Developing the Methodology, Gantt Chart and Budget

(Sources: Arnel del Barrio, PSAS, Maribel Sese, Mudjekeewis Santos)

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TALKING POINTS . . .

- Methodology
- Gantt Chart
- Budget

METHODOLOGY

- Definition
- Heart of the Proposal
- Elements
- Examples

POINT OF REFERENCE

Asking the right question …

Methodology Defined

Methodology

From Wikipedia, the free encyclopedia

This article is about research methods. For software engineering frameworks, see Software development methodology.

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques.[1]

A methodology does not set out to provide solutions - it is, therefore, not the same as a method. Instead, a methodology offers the theoretical underpinning for understanding which method, set of methods, or so-called "best practices" can be applied to specific case, for example, to calculating a specific result.

It has been defined also as follows:

1. "the analysis of the principles of methods, rules, and postulates employed by a discipline";[2]
2. "the systematic study of methods that are, can be, or have been applied within a discipline";[2]
3. "the study or description of methods".[3]

HEART of the Proposal

- Title Page
- Introduction
- **Methodology**
- Budget
- References
- Appendices

ELEMENTS of a Methodology

- Title Page
- Introduction
- **Methodology**
- Budget
- References
- Appendices

- *Be explicit about any **assumptions or hypotheses** the research method rests upon*
- *Be clear about the **focus** of the research*
- *Be as detailed as possible about the **schedule** of the proposed work*
- *Be specific about the means of **evaluating the data***
- *Be certain that the **connection** between the research objectives and the research method is evident*
- *Be **realistic** about what can be accomplished*

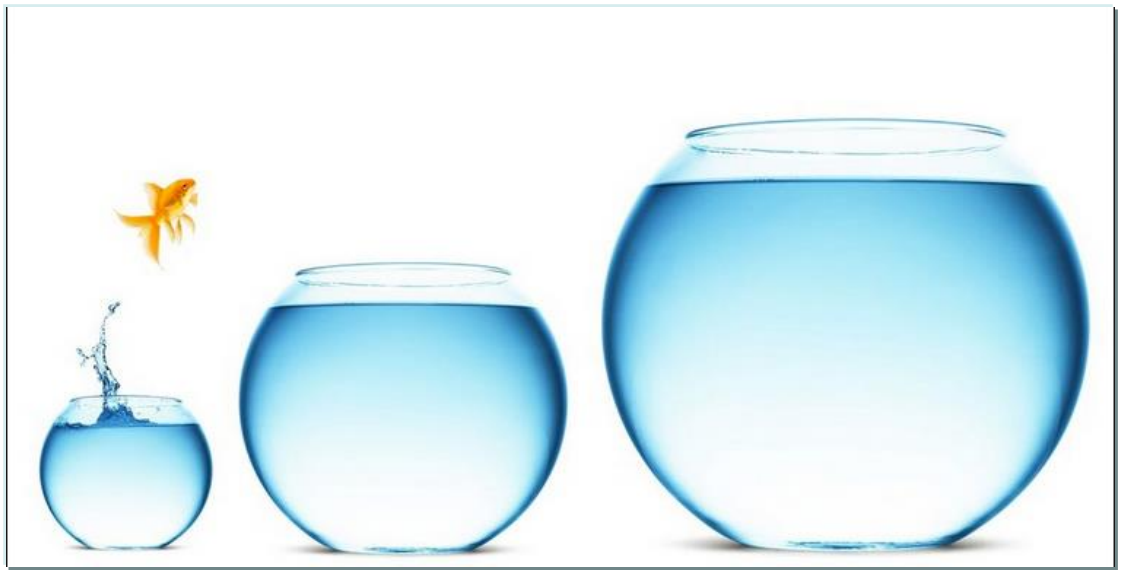
ELEMENTS of a Methodology

- Title Page
- Introduction
- **Methodology**
- Budget
- References
- Appendices

- *Approach to answering the questions (objectives)*
- *Data needs*
- *Analytical techniques*
- *Plan for interpreting results*

Approach to answering the questions

Methodology should make clear to the reader the research question and way that you intend to approach the techniques and logic that you will use to address it.



awomanwithoutwine.com

Data Needs

This Part should include the field site description, a description of the instruments you will use. Moreover, you will need to fully describe specifically what data you anticipate collecting.

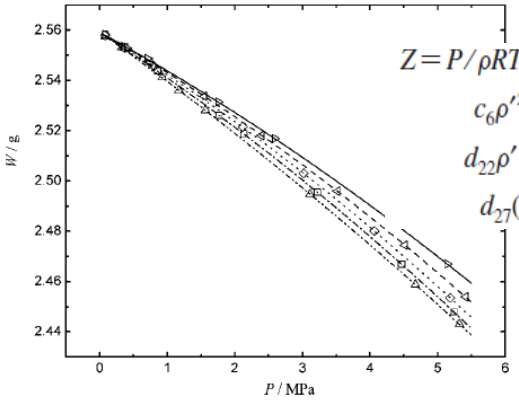


Figure 2. Calibration curves of the empty sample pan from this work: Δ, 303.2 K; □, 313.2 K; ◇, 323.2 K; open triangle pointing left, 333.2 K; open triangle pointing right, 343.2 K; and lines, calculated using eq 1.

$$Z = P/\rho RT = 1 + c_2\rho' + c_3\rho'^2 + c_4\rho'^3 + c_5\rho'^4 + c_6\rho'^5 c_7\rho'^2 \exp[-d_{21}\rho'^2] + c_8\rho'^4 \exp[-d_{21}\rho'^2] + d_{22}\rho' \exp[-d_{27}(\Delta T)^2] d_{23}\Delta\rho/\rho' \exp[-d_{25}(\Delta\rho)^2 - d_{27}(\Delta T)^2] + d_{24}\Delta\rho/\rho' \exp[-d_{26}(\Delta\rho)^2 - d_{27}(\Delta T)^2]$$

Table 1. Solubility of Carbon Dioxide m_{CO_2} (with Buoyancy Correction) in [Emim][BF_4]

P/MPa	m_{CO_2}/(mol$_{CO_2}$·kg$_{IL}^{-1}$)
T = 303.2 K	
0.496	0.2067
1.035	0.4308
2.068	0.8611
3.112	1.2673
4.155	1.5999
T = 313.2 K	
0.503	0.1607
1.040	0.3471
2.068	0.7058
3.136	1.0634
4.207	1.3796
T = 323.2 K	
0.503	0.1228
1.049	0.2817
2.118	0.5946
3.136	0.8847
4.254	1.1777
T = 333.2 K	
0.503	0.0951
1.049	0.2294
2.118	0.4917
3.186	0.7456
4.329	0.9961
T = 343.2 K	
0.517	0.0802
1.058	0.1940
2.167	0.4210
3.236	0.6254
4.329	0.8104

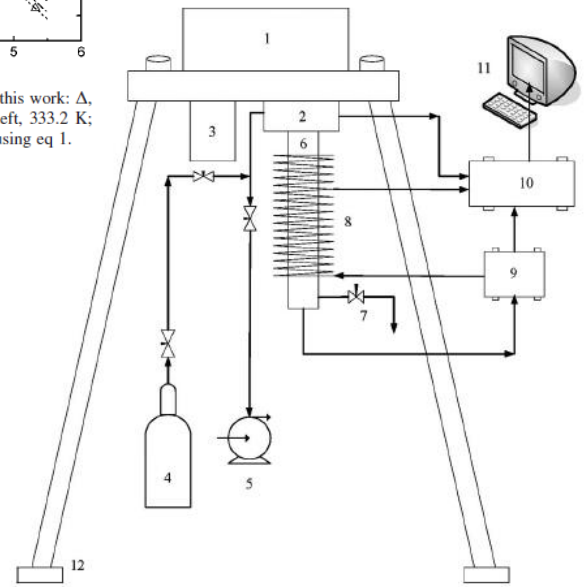


Figure 1. Experimental setup for CO_2 solubility using a thermogravimetric microbalance: 1, electrobalance; 2, sample side; 3, tare side; 4, CO_2 source; 5, vacuum pump; 6, reactor vessel; 7, gas output; 8, thermostatic coil; 9, automatic temperature controller; 10, digital recording balance; 11, computer output; and 12, microbalance support base.

Analytical techniques

This Part should explain in some detail how you will manipulate the data that you assembled to get at the information that you will use to answer your question.

It should include the statistical or other techniques and the tools that you will use in processing the data.

