Randomness, or Quantum Theory and the Sovereignty of God", p.22 John Wicks, North Park University

# PAPERS WITH A CHRISTIAN EMPHASIS

- "Willing the Will of God", p.42 Harold Heie, Center for Christian Studies
- "Can Mathematics Be Taught in a Christian Way?", p.59
   Johan H. de Klerk, Potchefstroom University
- "Lewis Carroll: Author, Mathematician, and Christian", p.64 David L. Neuhouser, Taylor University, page 64

#### PAPERS ON MATHEMATICAL TOPICS

- "Hyperbolic Geometry and Poincare's Half-Plane Model", p.81 Robert Frank, Seton Hill College
- "Using Mathematica to Explore Abstract Algebra", p.96 Al Hibbard, Central College
- "Noncommutative Algebraic Geometry", p.111 Dennis Keller, University of Michigan
- "Tracking the Trochoid on Safari", p.115 Andrew Simoson, King College
- "On the Solutions of a Family of Sextic Thue Equations", p.129 Alain Togbe, Greenville College

# **REPORTS ON SOME EXPERIENCES**

- "A Mathematician at the Science and Theology Book Club", p.138
   Greg Crow, Point Loma Nazarene University
- "Doubt and Certainty-A Book and Idea Review", p.141
   Richard Laatsch, Miami University (Ohio)
- "Teaching Linear Algebra and Abstract Algebra With Two Way Video and Audio", p.146 Edward Reinke, Concordia University (Nebraska), page 146

# BOOK REVIEWS

- "Fashionable Nonsense: Postmodern Intellectuals' Abuse of Science", p.148 Alan Sokal and Jean Bricmont reviewed by David J. Stucki, Otterbein College
- "An Imaginary Tale: The Story of ?-1", p.149 Paul J. Nahin reviewed by Michael O'Leary, Concordia University (Illinois)
- "Revolutions in Mathematics", p.150 edited by Donald Gillies reviewed by Kevin Vander Meulen, Redeemer College
- "The Man Who Loves Only Numbers: The Story of Paul Ernos and the Search for Mathematical Truth",

p.151 Paul Hoffman reviewed by Maria Zack, Point Loma Nazarene University "The Language of Mathematica: Making the Invi

- "The Language of Mathematics: Making the Invisible Visible", p.153 Keith Devlin reviewed by Charles Hampton, The College of Wooster
- "Virtual Gods: The Seduction of Power and Pleasure in Cyberspace", p.155 edited by Tal Brooke reviewed by Jonathan R. Senning, Gordon College
- "The Number Sense: How the Mind Creates Mathematics", p.157 Stanislas DeHaene reviewed by Mary Vanderschoot, Concordia College (Minnesota)
- "Math: Facing an American Phobia", p.159 Marilyn Burns reviewed by Stephen L. Brown, Olivet Nazarene University
- "The Philosophy of Mathematics", p.166
  W.S. Anglin reviewed by Richard D. Rockwell, Pacific Union College

LIST OF CONFERENCE DELEGATES, p.167

CONFERENCE PHOTOGRAPH, p.171

Wheaton College (1997)

INTRODUCTION

# CONFERENCE SCHEDULE

### **INVITED PAPERS**

- "Circles of the Gods: Copernicus, Kepler, and the Ellipse", p.1
   Owen Gingerich, Smithsonian Astrophysical Observatory and Harvard University
- "Hypothesis, Proof, and Censorship or How Galileo Changed the Rules of Science", p.7 Owen Gingerich, Smithsonian Astrophysical Observatory and Harvard University

## PAPERS ON TEACHING

- "A Tale of Two Transitions", p.17 David Klanderman, Trinity Christian College, Sharon Robbert, Trinity Christian College, and Robert Wheeler, Northern Illinois University
- "An Investigation of the Behavior of Calculus Students Working Collaboratively in an Interactive Software Environment", p.31 Angela Hare, Messiah College
- "Teaching Generalization and Reduction through an Elementary Probability Problem", p.51
   Erlan Wheeler, Carthage College

# PAPERS WITH AN INTEGRATIVE THEME

- "The Mathematical Sciences and the Mediator of Creation", p.56
   W. David Laverell, Calvin College
- "The Role of Mathematics in Culture", p.66
  W. James Bradley, Calvin College
- "Mathematics and Values: Can Philosophy Guide Projects?", p.76 Michael H. Veatch, Gordon College
- "Solomon's Sea and the Biblical II", p.91 Andrew Simoson, King College
- "Mathematics at Chartres Cathedral", p.100 Richard Stout, Gordon College

