

Master's Thesis
Doctoral Dissertation
Format Guidelines

The College of Graduate Studies in association with the Michael Schwartz
Library provides this document to serve all graduate students
at Cleveland State University

The Graduate Student Services staff is in

The College of Graduate Studies
Parker Hannifin Hall, Room 218
2258 Euclid Avenue
(216) 687-9370



TABLE OF CONTENTS

	PAGE
I. PROCEDURES.....	2
Format Check	2
Final Deposit of Thesis/Dissertation	3
OhioLINK Electronic Submission.....	3
II. RESPONSIBILITIES	4
Departments and Programs.....	4
College of Graduate Studies	4
Student	4
III. ARRANGEMENT OF SECTIONS	5
Arrangement (Order) of Pages.....	5
Title Page.....	5
Copyright	6
Approval Page.....	6
Dedication, Acknowledgment.....	6
Abstract	6
Table of Contents	6
Text	7
Tables and Figures	7
Notes	7
Bibliography	8
Appendix	8
Index	8
IV. PREPARATION OF THE <i>FINAL</i> MANUSCRIPT	8
Paper	8
Typing, Hand Lettering, Corrections	8
Duplication	9
Margins.....	9
Spacing and Indentation, Pagination	9
Photographs	9
Registration of Copyright and Using Copyright Materials	10
Fees	10
Forms	10
UMI Dissertation Publishing Information	11
V. Appendix	12
A. Sample Title page (Master’s)	13
B. Sample Title page (Doctoral).	14
C. Sample Copyright page	15
D. Sample Approval page	16
E. Sample Abstract page.....	17
F. Sample Table of Contents	18-19
G. Sample List of Tables	20
H. Sample List of Figures	21
I. Sample Copyright Permission for Dissertation pages.....	22

THESIS/DISSERTATION FORMAT GUIDELINES

I. PROCEDURES

These guidelines set forth the format requirements for all masters' theses and doctoral dissertations at Cleveland State University. (For purposes of brevity and clarity, the terms "thesis" or "theses" may be used to discuss both the master's thesis and the doctoral dissertation, except in cases where the requirements differ for the two.) This document is a basic guide to format; it is not an exhaustive guide to style or the process of developing and writing a thesis. Individual departments or programs may stipulate additional requirements. For matters of format, style, and procedures not specified in this document, students should consult their thesis advisor for the format used in their area of study. It is recommended that students consult the latest edition of *MLA Handbook for Writers of Research Papers*, Joseph Gibaldi, The Modern Language Association of America, N.Y., or the *Publication Manual of American Psychological Association*, Washington D.C. (available at the CSU Library Reference Desk or online at <http://library.csuohio.edu/>). It is important to remember that the thesis/dissertation must be **consistent** both in the style employed and the format selected. Do not rely on a previous thesis, which was accepted following guidelines at that time. Thesis must meet the current guidelines in effect at the time of submission.

FORMAT CHECK

Master's thesis and doctoral dissertations must receive preliminary format approval by the College of Graduate Studies Office **prior to acceptance of the final documents for the University Library and submission of the electronic version to OhioLINK**. The thesis/dissertation should be submitted to the College of Graduate Studies Office after the thesis/dissertation committee has approved the defense of the document.

This review is intended to minimize the likelihood of thesis rejection. However, a preliminary check does not guarantee the acceptability of the final copy. To allow ample time for completing the final copies, students are to submit a hard copy, on plain paper to the College of Graduate Studies Office, well in advance of the *final* deposit deadline. Do NOT bind or staple this copy. Do NOT print on both sides of a single sheet of paper. Many students are anticipating reviews at the end of a term, PLEASE plan accordingly! Preliminary reviews are processed on a first-come first-served basis. Thesis and dissertations are reviewed in the order in which they are received. Submit the preliminary copy to the College of Graduate Studies, providing the student's name, CSU ID, telephone number and current email address. The student is sent an email of the corrections, final printing instructions, OhioLINK submission instructions and contact information.