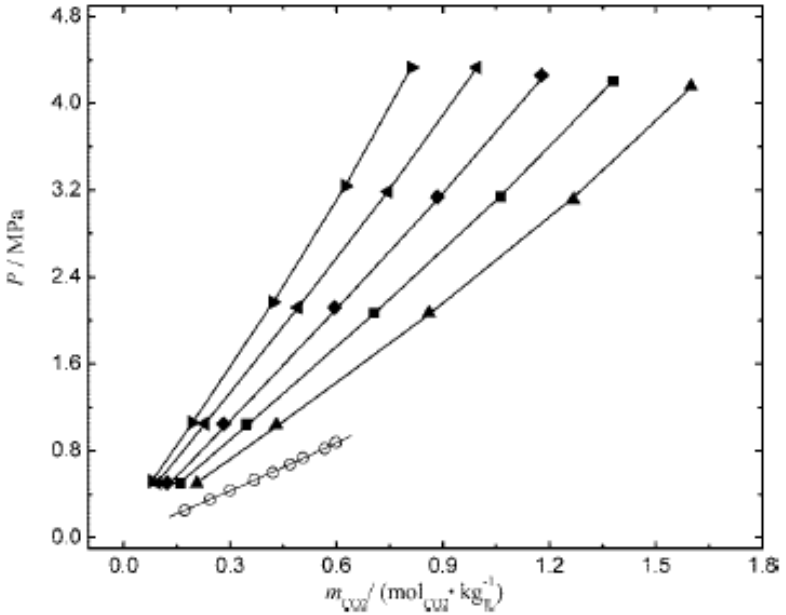


Figure 5. Equilibrium solubility of CO_2 in [Emim][BF_4] at various temperatures: (▲, 303.2 K; ■, 313.2 K; ◆, 323.2 K; solid triangle pointing left, 333.2 K; solid triangle pointing right, 343.2 K), present experimental results; (□, 298.15 K), data of Kim et al.;[14] and solid lines, calculated using eq 6.

$$k_{H,CO_2}(T,P)a_{CO_2}(T,m_{CO_2}) = f_{CO_2}(T,P) \qquad (6)$$

$$k_{H,CO_2}(T,P) = k_{H,CO_2}(T)\exp\left(\frac{\bar{V}^{\infty}_{m,CO_2}P}{RT}\right)$$

$$a_{CO_2}(T,m_{CO_2}) = \frac{m_{CO_2}}{m^{o}}\gamma^{*}_{CO_2}$$

Plan for interpreting results

This Part should include an indication of the range of outcomes that you could reasonably expect from your observations.

And should indicate how the anticipated outcomes will be interpreted to answer the research question.

Table 2. Henry's Constant of CO_2 in IL at Zero Pressure $k_{H,CO_2}(T)$

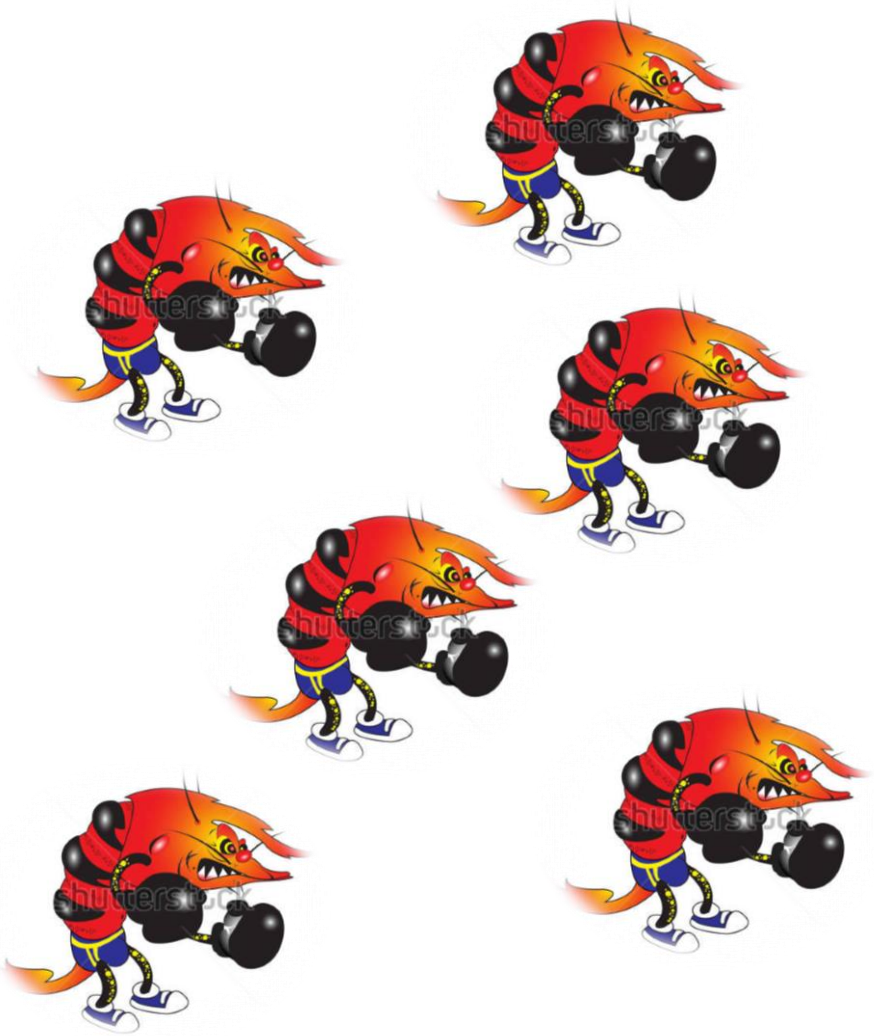
T/K	$k_{H,CO_2}(T)$/MPa	l_1	l_2	l_3	(AAD)/%
		[Bmim][PF_6]			
303.2	1.3203	31.0274	−0.03735	−5837.39	0.76
313.2	1.6501				
323.2	2.0514				
333.2	2.4771				
343.2	2.7979				
		[Emim][BF_4]			
303.2	2.3526	22.6903	−0.02116	−4678.71	0.80
313.2	3.0465				
323.2	3.9374				
333.2	4.9923				
343.2	6.0096				

$$\ln\left(k_{H,CO_2}/\mathrm{MPa}\right) = l_1 + l_2(T/\mathrm{K}) + l_3/(T/\mathrm{K})$$

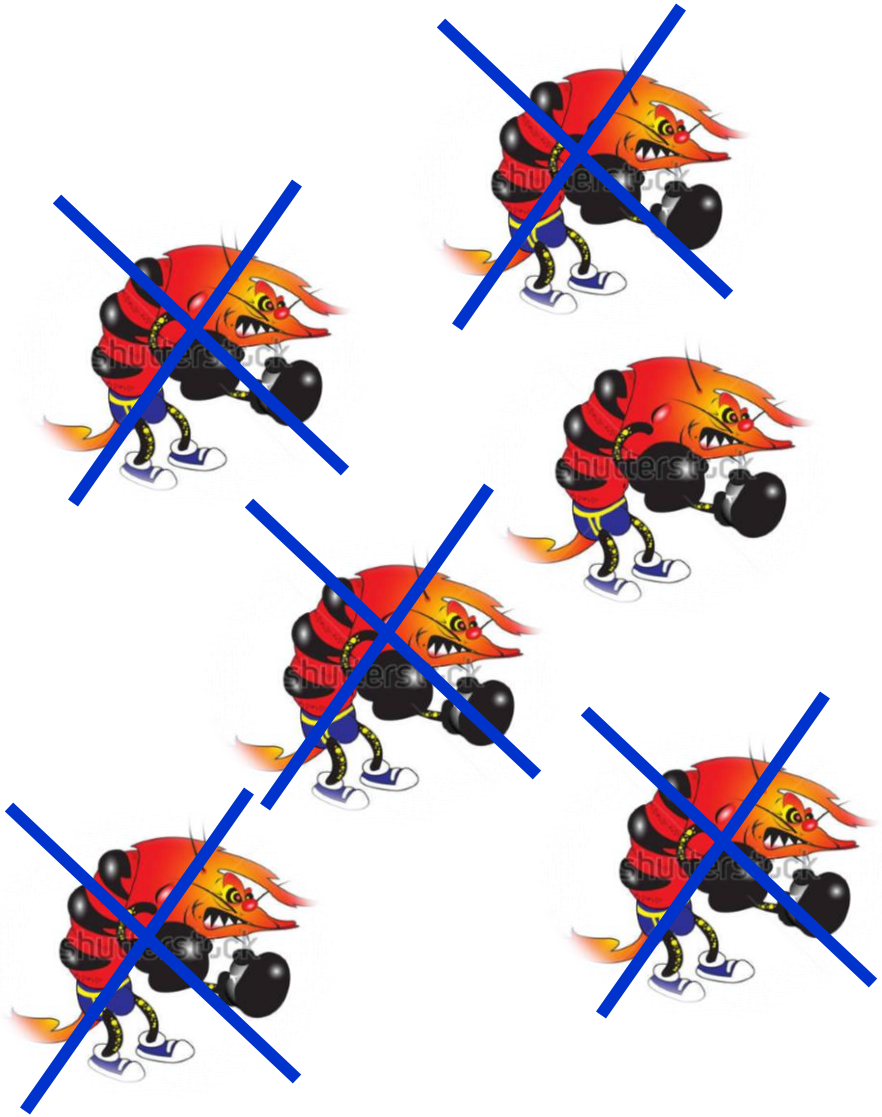
Table 3. Comparison of the Calculated AAD at Various Temperatures between the Data of This Work and the Data of Shiflett and Yokozeki[5]

