MITOCHONDRIAL DNA CHARACTERIZATION OF INDIGENOUS STRAINS OF COMMON CARP (Cyprinus carpio)

by

Write your full name here.

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Aquaculture and Aquatic Resources Management

Examination Committee: Name of Chairperson (Chairperson)

Committee Member

Committee Member

External Examiner: Name

Department

Institution

City

Country

Nationality: Thai

Previous Degree: Master of Engineering in Civil Engineering

Suranaree University of Technology

Nakhon Ratchasima, Thailand

Scholarship Donor: Government of Switzerland*

Asian Institute of Technology
School of Engineering and Technology

Thailand

(month and year of graduation) April 2002

AUTHOR'S DECLARATION

I,

(your name), declare that the research work carried out for this dissertation was

in accordance with the regulations of the Asian Institute of Technology. The work
presented in it are my own and has been generated by me as the result of my own
original research, and if external sources were used, such sources have been cited. It is
original and has not been submitted to any other institution to obtain another degree or
qualification. This is a true copy of the dissertation, including final revisions.
Date:
Name (in printed letters):
Signature:

ACKNOWLEDGMENTS

Type your acknowledgments here. This section is typically reserved for personal and professional dedications. You may also acknowledge your donor or funder here or include copyright acknowledgements of journals whose articles you have significantly incorporated in this thesis. Maintain one blank 1.5 line spacing between paragraphs.

[one page, maximum]

ABSTRACT

Your abstract should present a summary of the main sections of your thesis, research study or dissertation. It should be between 200 to 350 words, or not more than one

page. Include also the most significant achievements of your study in order to demonstrate the value of your work.

CONTENTS

		Page
ACKNOWLE	DGMENTS	iii
ABSTRACT		iii
LIST OF TAB	BLES	vi
LIST OF FIG	URES	vii
LIST OF ABB	BREVIATIONS	viii
CHAPTER 1	INTRODUCTION	1
1.1	Background of the Study	1
1.2	Statement of the Problem	1
1.3	[Research Questions- Discuss with your adviser.]	1
1.4	Objectives of the Study	1
1.5	Write the next section here.	1
1.6	Organization of the Study	2
CHAPTER 2	TITLE	3
2.1	Heading, Level 2	3
2.2	Heading, Level 2	4
	2.2.1 Heading, Level 3	4
	2.2.2 Heading, Level 3	5
2.3	Heading, Level 2	5
	2.3.1 Heading, Level 3	6
	2.3.2 Heading, Level 3	7
2.4	Heading, Level 2	7
	2.4.1 Heading, Level 3	7
	2.4.2 Heading, Level 3	8
2.5	Add more sections as required.	8
2.6	Chapter Summary	8
REFERENCE	CS CS	9
APPENDICES	S	10
AP	PENDIX A: TITLE	11
AP	PENDIX B: TITLE	12
VITA		13

LIST OF TABLES

Tables	Page
Table 2.1 Means and Standard Deviations of Scores on Baseline Measures	4
Table 2.2 Master Narrative Voices: Struggle and Success and Emancipation	4

LIST OF FIGURES

Figures Figure 2.1 Strategic Engineering Framework	Page 5

LIST OF ABBREVIATIONS

A = aquifer area

Ar = artificial ground water aquifer

C = expected value of objective function

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Start your paragraph here; justified, no indentation but space between the last paragraph and the next one. Maintain a 1.5 line spacing throughout. This section should consist of 2 pages maximum excluding figures and tables. This is NOT a Literature Review section.

Each paragraph should have at least 4 sentences or 8 lines. Paragraphs of more than 6 sentences (12 lines) should be split into two paragraphs. Follow the appropriate structure of writing a clear paragraph. Consult your adviser about the subsections. Maintain one space between the last line of this section and the next subsection.

1.2 Statement of the Problem

Write approximately three paragraphs only. Each paragraph should have at least 4 sentences. Paragraphs of <u>more than 6 sentences</u> should be split into two paragraphs. Follow the appropriate structure of writing a clear paragraph.

1.3 [Research Questions- Discuss with your adviser.]

Introduce your research questions in one sentence followed by a bulleted list, leftaligned.

- 1. Follow a 0.5-inch Tab setting
- 2.
- 3.

1.4 Objectives of the Study

Introduce your main objective first in one sentence, followed by a bulleted list of specific objectives, left aligned.

- 1. Follow a 0.5-inch Tab setting.
- 2. Add more here.

1.5 Write the next section here.

Start your paragraph here.

1.6 Organization of the Study

Start your paragraph here.

CHAPTER 2

TITLE

Write your introductory paragraph/s to give an overview of the chapter (except for Chapter 1). Limit this section to two paragraphs. Follow the appropriate structure of writing paragraphs. Paragraphs should have at least four sentences (8 lines). Paragraphs with more than 6 sentences (12 lines) must be split into two paragraphs. Maintain one blank line between paragraphs.