FINAL DEPOSIT of PRINT COPIES

Once the thesis receives preliminary format approval from Graduate Studies, the student is instructed to deliver three (unless otherwise instructed) unbound corrected copies, the Notice of Completion form and where applicable, receipt of payment and the completed “Survey of Earned Doctorates”, to Graduate Studies for final approval and delivery to the University Library. The *final* deposit copies should be submitted **no later than the last week of class instruction of the semester in which the degree is to be granted**. Students are to consult the University Academic Calendar and schedule final defense dates accordingly. *Final* deposit copies (after preliminary review) **must be submitted no later than the end of the week that follows the final day of the term**. If final print copies are not received by this date, the student’s graduation term will be changed to the next term.

The Library requires **two unbound copies**, one of which **must** be of professional quality and (1) copy on standard paper, or two (2) copies of professional quality (see page 7 for paper quality). After the copies have been bound, one copy is kept on file in the University Archives and the second copy is made available for circulation in the Library. The University pays the binding fee for the two Library copies. Most departments request one copy for which the department is billed the binding fee. Students can consult their advisor or department regarding this requirement. Personal copies are the responsibility of the student.

OhioLINK ELECTRONIC THESIS DISSERTATION SUBMISSION

Submission of a single file, PDF format of your thesis/dissertation on OhioLINK is required; the degree will not be awarded until this is completed. **Your PDF may never be replaced or removed from OhioLINK.** Material in the ETD Center is considered to be a record of completed work and in most cases may not be edited after publication. Published ETD’s are generally not corrected for misspellings or typographical errors. Requests to replace the PDF of published ETD’s must be made to the College of Graduate Studies, not to OhioLINK.

Some disciplines may be exempt from the OhioLINK submission requirement. **Prior approval from the Graduate Studies Office for exemption to OhioLINK submission is required and will be reviewed on a case-by-case basis.** All students, particularly NEOMFA creative writing candidates, should carefully review OhioLINK’s ETD FAQ list at:

<http://www.ohiolink.edu/etd/faq.html#post-pub-changes>

All pages of the document, including preliminary pages, must be submitted. **Do not scan a signed approval page.** Use the un-signed typed version for the PDF file. If you upload a scanned/signed version, your submission will be rejected and you will be notified to re-submit. Information on fees for the electronic UMI submission (through OhioLINK) of doctoral dissertations is on page 9 of this handbook. Instructions for submission of the electronic PDF file to OhioLINK will be provided after preliminary review of the thesis.

The University Library provides assistance converting theses and dissertations from MS Word to PDF files. Please visit their web page at:

<http://library.csuohio.edu/services/thesishelp.html>

II. RESPONSIBILITIES

DEPARTMENT AND PROGRAMS

Departments and programs are responsible for developing procedures for the writing and approval of theses/dissertations and for establishing matters of format and style not prescribed in this document. They also are responsible for making these procedures and requirements known to students. The signatures of thesis committee members on the approval page certify that the thesis meets acceptable standards of scholarship and reflects a level of research, originality, and style appropriate for the master's/doctoral candidates. In addition, the signature of the Department chairperson on the Notice of Completion of Degree Requirements Form verifies that the student has successfully passed the oral defense of the thesis/dissertation.

COLLEGE OF GRADUATE STUDIES AND DEPARTMENTS

The student and their Department are responsible for determining that all deposit copies of theses/dissertations conform to the requirements set forth in this document. The College of Graduate Studies and the Department reserve the right to refuse for final deposit any thesis/dissertation that does not meet these requirements. The Dean of the College of Graduate Studies approves the final copy of a thesis and dissertation.

Once approved, the Notice of Completion of Degree Requirements (NOC) Form **must be signed by the Dean of Graduate Studies**. The College of Graduate Studies will distribute the NOC to the offices listed at the bottom of the form, especially to the Graduation Office, before a degree will be posted. The Library's copy of the form must accompany the unbound copies that are to be delivered to the Library for binding.