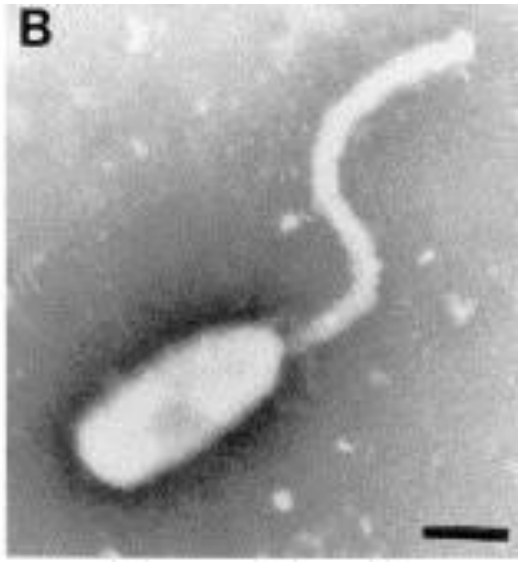
T/K	no. of data points	(AAD)/%
	Experimental Data of Shiflett and Yokozeki[5]	
283.15	9	5.90
298.15	9	0.22
323.15	9	0.22
348.15	9	0.04
	Experimental Data of this work	
303.2	7	0.05
313.2	7	0.08
323.2	7	0.14
333.2	7	0.14
343.2	7	0.23

Example 1: Question



Example 1: Question

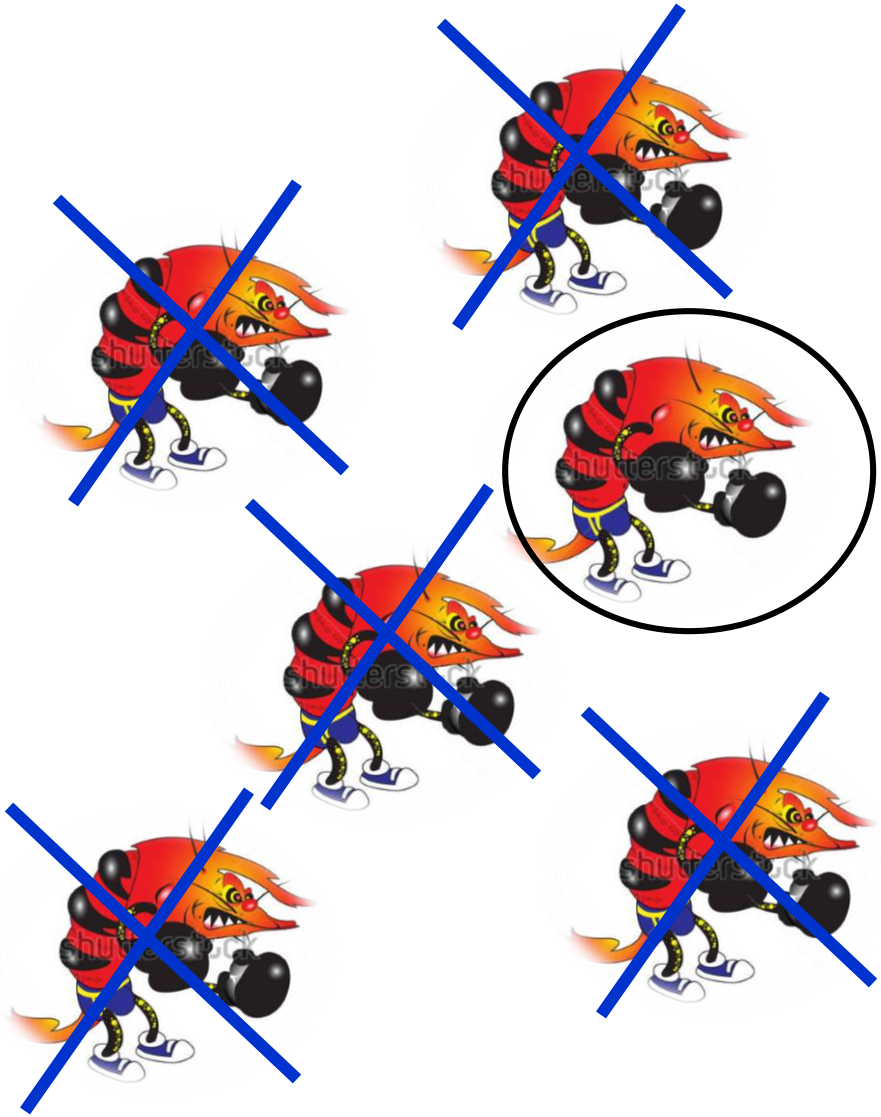


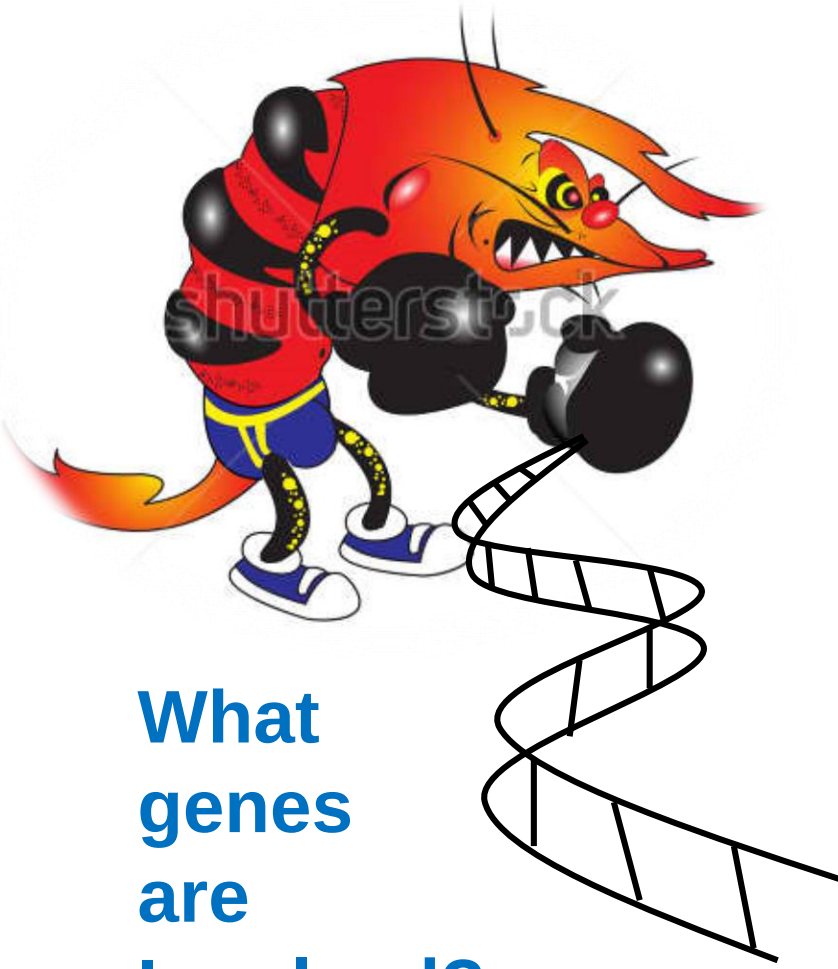


White Spot Syndrome Virus

Deadly shrimp virus !!!