# PAPERS OF A TECHNICAL NATURE

- "Fractal Geometry and Chaos Theory: From Old Problems to New Models and Methods", p.105 Terence Perciante, Wheaton College
- "Hyperbolic Geometry with the Geometer's Sketchpad", p.116
   Robert Frank, Seton Hill College
- "On Binary Quadratic Forms", p.135 Alain Togbe, University Laval (Quebec)
- "Digital Filtering and Smoothing", p.146 Eric Gossett, Bethel College
- "Exploring Various Methods of Interpolation", p.163 Mark Roberts, Southwest Baptist University
- "Using Java and HTML for Linear Algebra Instruction", p.177 Jonathan R. Senning, Gordon College, page 177

# PAPERS WITH AN HISTORICAL THEME

- "History and Current Situation of the Russian Church", p.185 Gennadiy A. Kalyabin, Samara State Aerospace University
- "First Draft of the History of ACMS", p.196 Robert Brabenec, Wheaton College

# LIST OF CONFERENCE DELEGATES, p.201

# CONFERENCE PHOTOGRAPHS, p.205

**Taylor University (1995)** 

INTRODUCTION

# CONFERENCE SCHEDULE

INVITED PAPERS

- "Statistics, Mathematics, and Teaching", p.1 David S. Moore, Purdue University
- "Improving the Teaching of Mathematics", p.20 David S. Moore, Purdue University

## PAPERS ON MATHEMATICS

- "A Course in Mathematical Recreations", p.33 Richard Laatsch, Miami University
- "On the Miracle of the Multiplication of the Loaves and Fishes", p.40 Andrew Simoson, King College
- "Experimenting with the Calculus Laboratory Setting", p.50 Glen Van Brummelen, The King's University College
- "The Intermediate Value Theorem", p.59 Dale Varberg, Hamline University

## PAPERS ON COMPUTER SCIENCE

- "What Does a Computer Program Mean?", p.64 Gene Chase, Messiah College
- "Parallel Processing in the Undergraduate Curriculum", p.93 Bill Toll, Taylor University

#### PAPERS ON STATISTICS

- "From Data to Develop Mathematical Models", p.97 Philip Carlson, University of Minnesota
- "Drawing the Boundaries: Mathematical Statistics in Twentieth Century America", p.108 Patti Hunter, University of Virginia

#### PAPERS ON CHRISTIANITY AND EDUCATION

 "Mathematics and Theological Beliefs: A Cognitive Science Perspective", p.118 Ron Benbow, Taylor University  "Constructivism, Mathematics Education, and Christianity", p.131 Tad Watanabe, Towson State University

## PAPERS ON THE HISTORY OF MATHEMATICS

- "Katz's Book", p.143 Bill Anglin, McGill University
- "The 25 Greatest Mathematicians", p.164 Robert Brabenec, Wheaton College
- "Mathematics from the Viewpoint of Science in Context", p.175
   Johan DeKlerk, Potchefstroom University

LIST OF CONFERENCE DELEGATES, p.183

# CONFERENCE PHOTOGRAPH, p.187

# Westmont College (1993)

#### INTRODUCTION

# CONFERENCE SCHEDULE

#### ABSTRACTS

#### **INVITED PAPERS**

- "Georg Cantor and the Battle for Transfinite Set Theory", p.1 Joseph W. Dauben, CUNY
- "Abraham Robinson (1918-1974): The Man and His Mathematics", p.23 Joseph W. Dauben, CUNY

# CONTRIBUTED PAPERS--TECHNICAL

• "Knuth's (1, 2, 1) Unstacking", p.57 Paul Zwier, Calvin College

- "Using MATLAB and Mathematica in Numerical Analysis", p.67 John Mathews, Cal State Fullerton
- "Using Maple to Teach Calculus", p.81 Ken Rietz, Asbury College

# CONTRIBUTED PAPERS--GENERAL

- "A Conjectured Paradigm Shift in 21st Century Mathematics Pedagogy", p.85 Paul Isihara, Wheaton College
- "Infinity and the Absolute", p.91 Tim Pennings, Hope College
- "Devotional Reflections", p.103 Jonathan Leech, Westmont College
- "A New Look at an Old 3:16", p.107 Russell Howell, Westmont College