STUDENT

Students should have the "Thesis/Dissertation Proposal Approval Form" completed at the start of their thesis/dissertation registration hours (Appendix I). Once a student registers for thesis/dissertation credit, she/he must register for a minimum of one thesis/dissertation credit hour each term until the project is completed and successfully defended. The College of Graduate Studies requires that students must register for thesis/dissertation credit for the summer term only if the student intends to defend her/his degree that semester.

Format of manuscript- students are responsible for the content, scholarship, and style of their work. Students are also responsible for meeting the department's/program's standards and requirements, and format requirements of the College of Graduate Studies as outlined in this document. It is the student's responsibility to proofread the thesis and make needed corrections.

Delivery of thesis/dissertation- after *final* approval, the College of Graduate Studies will deliver the unbound thesis/dissertation copies, a copy of the signed NOC, and a cashiers receipt for the UMI Dissertation Publishing fee (when applicable) to the Collection and Database Management department in the University Library (RT 324).

III. ARRANGEMENT OF THE THESIS/DISSERTATION

ARRANGEMENT (ORDER) OF PAGES

Preliminary pages: All pages are counted however; the first page with a *printed* number on the page is the ABSTRACT. The preliminary pages are numbered using lower case roman numerals (iii, iv, v...), printed on the bottom, center.

1. Title Page (required : counted as page i, but page number is not printed)
2. Copyright (optional: if a registration is filed; the page is counted, and the number is not printed)
3. Approval Page (required: the page is counted, and the number is not printed)
4. Dedication (optional: the page is counted, and the number is not printed)
5. Acknowledgment (optional: the page is counted, and the number is not printed)
6. Abstract (required: first page with a *printed* appropriate preliminary page number. Counted as page iii without optional pages. Count all pages prior to this page for the appropriate numbering.)
7. Table of Contents (required: *printed* preliminary page numbering continues to CHAPTER I)
8. List of Tables (if any, numbering continues)
9. List of Figures (if any, numbering continues)

Text pages: All pages are counted with numbers *printed* on the bottom, center. Pages are numbered consecutively using Arabic numerals (1,2,3...) to the last page of the manuscript.

10. Text (body of thesis/dissertation begins CHAPTER I, page 1)
11. Bibliography/References/Literature Cited (numbering continues)
12. Appendices (numbering continues)
13. Index (if any, numbering continues)

TITLE PAGE: (counted as the first page, but the number is not printed on the page)

The title page includes the thesis title, the student's name, and the degree(s) already received. It also announces the degree for which the student is a candidate and the month and year in which the degree is to be awarded. For persons who hold more than one degree, the degrees should be listed chronologically. The title and student's name should be in all capital letters and double spaced on the page. The title should clearly describe the contents of the thesis. If possible, word substitutes should be used for formulas, symbols, superscripts, Greek letters, and so on (See Appendix A & B). The title appearing on the spine of the bound copies of the thesis **must not exceed 65 characters, including spaces**. If the thesis title exceeds 65 characters, an **additional** edited title must be submitted (**on a separate sheet of paper**) when the deposit copies are submitted for final approval.

COPYRIGHT NOTICE: (the page is counted, page number is not printed)

A copyright notice may be included. The copyright notice follows the title page. The essential components of the copyright notice are: copyright symbol ©, student's full legal name, and the year in which the copyright is registered by publication. The copyright notice should be centered on the page, for example: © Copyright by Ian Eric Atkinson 2008 (Appendix C). For additional information on copyrighting, refer to the government website at:

<http://www.copyright.gov/>

APPROVAL PAGE: (the page is counted, page number is not printed)

There must be **at least** two original signed approval pages to be inserted into the two Library copies of the manuscript (Appendix D). The student's thesis/dissertation chairperson and other committee members must sign the approval page **with their names and departments typed beneath the signature line**. At the discretion of the student and advisor, committees may have additional members. However, only those holding Graduate Faculty membership, or persons deemed by the University Graduate Council as qualified for Graduate Faculty membership may serve as voting members of a thesis/dissertation committee. The committee of the doctoral dissertation must have at least one external Graduate Faculty member. This could be a person who qualifies for membership on the Graduate Faculty and holds an appointment outside of the student's degree program. It is the student's choice if she/he wants original signatures for her/his personal copies of the thesis/dissertation.