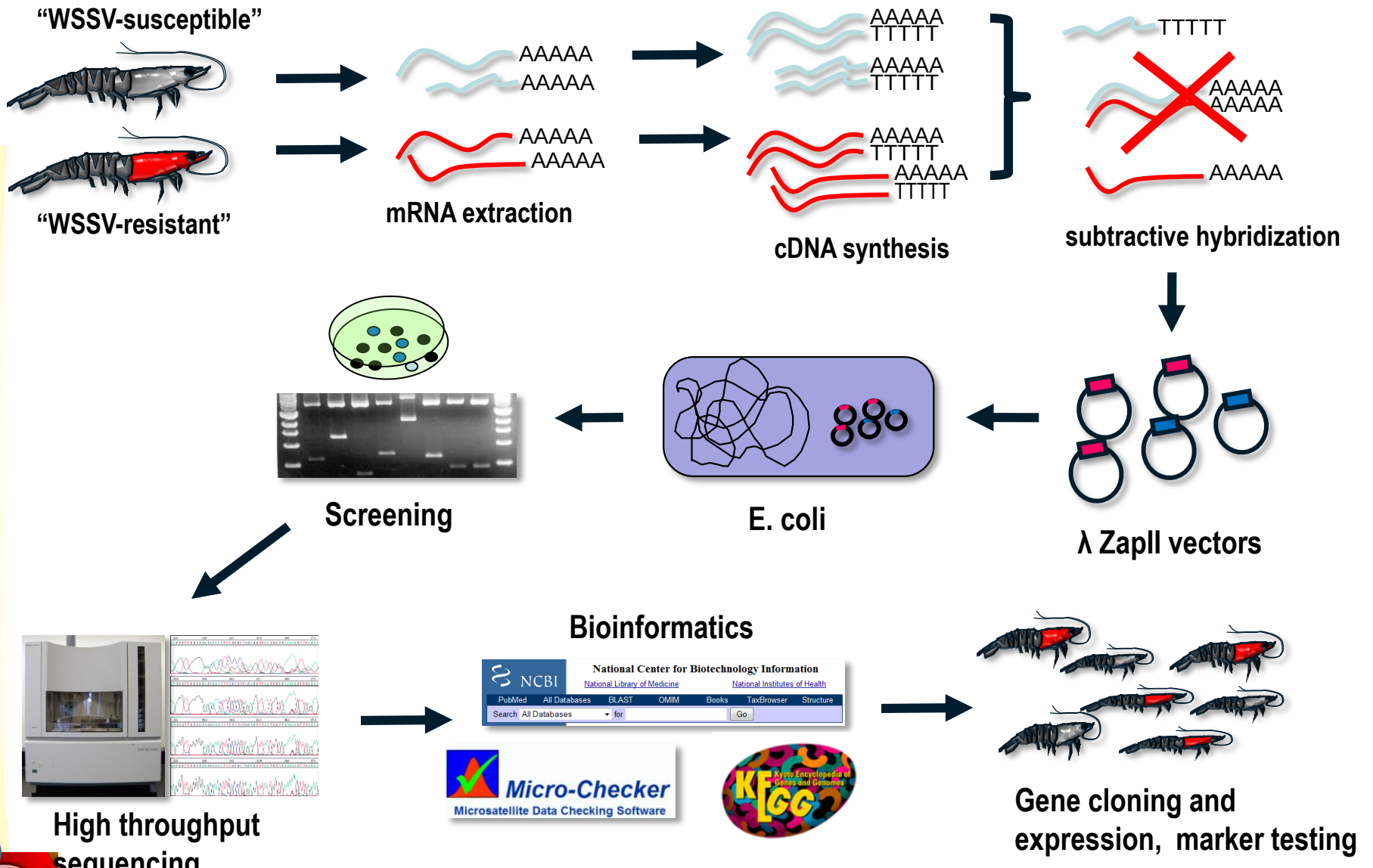
Example 1: Question





What genes are Involved?

Methodology



Outcome

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Hindawi

Dataset Paper

Subtracted Transcriptome Profile of Tiger Shrimp (*Penaeus monodon*) That Survived WSSV Challenge

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[2] *Department of Biological Science, College of Science/Research Center for the Natural Sciences, Thomas Aquinas Research Center, University of Santo Tomas, España Boulevard, 1008 Manila, Philippines*
[3] *Aquaculture Department, Southeast Asian Fisheries Development Center (SEAFDEC AQD), Tigbauan Iloilo, Philippines*

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Example 2: Question

?

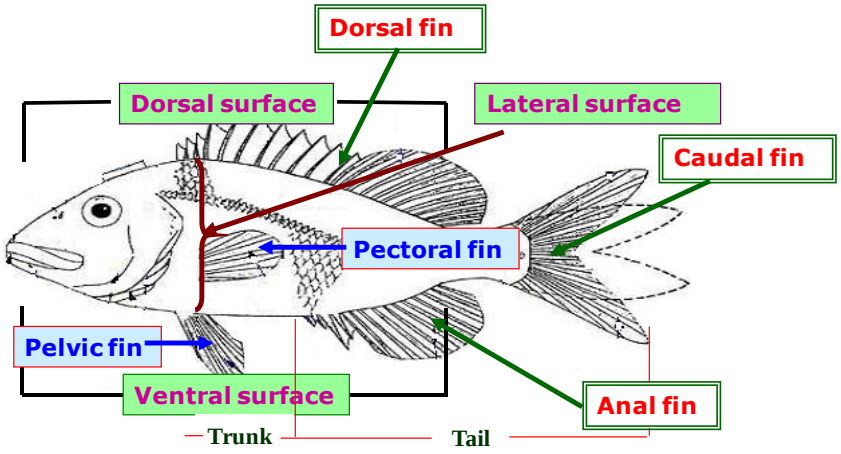
Methodology

?

Check morphology ?

- **Clean Dissection Kit**
  - Put on gloves, rinse gloves with clean water
  - First scrub equipment with sparkleen
  - Rinse with clean water (3×)

Always use clean equipment and latex gloves. Measure the **length (mm)** and **weight (g)** of each fish.



Materials and Methods

Imagine how will the morphology results and analysis will look like…

Relatively small serranid species 69–84 (69;72 when fresh) mm SL; body depth 3.4–4.1 (4.1) in SL; head length 25–32 (25) mm, 2.5–2.8 (2.8) in SL; snout length 3.7–5.6 (4.2) in HL; orbit diameter 3.1–3.4 (3.1) in HL; bony interorbital width 7.1–9.3 (8.3) in HL, upper jaw length 2.1–2.2 (2.1) in HL; caudal peduncle length 2.3–2.7 (2.3) in HL; caudal peduncle least depth 3.1–3.7 (3.1) in HL; snout to D origin length 2.7–2.8 (2.8) in SL; snout to A origin length 1.6–1.8 (1.7) in SL; snout to pelvic origin length 2.9–3.1 (3.1) in HL; length of longest (5^{th}) D spine 1.9–2.5 (1.9) in HL; length of longest A spine 3.6–4.0 (3.6) in HL; pectoral-fin length 1.6 in HL; pelvic-spine length 2.3–2.7 (2.3) in HL; longest pelvic-ray length 1.3–1.5 (1.3) in HL; caudal-fin length 4.2–4.7 (4.3) in SL.

… measurements
… description

Materials and Methods

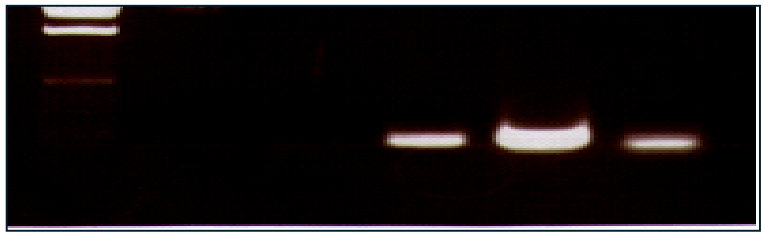
Compare with what ?

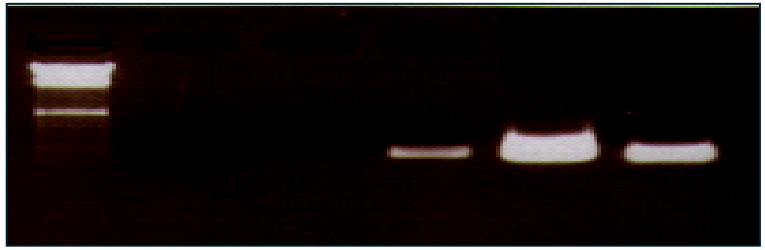
Species	GenBank Accession numbers
Chelidoperca santosi n.sp.	KP150308
Chelidoperca investigatoris	JX185305, JX185307, JX185310, JX185312
Chelidoperca maculicauda	JX185308, JX185309, JX262929
Chelidoperca occipitalis	JX185304, JX185306, JX185311, JX185313
Chelidoperca pleurospilus	JQ681448, JQ681449, JQ681476
Hypoplectrus unicolor	JQ840882
Liopropoma pallidum	JQ431890

Materials and Methods

?