2.1 Heading, Level 2

This section presents some guidelines on how to create and format tables and figures following the APA Style with some examples. Every table and figure should serve a purpose. A table or figure can be referred to in the text by its number [e.g., As shown in Table 1..., as can be seen in the results of the testing (see Figure 1)]. Avoid writing "the table above" or "the figure below" as the position of a figure or table might change during the writing process.

Tables and figures can be generated in different ways using many programs. Table 2.1 presents the format of a table following the APA style. Align all tables and figures with the left margin and place a table or figure after a paragraph where it is first mentioned. Separate the paragraph and the table or figure title by a double-spaced blank line. Titles should be brief, clear, and explanatory.

Repeat the column headings on the second page of the table (see Table 2.1). Separate this paragraph from the table by a double-spaced line. Tables and figures can be placed at the start or end of a page. Fit the table or figure between the margins and in one page.

As there is very little space left for the table on this page, present the table on the next page. You can add more content in this section. The description should be as close to the table or figure as possible.

(There should be one blank double-spaced line between the last line of the paragraph and the table or figure number, and between the table / figure number and the title.)

Table 2.1Means and Standard Deviations of Scores on Baseline Measures

Scale	High BAS group	Moderate BAS group	p
BAS-T	46.17 (2.87)	37.99 (1.32)	<.001
SR	17.94 (1.88)	11.52 (1.84)	<.001
BDI	7.11 (6.50)	6.18 (6.09)	.254
ASRM	6.46 (4.01)	5.63 (3.69)	.109
M-SRM	11.05 (3.36)	11.76 (2.75)	.078

Note. This can be used to describe the contents of the table (e.g., definitions of abbreviations, copyright attributions). Some tables do not require table notes. BAS = Behavioral Activation System; BAS-T = Behavioral Activation System-Total scores from the Behavioral Inhibition System/Behavioral Activation System Scales; SR = Sensitivity to Reward scores from the Sensitivity to Punishment and Sensitivity to Reward Questionnaire; BDI = Beck Depression Inventory scores; ASRM = Altman Self-Rating Mania Scale scores; M-SRM = Modified Social Rhythm Metric Regularity scores. You can set ALL *Notes* at 11 font size and 1.5 line spacing. $^{a}n = 50$. Specific notes are identified in the body with a superscript and refer to a particular column, row, or cell. Place a space after the superscript letter. $^{*}p < .05$. $^{*}p < .01$. $^{**}p < .01$. $^{**}p < .001$.

Add a short introductory sentence/s here.

2.2.1 Heading, Level 3

2.2 Heading, Level 2

Start your paragraph here. Table 2.2 presents a sample of a qualitative table with variable descriptions. Separate the paragraph and the table or figure title by a double-spaced blank line. Titles should be brief, clear, and explanatory. Check the Language Center website for more examples.

¹ The table body may be single-spaced, one-and-a-half-spaced or double-spaced. Notes can be written in a smaller font size if necessary, of not less than 10. You can also reduce the font size for the table body to fit everything on one page or one table. However, uniformity should be observed for all figures and tables.

 Table 2.2

 Master Narrative Voices: Struggle and Success and Emancipation

D. 11	Б. 1
Discourse and dimension	Example quote
Struggle and success	
Self-actualization as a member of a larger gay community is the end goal of healthy sexual identity development, or "coming out"	"My path of gaynessgoing from denial to saying, 'well, this is it', and then the process of coming out, and the process of just sort of looking around" (Carl, age 50)
Maintaining healthy sexual identity entails vigilance against internalization of societal discrimination	"When I'm, like, thinking of criticisms of more mainstream gay culture, I try to" (Patrick, age 20)
Emancipation	
Open exploration of an individually fluid sexual self is the goal of healthy sexual identity development	"For the heterosexuals,I feel like there is this potential for really playing around" (Orion, age 31)
Questioning discrete, monolithic categories of sexual identity	"LGBTQI, you know, and added on so many letters. It does not start to raise the question about" (Bill, age 50)

(One blank double-spaced line here.)

2.2.2 Heading, Level 3

(1 space between the last line of this section and the next Level 2 heading)

2.3 Heading, Level 2

As for figures, the figure title should also be written in italics below the figure number (in bold) separated by a double-spaced blank line as shown in Figure 2.1.² The size and density of the elements in a figure must be considered when deciding on the font size and spacing.³ Continue with the paragraph here.

_

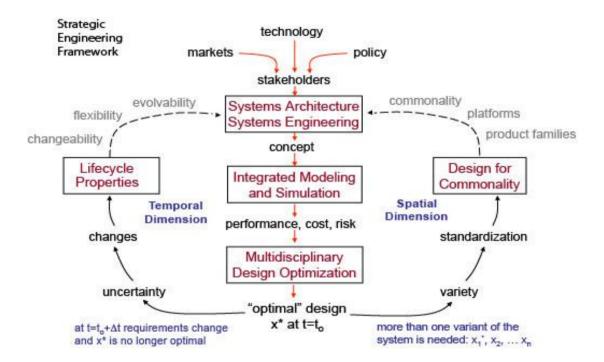
² The same font should be used throughout the thesis, but the font size for figures can be between 10-14 making sure that the presentation is legible. Adjust the footnotes if necessary, between 10-12 font size.