DEDICATION (if any: page counted, number not printed)

ACKNOWLEDGMENT (if any: page counted, number not printed)

ABSTRACT: (first page with the appropriate preliminary, lower case Roman numeral, printed at the bottom, center of the page)

An abstract (350 words maximum) is required which summarizes the contents of the thesis. It should state the issue(s) being examined, the procedure or methods used, the results, and any conclusions that are drawn. Students should consult with their department for an appropriate style manual before writing the abstract. The abstract must be typed on only one side of the paper and be double spaced. Symbols and foreign words and phrases must be printed clearly and accurately. The abstract heading is the thesis title and student's name in all capital letters and should be centered and double spaced (Appendix E).

TABLE OF CONTENTS: (printed preliminary page numbering continues through to CHAPTER I)

A table of contents is required. Students should consult with their department chairperson/program director concerning appropriate subject matter and details to be noted. A sample of the format for the table of contents can be found in Appendix F and should be followed. Please note that chapter headings are in capital letters and are numbered with Roman numerals. Main headings are indented five spaces from the initial letter of the main headings. The terms CHAPTERS, NOTES, BIBLIOGRAPHY (REFERENCES), APPENDIX and INDEX must appear in capital letters.

TEXT: (the body of thesis/dissertation begins CHAPTER I, page 1, and Arabic numbers printed on the bottom, center of the page begin here. All pages through to the last page must be numbered.)

The following guidelines for typing the body of the thesis should be followed. For matters of style not covered by these guidelines, the student should consult a style manual appropriate to their discipline. Once a style manual is selected, it **must** be observed **consistently** throughout the thesis. The text must meet the margin requirements noted on page 7.

All text is double spaced with the exception of direct quotations three or more lines in length. Such quotes are indented five spaces from the left and right margins of the text and single spaced. A student's discipline may require a different manual style to be followed.

The thesis is divided into chapters such as, CHAPTER I, II, III, etc. Text begins on the first page of CHAPTER I. Each chapter should represent an important division of the subject investigated and the title should indicate a definite and logical division of the subject of the problem.

Chapter headings begin 3 inches from the top of the page, which differs from the standard one inch top margin for the rest of the document. Each chapter should have a title which is centered and in capital letters. Chapter headers appear on two lines (without punctuation) capitalized and centered:

CHAPTER I

INTRODUCTION

The first line of the text begins **2 or 3 lines below** the chapter title. Only the first page of each chapter begins 3 inches down the page, the balance of the chapter and other sections of the manuscript begin one inch from the top of the page.

TABLES and FIGURES

Tables and figures are usually inserted in the text near where they are first mentioned. Tables and figures can be single spaced and placed on a separate page or pages.

A **table** is identified by a number, its title, and the page number on which it appears. The **table numbers should be a consecutive sequence of Roman Numerals** (unless discipline requires a different style).

A **figure** is any kind of graphic presentation other than a table. Figures **are numbered consecutively with Arabic numbers**, and titled. All tables and figures must be of professional quality (see Appendix G & H). Follow the same instructions in preparing the LIST OF FIGURES as in preparing the LIST OF TABLES.

NOTES (if any)

Notes should be typed in a manner consistent with the style manual being used for the thesis. Common practices are to single space notes at the bottom of the page or double space notes at the end of the text. If notes appear at the end of the text, these pages should be numbered continuously with the text in Arabic numbers. Notes must meet the margin requirements noted on page 7 of this handbook.

BIBLIOGRAPHY (or REFERENCE)

The bibliography is a list of all sources used in the preparation of the thesis, whether or not they are referred to directly in the text or notes. It should be arranged alphabetically as one listing. If lengthy, it may be sub-divided into different classifications, such as books, pamphlets, and periodicals, or into different divisions of the material based on topic. Students should refer to the style manual recommended by their department for the preparation of the bibliography.