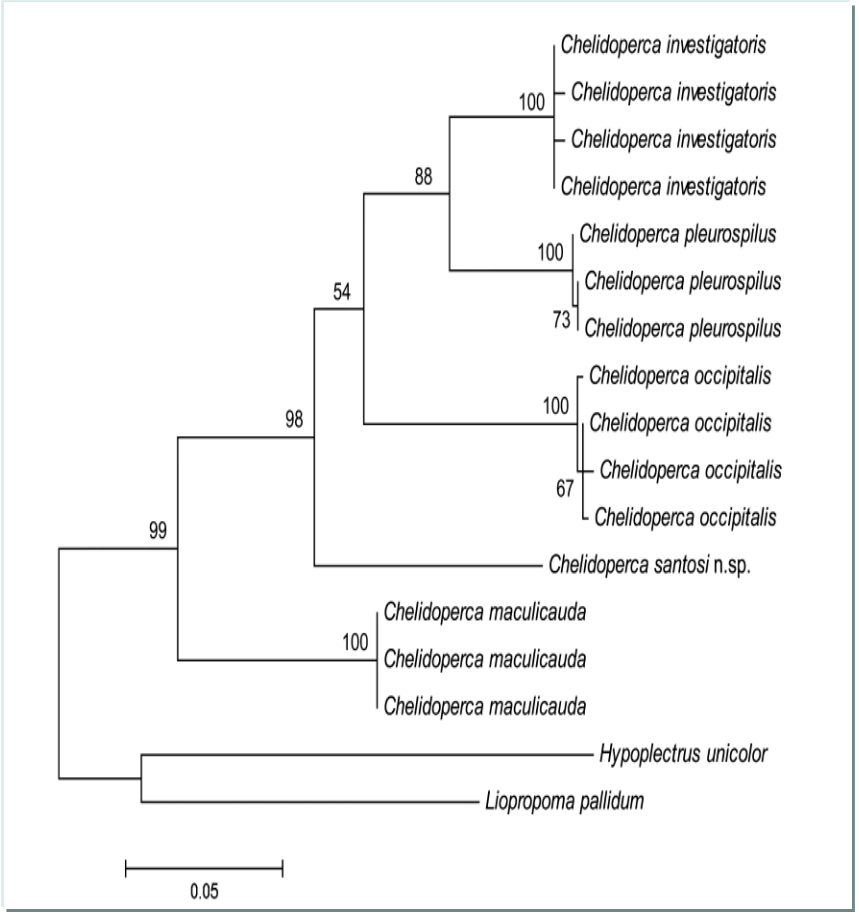
Check DNA ?





Materials and Methods

Imagine how the DNA results and analysis will look like …



… clustering
… bootstrapping

Outcome

287–293
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Article

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http://zoobank.org/urn:lsid:zoobank.org:pub:501BD04B-EB95-4533-B377-239AB03C0020

A new fish species of the subfamily Serraninae (Perciformes, Serranidae) from the Philippines

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Pogi Perchlet, *Chelidoperca santosi* (Williams & Carpenter, 2015)

Add-ons nowadays …

Materials and Methods

Ethics Statement

An institutional review board or equivalent committee is non-existing. Furthermore, the experimental animals used in this research are from landed catch which would mean that the fishes were already dead and no torture was done. These are catch to be vended in the market and there are no strict laws and guidelines relating to their consumption.

Example 3: Question (Problem)

- **Teach the interns**
  - **Matlab (Calculation Tool)**
  - **EndNote (Referencing Tool)**
  - **Origin (Graphing Tool)**

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A simple approach to predict molar heat capacity of ionic liquids using group-additivity method

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[b] School of Chemical Engineering and Chemistry, Mapúa Institute of Technology, Intramuros, Manila 1002, Philippines

Methodology

Table 2
Room-temperature ionic liquids used in the validation of the GAM approach and calculation results.

IUPAC name	Code	MW ($g\,mol^{-1}$)	T range (K)	C_p range ($J\,mol^{-1}\,K^{-1}$)	No. of data points	AAD[a] (%)	Ref.
(a) Data used for the determination of parameter							
1,2-Dimethyl-3-propylimidazolium bis(trifluoromethylsulfonyl)imide	c4a2	419.37	323.1–663.1	473.5–631.1	35	0.02	van Valkenburg *et al.* (2005)
1-Butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide	c1a2	419.37	293.1–453.1	436–575	10	0.08	Holbrey *et al.* (2003)
			283.15–328.15	559.63–584.82	10	0.07	Troncoso *et al.* (2006)
			190–270.22	515–550.9	10	0.06	Blokhin *et al.* (2008)
1-Butyl-3-methylimidazolium acetate	c1a8	198.27	210–300	352.4–384.1	11	0.01	Strechan *et al.* (2008)
1-Butyl-3-methylimidazolium bromide	c1a4	219.12	225.62–370	289.04–340.9	22	0.197	Paulechka *et al.* (2007)
1-Butyl-3-methylimidazolium chloride	c1a5	174.67	343.1–453.1	299–355	12	0.10	Holbrey *et al.* (2003)
1-Butyl-3-methylimidazolium hexafluorophosphate	c1a3	284.18	300.05–524.87	409.2–510.1	1528	0.23	Kabo *et al.* (2004)
			283.15–323.15	400.9–421.88	10	0.41	Troncoso *et al.* (2006)
			303.2–358.2	412.061–443.3208	12	0.40	Yu *et al.* (2009b)
1-Butyl-3-methylimidazolium methylsulfate	c1a10	250.32	303.2–358.2	375.48–400.512	12	0.21	Yu *et al.* (2009b)
1-Butyl-3-methylimidazolium octylsulfate	c1a11	348.51	298.15–343.15	635.22–697.64	46	0.03	Davila *et al.* (2007)
1-Butyl-3-methylimidazolium tetrafluoroborate	c1a1	226.03	278.15–333.15	355.69–385.86	12	0.25	Rebelo *et al.* (2004)
			283.15–358.15	357.8–393.6	16	0.14	Waliszewski *et al.* (2005)
			303.2–358.2	368.4289–393.2922	12	0.07	Yu *et al.* (2009b)
1-Butyl-3-methylimidazolium tosylate	c1a12	310.42	343.89–380	543.4–569.8	5	0.01	Strechan *et al.* (2007)
1-Butyl-3-methylimidazolium trifluoromethanesulfonate	c1a6	288.29	328.15–413.15	443–481	18	1.69	Diedrichs and Gmehling (2006)
			313.16–425.15	448–506	46	0.72	Strechan *et al.* (2007)
			303.2–358.2	443.97–469.91	12	0.57	Yu *et al.* (2009b)
1-Butyl-3-methylimidazolium trifluoroacetate	c1a13	252.24	190–370	367.4–442.6	17	0.083	Strechan *et al.* (2007)
1-Butylpyridinium tetrafluoroborate	c6a1	223.02	286.06–390	377.18–428.45	62	2.49	Zhang *et al.* (2007)
1-Ethyl-3-methylimidazolium 2-(2-methoxyethoxy)ethylsulfate	c3a7	310.43	303.2–358.2	526.49–544.18	12	0.02	Yu *et al.* (2009a)
1-Ethyl-3-methylimidazolium dicyanamide	c3a9	177.26	303.2–358.2	328.11–354.34	12	0.11	Yu *et al.* (2009a)
1-Ethyl-3-methylimidazolium ethyl sulfate	c3a14	236.29	195–390	346.8–399.9	211	0.04	Zhang *et al.* (2007)
1-Ethyl-3-methylimidazolium tetrafluoroborate	c3a1	197.97	283.15–358.15	303.4–330.7	16	0.49	Waliszewski *et al.* (2005)
			308.2–358.2	306.26–323.48	12	0.67	Yu *et al.* (2009a)
1-Hexyl-3-methylimidazolium tetrafluoroborate	c2a1	254.08	323.1–663.1	473.5–631.1	35	2.16	van Valkenburg *et al.* (2005)
1-Methyl-1-propylpyrrolidinium bis(trifluoromethylsulfonyl)imide	c7a2	444.42	283.15–358.15	544.2–594	16	0.003	Waliszewski *et al.* (2005)
1-Methyl-3-octylimidazolium tetrafluoroborate	c5a1	275.23	283.15–323.15	490.1–514.2	9	0.004	Waliszewski (2008)
n-Hexyl-4-(n′,n′-dimethylammonium)pyridinium bis(trifluoromethylsulfonyl)imide	c8a2	487.49	313.15–425.15	731–825	63	1.05	Strechan *et al.* (2007)
n-Butyl-4-(n′,n′-dimethylammonium)pyridinium bis(trifluoromethylsulfonyl)imide	c9a2	459.43	313.13–425.15	673–739	64	0.54	Strechan *et al.* (2007)
n-Ethyl-4-(n′,n′-dimethylammonium)pyridinium bis(trifluoromethylsulfonyl)imide	c10a2	431.38	313.12–425.15	603–659	46	0.45	Strechan *et al.* (2007)
Total					2414	0.34	
(b) Data used for validating the GAM							
1-Butylpyridinium bis(trifluoromethylsulfonyl)imide	c6a2	416.37	323.18–423.15	587–645	60	0.84	Strechan *et al.* (2007)
1-Ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide	c3a2	391.32	283.15–358.15	502.3–538	16	0.22	Waliszewski *et al.* (2005)
			256.91–370	486–540.1	16	2.44	Paulechka *et al.* (2007)
1-Ethyl-3-methylimidazolium bromide	c3a4	191.07	347.66–370	264.8–272.58	16	0.73	Paulechka *et al.* (2007)
1-Ethyl-3-methylimidazolium hexafluorophosphate	c3a3	256.13	353.1–453.1	289–346	11	26.82	Holbrey *et al.* (2003)
1-Ethyl-3-methylimidazolium trifluoromethanesulfonate	c3a6	260.24	313.13–425.15	384–425	64	0.98	Diedrichs and Gmehling (2006)
1-Hexyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide	c2a2	447.42	272.1–310	615–639.5	6	0.86	Shimizu *et al.* (2006)
			318.17–425.15	668–739	62	1.43	Strechan *et al.* (2007)
			196–370	589.25–707.24	164	1.30	Archer (2006)
			188.06–370	572–677	199	1.26	Blokhin *et al.* (2008)
1-Hexyl-3-methylimidazolium hexafluorophosphate	c2a3	312.24	303.1–453.1	425–553	16	10.54	Holbrey *et al.* (2003)
1-Hexyl-3-methylimidazolium trifluoromethanesulfonate	c2a6	316.34	313.14–425.15	517–589	64	1.27	Strechan *et al.* (2007)
1-Octyl-3-methylimidazolium trifluoromethanesulfonate	c5a6	345.41	313.17–423.14	588–651	41	1.63	Strechan *et al.* (2007)
Total					735	1.81	
Overall					3149	0.69	