# LIST OF DELEGATES, p.111

# CONFERENCE PHOTOGRAPH

# Wheaton College (1991)

# INTRODUCTION

# CONFERENCE SCHEDULE

# INVITED PAPERS

- Introduction, p.1
- "The Rigorous and the Natural in Eighteenth Century Mathematics", p.3 Joan Richards, Brown University
- "Mathematical and Religious Knowledge in Nineteenth Century England", p.23 Joan Richards, Brown University

"Cantor's Concept of Infinity", p.61
 Bruce Hedman, Univ. of Connecticut at Hartford

### CONTRIBUTED PAPERS--TECHNICAL

- "Using Mathematica to Teach Calculus", p.79 Russell Howell, Westmont College
- "Real Number Representations and the Distribution of Following Segments", p.90 Ray Rosentrater, Westmont College
- "Revising the Argument from Design", p.101 William Dembski, Northwestern University

## CONTRIBUTED PAPERS--GENERAL

- "Discrete Mathematics Versus Calculus", p.146 Marvin Johnson, College of Lake County
- "A Tale of Two Mathematicians--Fourier and Cantor", p.154 Robert Brabenec, Wheaton College
- "C.S. Lewis, George MacDonald and Mathematics", p.167
   David Neuhouser, Taylor University
- "Can Mathematical Methods Yield Theological Truth?", p.176 Jan de Koning, University of Toronto
- "How Has Christian Theology Furthered Mathematics?", p.191
   Gene Chase, Messiah College

# LIST OF DELEGATES, p.209

# CONFERENCE PHOTOGRAPH

#### BOARD MEMBERS PHOTOGRAPH

Messiah College (1989)

# INTRODUCTION, p.1

## SCHEDULE, p.2

## MAIN ADDRESS

 "The Fourth Dimension and the Theology of Edwin Abbott Abbott", p.3 Thomas F. Banchoff

## BIBLIOGRAPHIES

- Thomas Francis Banchoff, p.11
- Edwin Abbott Abbott, p.13

# CHRISTIANITY AND MATHEMATICS

- "Luzin & Florensky: Mathematician and Theologian in 20th Century Russia", p.16 Charles Ford
- "Newton and Saccheri: Case Studies of the Interplay of Mathematics and Religion", p.26 Tommy Leavelle
- "St. Augustine's Mathematical Realism", p.38 Paul Zwier
- "Beauty in Mathematics: Some Theological Implications", p.57 David Neuhouser
- "Teaching a Seminar on Mathematics and the Christian Faith", p.64 David Lavarell & Carl Sinke
- "Mathematics between the Lines of Ecclesiastes", p.71 Donald Josephson

# MATHEMATICS

 "The Bisexual Galton-Watson Branching Process", p.89 David M. Hull  "Simulated Annealing on NP-Complete Problems", p.104 Russell Howell

## COMPUTER SCIENCE

• "Tutorial on Prolog", p.124 Russell C. Bjork

# MATHEMATICS EDUCATION

- "Mathematical Modeling", p.145 Jefferson Hartzler
- "Written Assignments in College Freshman and Sophomore Mathematics Courses", p.153 Jean Alliman
- "Writing Across the Curriculum Using Statistics", p.156
   Carlos A. Pereria
- "Using Writing in the Mathematics Classroom", p.159 Barbara Rose

PICTURED: All attendees, p.175

# LIST OF ATTENDEES, page 177

# PHOTOS

- Edwin Abbott Abbott
- Thomas F. Banchoff
- Executive Committee of the ACMS

# Calvin College (1987)

PREFACE, p.1

MAIN ADDRESS

• "3:16--An Approach to Bible Study", p.3 Donald E. Knuth, Stanford University

## PHILOSOPHICAL PAPERS

- "A Philosophical Analysis of Formalism", p.27 Michael Detlefsen, Notre Dame University
- "An Activist Model of the Metaphysics of Mathematics", p.55
   Christopher Menzel, Texas A&M University
- "Observations on Mathematics and the Christian Faith", p.73
   David Laverell and Carl Sinke, Calvin College