APPENDIX (if any)

If an Appendix is included it is preceded by an announcement page titled APPENDIX which is centered on the page. This page and the appendix section must continue the page numbering of the thesis. Appendix pages must also adhere to margin requirements noted on page 7 and be of professional quality.

INDEX (if any)

An Index is an alphabetically arranged list of subjects with page numbers indicating where the subject appears in the text. If included, the Index follows the Appendix.

IV. PREPARATION OF THE *FINAL* MANUSCRIPT

PAPER

Once the thesis/dissertation has been approved by the department and the College of Graduate Studies, one error-free copy of professional quality and one copy on standard paper, or two copies of professional quality must be submitted for the Library. Professional quality requirement is that **at least one copy must be printed on white 25% cotton (or rag) content bond paper that is at least 20 pound weight, pure white, unlined paper (higher weight and rag content is acceptable), size 8 1/2" x 11"**. The quality of the paper must be consistent throughout the thesis for all pages with text and pages with photographs. No holes, staples, stray marks, or other perforations are permitted on any of the pages of the final copies. Failure to use appropriate bond paper, as prescribed, will result in rejection of the thesis by the College of Graduate Studies. As a rule, good quality paper will have cotton, rag content. If there are questions concerning the appropriate type of paper, or quality, please contact the College of Graduate Studies.

TYPING

The thesis must be printed on one side of the paper. A letter-quality or laser printer should be used. The style may be courier or times roman, or another equivalent word processor style. The font size should be 12. Standard black font is used throughout the text. Color may be used in tables, figures, charts and diagrams. The style **must be consistent** throughout the thesis. Printing should be both legible and free of any smudges, stray marks, etc. The quality of print (clarity, intensity, contrast, etc.) must be consistent and of equal quality throughout all copies.

CORRECTIONS

All corrections (including typographical errors) must be made prior to printing the final copies. The final copies for deposit must be free of strikeouts, highlighting, pen and ink changes. In order to assure high quality, correction fluid and tape cannot be used on any copies.

DUPLICATION

Duplicated copies of the thesis must be standard photocopies. The copies must be sharp and clean with legible black lettering equal to the original in quality. Supplementary materials must also meet this standard.

Photocopies with shadows, extra light/dark portions, stray dots and other such marks are NOT acceptable. These requirements should be clearly communicated to the persons responsible for photocopying the thesis. This will avoid needless expense and inconvenience for all concerned.

MARGINS

The binding of a thesis requires a left hand margin of one and one-half inches (1 ½”). The top, bottom and right margins must be one inch (1”). The text should begin one inch from the top of the page (except on the first page of each chapter, see page 6) and end one inch from the bottom. Supplementary materials (printouts, tables, figures, photographs, questionnaires, appendices, etc.) must also meet these margin requirements. **Margin guidelines must strictly be observed to insure the proper binding of the thesis.**

SPACE AND INDENTATION

The text of the thesis must be double-spaced. All paragraphs begin indented five spaces from the left margin. The spacing of long quotations, footnotes, tables, bibliographies, captions, etc. should conform to the specifications of this document or conform to the style manual specified for a student’s discipline (see “Text”).

PAGINATION

Preliminary pages: The pages preceding the first chapter (title page, approval page, abstract, table of contents, etc.) are counted, however, the first page with the number **printed on the page** is the ABSTRACT. Preliminary pages are numbered consecutively using lower case **Roman numerals** (iii, iv, v...) centered ½ inch from the bottom of the page. The title, copyright, approval, dedication and acknowledgment pages are **counted, but not numbered**. The page numbering begins appearing on the Abstract page. DO NOT use punctuation marks with the Roman numerals.

Text and reference pages: Starting with the first page of the text, all pages are numbered; including the bibliography, appendices, and index. Pages are numbered consecutively in **Arabic numbers (1, 2, 3...)**. The Arabic numbers used for text must be centered and ½ inch from the **bottom** of the page. Do not use punctuation marks before or after page numbers, do not use the word “page” followed by the number and do not use letter suffixes such as 10a, 10b, etc.