[a] AAD (%) $= 1/n\sum_{all}(|C_{p,calc} - C_{p,exp}|/C_{p,exp}) \times 100$ where n is the number of points.

- **A total of 3149 data points (taken from ThermoIL Database) were gathered and analyzed.**

Methodology

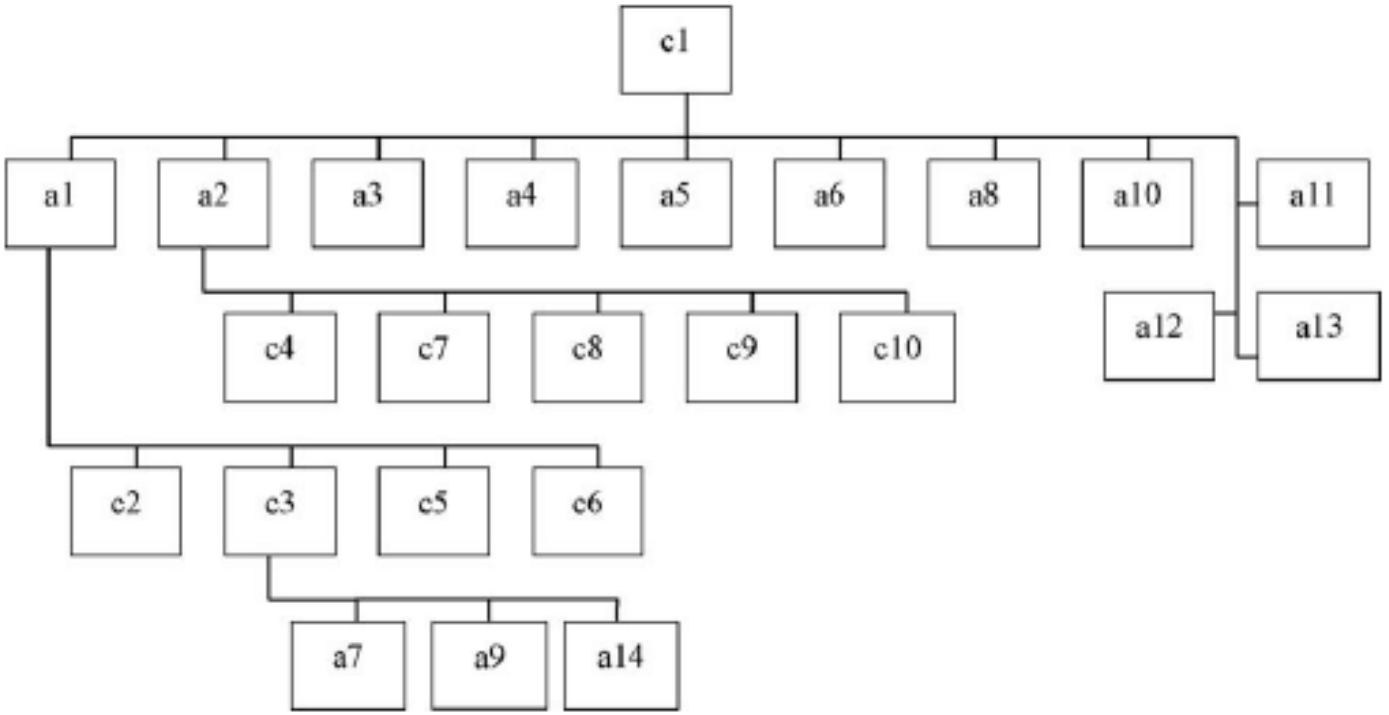

Fig. 1. Group additivity method calculation diagram.

$$C_{p,IL}\ (J\ mol^{-1}\ K^{-1}) = C_{p,cation} + C_{p,anion}$$

Methodology

$$C_{p,\,ion}\,(\mathrm{J\,mol^{-1}\,K^{-1}}) = A + B \times \left(\frac{T}{K}\right) + C \times \left(\frac{T}{K}\right)^2$$

Table 3
Parameters for the temperature dependency of the $C_{p,ion}$[a], Eq. (2).

Ion code	A	B	10^5C
c1	5.1380	0.56249	0.99767
c2	77.534	0.41943	46.790
c3	124.37	−0.41152	128.57
c4	−214.00	1.2782	−113.93
c5	95.841	0.74923	−12.762
c6	−164.26	1.6985	−178.28
c7	−89.262	1.0229	−61.584
c8	197.61	0.41670	20.376
c9	46.249	0.99445	−76.026
c10	112.16	0.34084	−2.7731
a1	154.97	0.30784	−62.130
a2	463.40	−0.47203	79.161
a3	99.479	0.77394	−108.34
a4	208.06	−0.25187	8.2056
a5	94.245	0.06541	−14.734
a6	486.08	−1.1590	144.09
a7	363.12	0.37967	−75.535
a8	380.00	−1.0748	168.63
a9	−20.200	1.3774	−203.65
a10	141.16	0.47835	−93.524
a11	427.71	−0.47855	198.97
a12	−40.493	1.9833	−251.88
a13	327.92	−0.51057	65.635
a14	149.58	0.84323	−156.83

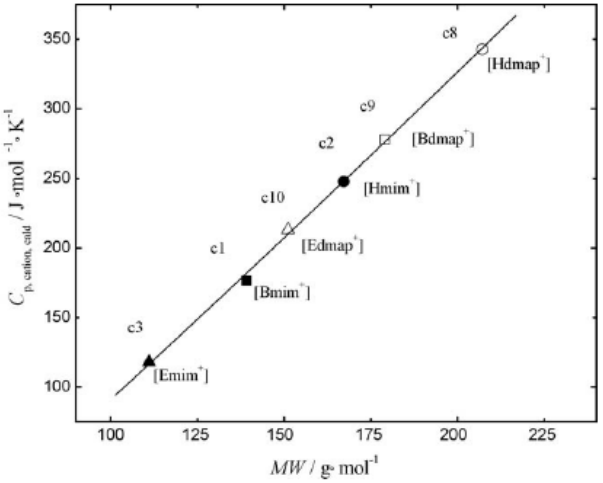

Fig. 6. Effect of alkyl chain on the imidazolium- and pyridinium-based cation on calculated C_p at 303.15 K: (▲, c3, [Emim$^+$]; ■, c1, [Bmim$^+$]; ●, c2, [Hmim$^+$]), imidazolium-based cation; (△, c10, [Edmap$^+$]; □, c9, [Bdmap$^+$]; ○, c8, [Hdmap$^+$]), pyridinium-based cation; and solid line, smoothed.

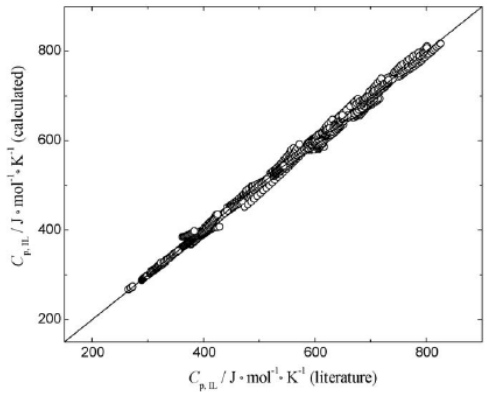

Fig. 5. Comparison between experimental (literature) and calculated C_p values.