# MATHEMATICAL PAPERS

- "Conic Sections in lp", p.87 Richard Laatsch, Miami University of Ohio
- "Riesz Spaces and Their Applications in Economics", p.97
   Calvin Piston, John Brown University
- "Another Look at Pick's Theorem", p.109
  Dale Varberg, Hamline University

# GENERAL PAPERS AND PRESENTATIONS

- "Mathematical Reflections: Standing on the Shoulders of Giants", p.119
   Karl J. Smith, Santa Rosa Junior College
- "Logic and Proof for Mathematicians: A Twentieth Century Prospective", p.135 Calvin Jungsma, Dordt College
- "Computer Science in Liberal Arts Colleges", p.145 James Bradley, Calvin College
- "The Role of Computer Science in a Liberal Arts College", p.149 Russell C. Bjork, Gordon College
- "Variations on a Theme", p.155
  R. Creighton Buck, University of Wisconsin

# LIST OF CONFERENCE DELEGATES

# King's College (1985)

# PREFACE, p.1

# MAIN ADDRESS

- "Artificial Intelligence?--A Christian Appraisal", p.3 Donald M. MacKay University of Keele, England
- "Selected Bibliography of Donald M. MacKay", p.31 compiled by Gene B. Chase

# OTHER PAPERS

- "On Universal Tests for the Truth of World Views: Their Existence and Identifiability", p.35 William Buttelmann and Paul Feinberg
- "Is Rational Thinking The Best Thinking?", p.53 Richard Laatsch
- "Faith and Mathematics--A Different Perspective", p.59

James Mann

- "The Significance of Formally Undecideable Propositions for the Use of Classical Logic in Theological Arguments", p.65 Gordon E. Whitney
- "Undergraduate Mathematical Modeling: When and What to Teach", p.71
   Frank Giordano and Maurice Weir
- "Panel on Computer Science Accreditation", p.77

# CONSTITUTION AND BYLAWS OF ACMS, p.79

# LIST OF CONFERENCE DELEGATES, p.83

## Wheaton College (1983)

### PREFACE, p.1

#### MAIN ADDRESSES

- "A Neuropsychodynamical Theory of Mathematics Learning", p.3
   Willem Kuyk, University of Antwerp
- "An Outline of a Complementarist Philosophy of the Sciences, with a Special Reference to Mathematics", p.19
   Willem Kuyk, University of Antwerp

#### OTHER PAPERS

- "The Activity and Application of Mathematics", p.37 R.S.D. Thomas, University of Manitoba
- "Arrogance and Humility in the Philosophy of Mathematics", p.49
   James Murdock, Iowa State University
- "A Comparative Study of Christian Mathematical Realism and its Humanistic Alternatives", p.75 Paul Zwier, Calvin College

#### DISCUSSION GROUPS SUMMARIES

- "Using Mathematical Concepts to Illustrate Scriptural and Spiritual Ideas", p.87 Robert L. Brabenec, Wheaton College
- "The Role of Creativity in Mathematics", p.91 John M. Dubbey, Polytechnic of the South Bank, London
- "One Possible Outline for a First Undergraduate Course in Philosophy of Mathematics", p.97 Harold Heie, Northwestern College, Iowa
- "Discussion on Morris Kline's book Mathematics: The Loss of Certainty", p.119 Calvin Jongsma, Dordt College

LIST OF CONFERENCE DELEGATES, p.121

# Wheaton College (1981)

### PREFACE, page 1

### MAIN ADDRESSES

- "Science as Allegory", p.3 Vern Poythress
- Response, p.25 Paul deVries
- "Mathematics as Rhyme", p.29 Vern Poythress
- Response, p.43 Paul Zwier

#### OTHER PAPERS

- "Mathematics: Freedom Within Bounds", p.47 Harold Heie
- "An Integration of Integrations of Christianity and Mathematics" - A Response to Harold Heie, p.79 Gene Chase
- "Random Variables and a Sovereign God", p.91 Lloyd Montzingo
- "Reality and Imagination in Mathematics and Religion", p.99 David Neuhouser

#### DISCUSSION GROUP SUMMARIES

- "Theology and the Philosophy of Mathematics", p.113 Russell Benson
- "Communicating Spiritual Insights in Mathematics Classes", p.119 Verbal Snook
- "Teaching Mathematics Distinctively", p.123 Paul Zwier