PHOTOGRAPHS

All photographs must be clear prints. All photographs must be reduced to meet margin requirements. Color photographs are permitted in a thesis and dissertation.

REGISTRATION OF COPYRIGHT

A student may register copyright by filling out an application form provided by the United States Copyright Office, depositing a copy of the work, and paying the filing fee. For more information regarding copyright laws and regulations please visit the website at: www.copyright.gov.

USING MATERIALS COPYRIGHTED BY OTHERS

As the author, the student must certify that any copyrighted materials used in the manuscript, beyond “fair use” are with the written permission of the copyright owner. Copies of permission letters from the copyright holder(s) must be incorporated into the manuscript as an appendix. For further information, please refer to PQ/UMI® GradWorks Guide F2006 **Guide 5: Copyright and Your Dissertation or Thesis**. This information may be found on-line at: http://www.umi.com/assets/downloads/products/UMI_CopyrightGuide.pdf

FEES

The University pays the binding fee for the two Library copies of the thesis/dissertation. Departments are billed for their one copy (*some departments do not require a copy, and will not pay for a copy. Check with the department for more information*).

The doctoral dissertation UMI electronic abstract fee is \$65.00. The student pays the fee at the Cashier’s Office, MC 115. The cashier’s receipt must accompany the unbound copies of the dissertation when submitted to the College of Graduate Studies for final approval. The student keeps one copy of the cashier’s receipt for her/his records.

FORMS

Thesis/Dissertation Proposal Approval Form – this is the initial form required **prior** to the start of a student’s registration of thesis or dissertation hours. The form is required for topic approval and to confirm the graduate faculty status of the thesis or dissertation committee members. Signatures of approval are required by the student’s department chairperson, college dean, and the dean of the College of Graduate Studies (see Appendix I). This form is then kept on file in the appropriate offices.

Proposal Approval Form: <http://www.csuohio.edu/gradcollege/students/pdf/proposalform.pdf>

Notice of Completion for Master’s Degree/or Doctoral Degree Requirements Form- this is the final form required once a student has completed all degree requirements. The department fills out the **top** half of the form. This form should then be forwarded to the College of Graduate Studies for the dean’s approval at the time of the submission of the thesis/dissertation for format approval. The Library receives its copy of the form only if a student submits a thesis or dissertation. The form will accompany the student’s unbound copies of the thesis or dissertation when submitted to the Library for binding.

Master’s NOC Form: <http://www.csuohio.edu/gradcollege/students/pdf/nocmasters.pdf>

Doctoral NOC Form: <http://www.csuohio.edu/gradcollege/students/pdf/nocdoctoral.pdf>

-Doctoral Candidates Only-

UMI DISSERTATION PUBLISHING

The UMI electronic submission of doctoral dissertations is not optional; it is a requirement of the College of Graduate Studies. Each published graduate work is preserved in Adobe Acrobat Portable Document Format (PDF) format. Dissertations are submitted to UMI through OhioLINK. Online submission ensures the highest quality copy of your manuscript, with color images preserved. PDF files should have all fonts embedded and may not disable printing or text access. PDF files being uploaded to Proquest/UMI must be unlocked (no security options selected). For more direction on embedding fonts and other guidance, visit OhioLINK at:

<http://www.ohiolink.edu/etd/formatting.html>

The College of Graduate Studies Office will provide OhioLINK electronic submission instructions to the doctoral candidate at the time of the format review. The student must save and hold harmless UMI from any damages that may arise from copyright violations. For more detailed guidance on avoiding copyright infringement, visit UMI's website at:

http://www.proquest.com/assets/downloads/products/UMI_CopyrightGuide.pdf

Survey of Earned Doctorates- this is a survey for the National Research Center based on doctorate research across the U.S. All doctorate candidates will receive the survey from the College of Graduate Studies Office at the time of the format review.