Outcome

Journal of the Taiwan Institute of Chemical Engineers 41 (2010) 307–314

Contents lists available at ScienceDirect

Journal of the Taiwan Institute of Chemical Engineers

journal homepage: www.elsevier.com/locate/jtice

A simple approach to predict molar heat capacity of ionic liquids using group-additivity method

Allan N. Soriano [a,b], Arjay M. Agapito [b], Loui John Lee I. Lagumbay [b], Alvin R. Caparanga [a,b], Meng-Hui Li [a,*]

[a] *R&D Center for Membrane Technology and Department of Chemical Engineering, Chung Yuan Christian University, Chung Li 32023, Taiwan*
[b] *School of Chemical Engineering and Chemistry, Mapúa Institute of Technology, Intramuros, Manila 1002, Philippines*

- **The paper have already received a total of 29 citations (Google Scholar) since its publication in 2010.**

Outcome

Journal of the Taiwan Institute of Chemical Engineers 42 (2011) 258–264

Contents lists available at ScienceDirect

Journal of the Taiwan Institute of Chemical Engineers

journal homepage: www.elsevier.com/locate/jtice

Diffusion coefficients of aqueous ionic liquid solutions at infinite dilution determined from electrolytic conductivity measurements

Allan N. Soriano [a,b], Arjay M. Agapito [b], Loui John Lee I. Lagumbay [b], Alvin R. Caparanga [a,b], Meng-Hui Li [a,*]

[a] *R&D Center for Membrane Technology and Department of Chemical Engineering, Chung Yuan Christian University, Chung Li 32023, Taiwan*
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Nernst–Haskell equation

ABSTRACT

In this work, the molar conductivities of aqueous solutions of the ionic liquids abbreviated as [Bdmim][BF_4], [Bdmim][PF_6], [Bmim][Br], and [Bmim][Cl] are reported. Such data were determined from the electrolytic conductivities of the systems, which were measured at different concentrations (dilute region) and temperatures (from 303.15 to 323.15 K). From these data, the infinite dilution diffusion coefficients of the ionic liquids and ionic diffusion coefficients were estimated using the Nernst–Haskell equation. Another theoretical equation, the Nernst–Einstein equation, was, likewise, used to determine the hydrodynamic radii of the considered ions in this work.

GANTT CHART

- Definition
- Example 1: Wikipedia
- Example 2: DOST-GIA
- Example 3: DA-BIOTECH

Gantt Chart Defined

Gantt chart

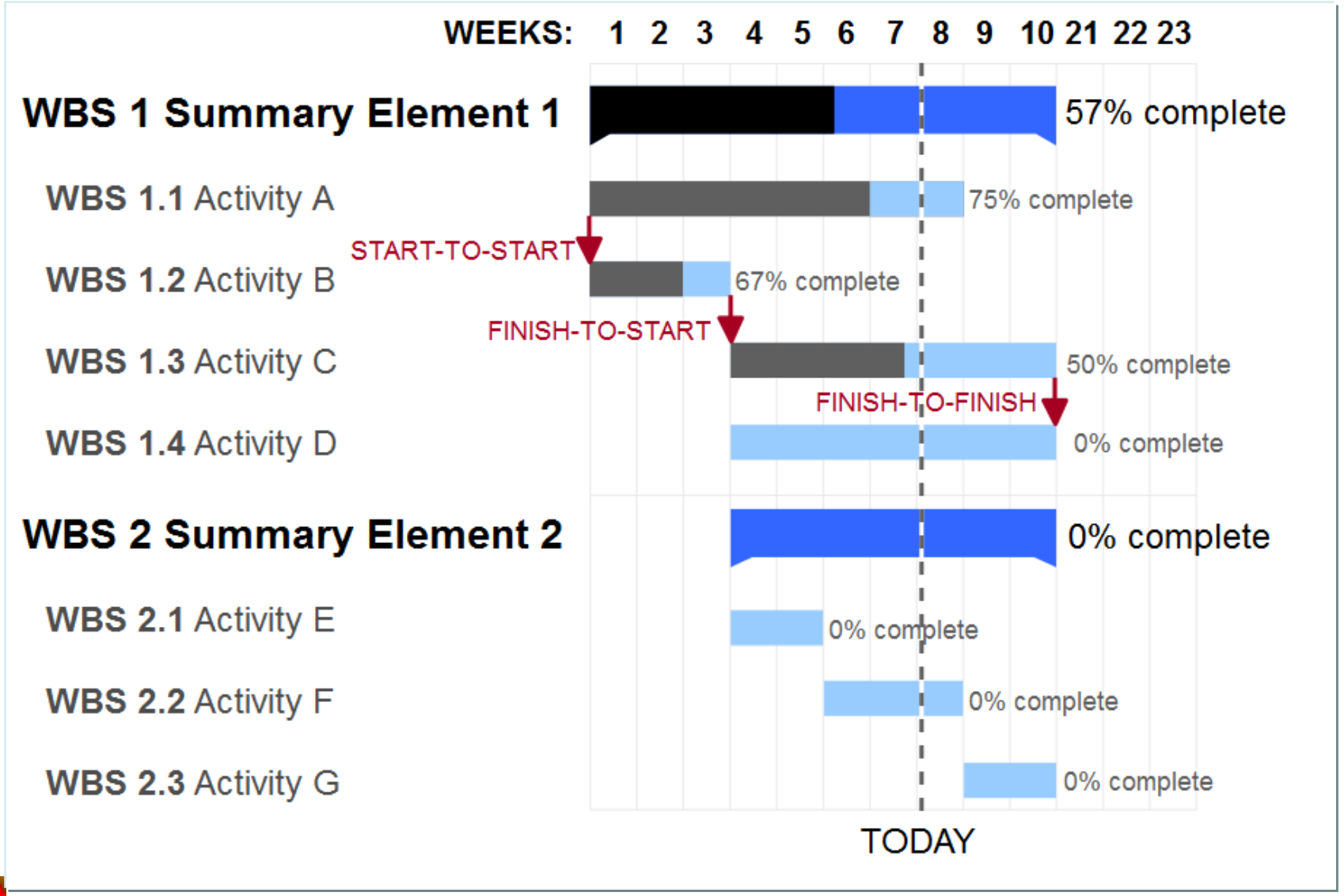
From Wikipedia, the free encyclopedia

"Gantt" redirects here. For other uses, see Gantt (disambiguation).

A **Gantt chart** is a type of bar chart, first developed by Karol Adamiecki in 1896, and independently by Henry Gantt in the 1910s, that illustrates a project schedule. Gantt charts illustrate the start and finish dates of the terminal elements and summary elements of a project. Terminal elements and summary elements comprise the work breakdown structure of the project. Modern Gantt charts also show the dependency (i.e., precedence network) relationships between activities. Gantt charts can be used to show current schedule status using percent-complete shadings and a vertical "TODAY" line as shown here.

Although now regarded as a common charting technique, Gantt charts were considered revolutionary when first introduced.[1] This chart is also used in information technology to represent data that have been collected.

Wikipedia


WEEKS: 1 2 3 4 5 6 7 8 9 10 21 22 23
WBS 1 Summary Element 1
57% complete
WBS 1.1 Activity A
75% complete
START-TO-START
WBS 1.2 Activity B
67% complete
FINISH-TO-START
WBS 1.3 Activity C
50% complete
FINISH-TO-FINISH
WBS 1.4 Activity D
0% complete
WBS 2 Summary Element 2
0% complete
WBS 2.1 Activity E
0% complete
WBS 2.2 Activity F
0% complete
WBS 2.3 Activity G
0% complete
TODAY

DOST-GIA

(14) DOST Form No. 2B – 1
Workplan

Program Title: Tuna Research Program in the Philippines
Project Title: Genetic stock structures of yellowfin (*Thunnus albacares*) and bigeye (*Thunnus obesus*) tunas in Philippine and Adjacent Waters

Total Duration (in months): 24 Planned Start: Month: Year: 2009 Planned End: Month: ___ Year 2011