- "Probabilistic Ways of Thinking", p.133 Garnet Hauger
- "Some Contributions of Stanley Jaki to an Understanding of Mathematics", p.139 Paul deVries
- "Introduction to Computer Science", p.145 Millard Niver
- "Microcomputers in Mathematics and Science Courses", p.149 Carlos Pereira
- "The Development of Algebraic Structures During the Nineteenth Century", p.153 Richard Stout

# BIBLIOGRAPHY OF CHRISTIANITY AND MATHEMATICS, p.159

# DIRECTORY OF NAMES, p.171

# Wheaton College (1979)

# PREFACE, p.1

# MAIN ADDRESSES

- "Axiomatic Structure and the Method of Analysis: Shifting Styles in the History of Mathematics", p.3 Calvin Jongsma
- "Two Philosophical Problems about Mathematics", p.29
   Dr. Stephen Barker

# PAPERS FROM DISCUSSION GROUPS

- "Non-Standard Calculus", p.41 Dr. Ron Friewald
- "Implications of Recent Developments in Philosophy of Science for an Axiological Approach to

Foundations of Mathematics", p.61 Dr. Harold Heie

- "Intuitionism", p.69 Dr. Terence Perciante
- "On Kuyk's Complementarity in Mathematics", p.75 Dr. Gene Chase
- "Are Mathematical Objects Ontologically Real?", p.79
   Dr. Frank Bernhart

## PANEL DISCUSSION ON RELATION OF MATHEMATICS AND CHRISTIANITY

- Brief position paper, p.89 C. Ralph Verno
- Copies of 2 articles from Torch and Trumpet, p.91
  C. Ralph Verno
- "Mathematics and Christian Faith--Some Personal Perceptions", p.99 Richard Laatsch

# PAPERS ON TEACHING

- "Making Curriculum Decisions and the Nature of Mathematics", p.105 Dr. Paul Zwier
- "Logic in the Mathematics Curriculum", p.117 Dr. Nigel Cutland
- "Math and Society: An Introduction to Mathematical Thought", p.121 Dr. Verbal Snook
- "Computer Usage in the College Curriculum", p.139 Dick Wood

ANNOTATED BIBLIOGRAPHY PROJECT, p.145

DIRECTORY OF NAMES, p.147

## Wheaton College (1977)

#### INTRODUCTION, p.1

 "The Historical Shaping of the Foundations of Mathematics", p.3 Robert Brabenec, Wheaton College

### SESSION 1: TWENTIETH CENTURY ISSUES

- "Recent Problems in the Foundations of Mathematics", p.15
   Terence H. Perciante, Wheaton College
- "Recent Parallels Between the Philosophy of Science and Mathematics", p.27 Joseph Spradley, Wheaton College
- "Wanted: Christian Perspectives in the Philosophy of Mathematics", p.39
   Arthur F. Holmes, Wheaton College

# SESSION 2: THE NATURE OF MATHEMATICAL TRUTH

- "Of Men, Models, and Mathematics", p.49 Charles Hatfield, University of Missouri at Rolla
- "Formalizing the Liar Paradox", p.63
  Frank Meyer, Bethel College, St. Paul, Minnesota
- "Skolem's Paradox and the Predestination/Free-Will Discussion", p.75 Gene B. Chase, Messiah College

# SESSION 3: THE EXISTENCE OF MATHEMATICAL OBJECTS

- "Epistemology to Ontology", p.83 Charles R. Hampton, The College of Wooster
- "Existence in Mathematics", p.89 Willis Alberda, Dordt College
- "A Brief Introduction to Godel's Theorems", p.95 Michael Detlefsen, University of Minnesota--Duluth

• "Current Work on Mathematical Truth", p.109 Michael Detlefsen, University of Minnesota--Duluth

# SESSION 4: THE CONCEPT OF THE INFINITE

- "God: All Sufficient or Infinite", p.121 Thomas E. Iverson, Central College
- "Infinity & Reality", p.127 John W. Warner, The College of Wooster

## SESSION 5: APPLICATION TO TEACHING

- "Getting Their Interest--Initiating Students Into The Study of Foundational Issues in Mathematics", p.141 Harold Heie, Gordon College
- "The Foundations of Mathematics and the Mathematics Curriculum", p.151 Bayard Baylis, The King's College
- "A Christian Point of View", p.161
  A. Wayne Roberts, Macalester College

### VITA OF SPEAKERS, p. 169

# DIRECTORY OF INTERESTED INDIVIDUALS, p. 173