APPENDIX

APPENDIX A
(Sample **Title** Page for **Masters** Thesis)

CONSTRUCTION OF A SCORING MANUAL FOR THE SENTENCE STEM
“A GOOD BOSS—” FOR THE SENTENCE COMPLETION TEST INTEGRAL
(SCTI-MAP)

ANGELA C. MINIARD

Bachelor of Science in Psychology
John Carroll University
May 2002

submitted in partial fulfillment of requirements for the degree
MASTER OF EDUCATION
at the
CLEVELAND STATE UNIVERSITY
May 2009

APPENDIX B
(Sample **Title** Page for **Doctorate** Dissertation)

MASS SPECTROMETRIC ANALYSIS OF ENVIRONMENTAL
CONTAMINANTS, PROTEIN STRUCTURE AND EXPRESSION

IAN E. ATKINSON

Bachelor of Science in Zoology

Miami University

August 1996

Master of Science in Chemistry

Cleveland State University

May 2001

submitted in partial fulfillment of requirement for the degree
DOCTOR OF PHILOSOPHY IN CLINICAL AND BIOANALYTICAL CHEMISTRY
at the
CLEVELAND STATE UNIVERSITY
DECEMBER 2008

APPENDIX C
(Sample **Copyright** Page)

©COPYRIGHT BY IAN ERIC ATKINSON 2008

APPENDIX D
(Sample **Approval** Page)

The student or their department creates this page

This thesis/dissertation has been approved
(choose appropriate word for masters or doctoral)

for the Department of PSYCHOLOGY

and the College of Graduate Studies by

(signature of Chairperson here)

Type 'Thesis/Dissertation Chairperson, and name of committee member here

Department & Date

(signature of Committee member here)

Type name of member here

Department & Date

(signature of Committee member here)

Type name of member here

Department & Date

Note: Additional lines may be added if there are more Committee members

APPENDIX E
(Sample **Abstract**)

MASS SPECTROMETRIC ANALYSIS OF ENVIRONMENTAL
CONTAMINANTS, PROTEIN STRUCTURE AND EXPRESSION

IAN E. ATKINSON

ABSTRACT

There are a wide array of sciences at our disposal to further our understanding of the roles of toxins in the environment and their effects on living organisms. Of these disciplines, the field of mass spectrometry offers a powerful analytical means to identify compounds in varying and complex sample media. The presence of altered expressions of biomolecules upon exposure to toxins, the effects that these toxins may have on biomolecule structure and the identity of toxins in the sample all can be determined by mass spectrometry.

In this study mass spectrometric analysis has been applied to environmental toxicological problems. First, the altered protein expression under various metal stress in *Helianthus annuus* (dwarf sunflower), a proven hyperaccumulator of toxic metals was analyzed by this research. Second, a model was developed for mass spectrometrically determining the location and structural effects that another class of environmental toxins, poly aromatic hydrocarbons (PAHs) can have on proteins. Third, the presence of PAHs in environmental samples taken from Lake Bolgoda and Lake Beira, Sri Lanka, was analyzed by mass spectrometry to determine the types, relative concentrations and potential sources of these toxins.

The work has demonstrated the versatility and effectiveness of the methodology, discovering novel protein expression in *H. annuus* upon metal exposure, pinpointing site mediated adductions reactions on protein structure, and the qualitative and quantitative determination of toxins in environmental samples.