³ This means that crowding in the image should be avoided in order to give enough space between words.

Continue with the paragraph here. The table or figure should be as close to the description as possible or when it is first mentioned. Fit the tables and figures between the margins.

(There should be one blank double-spaced line between the previous paragraph and the figure number, and between the figure number and the title.)

Figure 2.1
Strategic Engineering Framework



Note. The first step in Systems Engineering is to carefully consider the Architecture that the system should or could have. This results in an initial choice of concept that needs to be better understood in terms of its anticipated performance, cost, and risk profile. This is where Integrated Modeling and Simulation can be very helpful. Finally, we want to "fine tune" the design of the system so that it optimally meets the various objectives and constraints that have been laid out. Ideally, Multidisciplinary Design Optimization will yield an "optimal" design \mathbf{x}^* at the end of this process.

(There should be one blank double-spaced line here.)

2.3.1 Heading, Level 3

This section presents an example of a block quotation of 40 words or more. It is indented 0.5 in from the left margin. A block quotation is written on a new line, and sometimes, with a narrative citation as shown in the following example. Do not use

<u>quotation marks.</u> Flores et al. (2018) described how they addressed potential research bias when working with people of color:

Everyone on the research team belonged to a stigmatized group but also held privileged identities. Throughout the research process, we attended to the ways in which our privileged and oppressed identities may have influenced the research process, finding, and presentation of results. (p. 311)

Block quotations sometimes consist of two or more paragraphs. Indent the first line of each subsequent paragraph, an additional 0.5 in. The next example shows a block quotation with parenthetical citation consisting of two paragraphs.

In order to accurately estimate whether people are likely to form positive or negative expectations on any given occasion, it is necessary to go beyond simply considering chronic individual differences and identify the factors that make people more likely to form expectations in line with one bias or the other.

The present research sheds light on this issue by identifying a crucial distinction in the operation of these two trait biases in expectation formation. Specifically, people's valence weighting biases and self-beliefs about the future appear to shape expectations via qualitatively distinct processes. (Niese et al., 2019, p. 210)

2.3.2 Heading, Level 3

Start your paragraph here.

- **2.3.2.1 Heading, Level 4.** Capitalize the first letter of the main words and words of 4 letters or more, followed by a period. Start on the same line here and continue as a regular paragraph.
- **2.3.2.2 Heading, Level 4.** Start on the same line here and continue as a regular paragraph.
- **2.3.2.2.1 Heading, Level 5.** Capitalize the first letter of each main word and words of 4 letters or more, followed by a period. Start on the same line here and continue as a regular paragraph.

(1 space between the last line of this section and the next Level 2 heading)

2.4 Heading, Level 2

Add a short introductory sentence/s here.

2.4.1 Heading, Level 3

Start your paragraph here.

2.4.2 Heading, Level 3

Start your paragraph here.

- **2.4.2.1 Heading, Level 4.** Capitalize the first letter of the main words and words of 4 letters or more, followed by a period. Start on the same line here and continue as a regular paragraph.
- **2.4.2.2 Heading, Level 4.** Start on the same line here and continue as a regular paragraph.
- **2.4.2.2.1 Heading, Level 5.** Capitalize the first letter of each main word and words of 4 letters or more, followed by a period. Start on the same line here and continue as a regular paragraph.

(1 space between the last line of this section and the next section heading)

2.5 Add more sections as required.

Start your paragraph here. Follow the format for headings and subheadings. This section presents the way equations are formatted and placed.

(1 space between the last line of this section and the next Level 2 heading)

2.6 Chapter Summary

Limit this section to 2 paragraphs.

REFERENCES

- Ahmann, E., Tuttle, L.J., Saviet, M., & Wright, S.D. (2018). A descriptive review of ADHD coaching research: Implication for college students. *Journal of Postsecondary Education and Disability*, *31*(1), 17-39. https://www.ahead.org/professional-resources/publications/jped/archived-jped/jped-volume-31
- Alonso-Tapia, J., Nieto, C., Merino-Tejedor, E., Huertas, J. A., & Ruiz, M. (2018). Situated Goals Questionnaire for University Students (SGQ-U, CMS-U) [Database record]. PsycTESTS. https://doi.org/10.1037/t66267-000
- A separate file on how to format reference entries of different materials or sources is available on the LC website using the 7th edition of the APA Manual (2020).

APPENDICES

APPENDIX A

TITLE

Different materials are presented in the APPENDICES. Label the materials in the order that they are mentioned in the text or section (e.g., "see Appendix A for the questions"). Large or oversized tables or figures that support, but are not important in the text, are included in the appendices in a portrait or landscape orientation. This section is for a single table, figure, image, or illustration.

APPENDIX B

TITLE

This section is for multiple tables and / or figures. You can also write a short description of this section.

Table A1 Title

Add the table here with proper formatting style.

Table A2 Title

Add the table here with proper formatting style.

Figure A1 Title

Add the figure here with proper formatting style.

Figure A2

Add the figure here with proper formatting style.

VITA

This section presents a short description of the educational and professional achievements of the student.