APPENDIX F
(Sample **Table of Contents**)

TABLE OF CONTENTS

	Page
ABSTRACT.....	v
LIST OF TABLES.....	x
LIST OF FIGURES.....	xi
NOMENCLATURE.....	xii
CHAPTER	
I. INTRODUCTION.....	1
* 1.1 STOVL/Powered Lift Background.....	6
1.2 Literature Review.....	14
1.3 Scope of Work.....	19
II. EXPERIMENTAL FACILITY.....	23
2.1 Facility Description.....	25
* 2.1.1 Thrust Balance.....	25
2.1.2 Air Supply System.....	27
2.1.3 Instrumentation System.....	28
2.2 Facility Calibrations.....	32
2.2.1 Static Hydraulic Calibration.....	32
2.2.2 Pressure Tare Calibration.....	33
III. DESCRIPTION OF EXPERIMENT	37
3.1 Model Specifications.....	37
3.2 Instrumentation.....	39

3.3	Cold Flow Tests.....	45
3.3.1	Flow Visualization.....	45
3.3.2	Configuration Changed for Performance Optimization.....	48
IV.	RESULTS AND DISCUSSION.....	52
4.1	Thrust Augmentation Ratio.....	53
4.1.1	Cold Flow Tests.....	54
4.1.2	Hot Flow Tests.....	62
4.2	Surface Static Pressures.....	65
V.	CONCLUDING REMARKS.....	92
	BIBLIOGRAPHY.....	96
	APPENDICES.....	99
A.	Ejector Thrust Improvement.....	100
B.	Ejector Community Noise Problem.....	102
C.	Calibration and Thrust Calculations.....	105
D.	Sample PLF Plots.....	108
	INDEX (if any).....	110

****The numbering of subheadings (1.1, 2.1.1, etc...) within a chapter is the student's preference. However, if numbers are noted in the Table of Contents, the numbering must be replicated within the text body.***

APPENDIX G
(Sample **List of Tables**)

LIST OF TABLES

Table	Page
I. Principal Conclusions from Burke Experiments	7
II. Dimensions of the Computational Domain.....	57
III. Independent Variables.....	59
IV. Predicted Effects of Gravity on the Flame Dimensions.....	64
* a) For methane-air flames.....	65
b) Statistical results.....	66
<i>*Sub tables are not required, use only when necessary*</i>	
V. Predicted Effects of the Inlet Velocity.....	75
a) With the oxidizer inlet velocity equal to 5.0cm/sec.....	81
b) With the oxidizer inlet velocity equal to 10.0cm/sec.....	82
c) With the oxidizer inlet velocity equal to 15.0cm/sec.....	83
VI. Fuel Properties.....	90
VII. Predicted Effects of the Oxygen Fraction.....	101
VIII. Predicted Effects of the Diluent.....	106
IX. Experimental Results.....	147

APPENDIX H
(Sample **List of Figures**)

LIST OF FIGURES

Figure	Page
1. Burke-Schumann Diffusion Flame.....	3
2. Effect of Reduced Pressure on the Flame Size and Shape.....	11
3. Flame Shape.....	40
4. Flame Height.....	46
5. Flame Width.....	47
6. Flame Height/Width	48
7. Flame Tip Sphericity.....	51
8. Viscosity as a Function of Temperature.....	55
9. Heat Capacity as a Function of Temperature.....	55
10. Thermal Conductivity as a Function of Temperature.....	56
11. Predicted Effect of Gravity on the Flame Shape.....	61
12. Predicted Effect of Gravity on the Temperature Distribution.....	70
13. Predicted Flame Shape as a Function on the Inlet Velocity and Gravity.....	72
14. Predicted Effect of the Inlet Velocity on the Flame Height.....	73

APPENDIX I
(Sample **Copyright Permission** for Dissertation pages)

Ian Atkinson <>

03/18/2009 01:54 PM

To ____@csuohio.edu

cc

Subject Re: Dissertation Abstract

Good Afternoon,

Of course you are most welcome to use any of the materials for the booklet you are constructing.

-Ian

On Tue, Mar 17, 2009 at 9:28 AM, <____@csuohio.edu> wrote:

Hello Ian,

We are updating the Thesis and Dissertation Guidelines. I was hoping you would give us permission to use your dissertation abstract and your title page as samples for the booklet. Attached are the two pages I would like to use.

Please let me know if this is a possibility. Thank you very much for your consideration.

Graduate Student Services
College of Graduate Studies
Parker-Hannifin Hall, Room 218

CONFIDENTIALITY NOTICE:

This email message, including attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message.