Objectives	Expected Output *	Activities or Workplan	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. To produce an accurate reference estimate of landed yellowfin and bigeye tunas in the Philippines using genetic markers	- Characterization of yellowfin and bigeye populations in the Philippines and adjacent waters - Confirmation of species identification of yellowfin and bigeye tunas, particularly the juvenile sizes - Sequences of genetic markers - Genetic variation and genetic structures of yellowfin and bigeye tunas - Generation & publication of research results	- Setting up of laboratory - Procurement of chemicals and equipment - Hiring of Research Assistants and Laboratory Technician - Field survey/Identification of sampling sites in the Philippines	■	■										
2. To determine the genetic structure of yellowfin and bigeye tunas in the Philippines and in the Coral Triangle Region and in the greater Western and Central Pacific Ocean		- Field sampling, collection and storage of tissue samples	■	■	■	■	■	■	■	■				
3. To correlate genetic structure of yellowfin tuna from bigeye tuna with other data generated by the program including stock assessment and biological data		- Sample preparation, PCR optimization	■	■	■	■	■	■	■	■	■	■		
		- Sequencing of mitochondrial and microsatellite markers			■	■	■	■	■	■	■	■		
		- Encoding	■	■	■	■	■	■	■	■	■	■	■	
		- Bioinformatic analysis - Population genetic analysis			■	■	■	■	■	■	■	■	■	
		- Writing manuscripts				■	■	■	■	■	■	■	■	■
		- Slide presentation preparations				■				■				■

DA-BIOTECH

PART 3. WORKPLAN SCHEDULE

Activities	Duration	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rice									
Assembly and sowing of GRC, Genebank accessions, DNA extraction	6 mos	■	■						
Preliminary evaluation of primers	9 mos		■	■	■				
PCR amplification and DNA sequencing of chloroplast loci	12 mos			■	■	■	■		
DNA sequence alignment	12 mos				■	■	■	■	
Analysis of sequence, nucleotide diversity data	12 mos					■	■	■	■
Tilapia									
Setting up of the laboratory	3 mos	■							
Sample collection of target aquatic species	21 mos	■	■	■	■	■	■	■	
DNA extraction, PCR, documentation	21 mos	■	■	■	■	■	■	■	
DNA sequencing	18 mos		■	■	■		■	■	■
Data analysis and databasing	12 mos			■	■			■	■
Presentation of results in conferences and writing of manuscripts	12 mos			■	■			■	■
Databasing									
Initial development of database platform, acquisition of hardware	6 mos				■	■			
Development and piloting of database platform	9 mos						■	■	■

BUDGET PROPOSAL PREPARATION

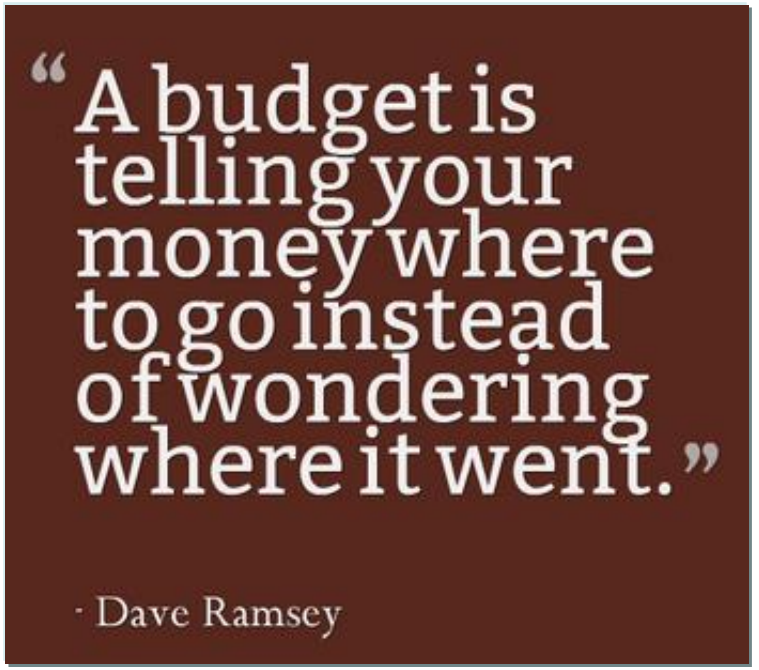
- Definition
- Pointers
- Comparisons
- Example 1: DOST-GIA
- Example 2: DA-BIOTECH

Budget Defined

Budget

From Wikipedia, the free encyclopedia

A **budget** is a quantitative expression of a plan for a defined period of time. It may include planned sales volumes and revenues, resource quantities, costs and expenses, assets, liabilities and cash flows. It expresses strategic plans of business units, organizations, activities or events in measurable terms.[1]



GENERAL POINTERS

A. Identified expenses are technically allowable

- *Within the rate of funding entity's budget*
- *Personnel appropriate; local personnel included*
- *Purchase of instruments/materials/reproduction/travel*
- *Acceptable rates for consultants*

B. Resources and Materials

- *Apparatus and materials to use*
- *Special supplies or staff/advisor required*
- *Special training, knowledge or certification*
- *Facilities for access inside and outside your institution*

SPECIFIC POINTERS

1. Objectives, Methodology & Activities

- *What are the resources (human & facilities) needed to achieve the objectives?*
- *What are the activities to be done?*
- *What is the estimate costing for each activity?*

2. Funding Institution

- *Institutional*
- *Local: CHED, DOST, DA-BAR, NRCP, NGOs etc.*
- *International: GEF, UNDP, International NGOs, etc*

SPECIFIC POINTERS

3. Capital Outlay

- *Building or Infrastructure*
- *Equipment*

4. Personnel Services

- *No. of Personnel (Researchers, Collaborators, RA's etc)*
- *Rates (Honorarium, Collaborators, Salaries)*

SPECIFIC POINTERS

5. Maintenance and Other Operating Expenses (MOOE)

- *Office Supplies*
- *Laboratory and Field Supplies*
- *Laboratory Analysis*
- *Publication Fee*

6. Counterpart Funding

- *Facilities (lab equipment, computer, space, electricity, water, herbarium cabinets, green houses, etc.)*
- *Salaries (?)*

SPECIFIC POINTERS

8. Indirect/Administrative Cost

- *3% to 35% of Total Cost*
- *Incentives for Non-technical support staff*
  e.g. Accountant, Property Officer, Cashier etc

SPECIFIC POINTERS

Our COA Auditor said …

"get the Suggested Retail Price (SRP) or canvass three and get average, then add 20% = Budget Proposal"

Examples Compared

Items	DA-BAR	CHED	DOST
I. Personnel Services (PS)(DOST & DA-BAR)/**Other Professional Services** (CHED)			
A. Salaries and Wages/Contract Services (CHED)			
Project Assistant		15, 541/mo.	
Research Assistant (See new Prescribed Salary Rates for DOST Grants-in- Aid (GIA) Personnel, Series of 2013)	9, 820/mo. x 12 mos.	17,541/mo.	23,928/mo.
Science Aide		10, 195/mo.	13,417/mo.
Local Researchers		300/day x # of days/mo.	350/day x 7days x 12mos.
Laborer 1 (See new Prescribed Salary Rates for DOST Grants-in- Aid (GIA) Personnel, Series of 2013)			10,800/mo.
Laboratory Aide 1 (See new Prescribed Salary Rates for DOST Grants-in-Aid (GIA) Personnel, Series of 2013)			11,600/mo.

Examples Compared

Items	DA-BAR	CHED	DOST
B. Honorarium/Incentives			
Program Leader (See DOST MC # 001, Series of 2009)		15,000/mo.	1-2 Projects – 10,200/mo. 3-4 Projects – 11,600/mo. 5 or more – 14,600/mo.
Project Leader	8, 800/mo.	8,800/mo.	8,800/mo.
Study Leader/Project Staff (DOST) (See DOST MC # 001, Series of 2009)	6,000/mo.	6,000/mo.	Level 3 – 7,500/mo./Project (SG 24) Level 2 – 6,000/mo./Project (SG 18) Level 1 – 4,800/mo./Project (SG 15)
Collaborators	1, 600/mo.	4,400/mo.	
Resource Person/ Consultants (On Call Basis)	1600/mo.	3,000/quarter	3,000/consultation
Sub-Total for PS			

Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY

OFFICE OF THE SECRETARY

JUN 30 2016

DOST Special Order No. 374
Series of 2016

SUBJECT: New Prescribed Salary Rates for DOST Grants-in-Aid (GIA) Personnel

PRESCRIBED SALARY RATE FOR DOST-GIA PERSONNEL
(Effective July 1, 2016)

	Position Title	Salary Grade	Monthly Rate of Personnel
1	Laborer I	1	11,373.60
2	Utility Worker I	1	11,373.60
3	Laboratory Aide I	2	12,190.80
4	Clerk	3	13,059.60
5	Driver I	3	13,059.60
6	Laborer II	3	13,059.60
7	Clerk II	4	13,989.60
8	Driver II	4	13,989.60
9	Laboratory Aide II	4	13,989.60
10	Science Aide	4	13,989.60
11	Agricultural Technician I	6	16,053.60
12	Clerk III	6	16,053.60
13	Labor Foreman	6	16,053.60
14	Laboratory Technician I	6	16,053.60
15	Utility Foreman	6	16,053.60
16	Computer Operator I	7	17,197.20
17	Agricultural Technician II	8	18,441.60
18	Clerk IV	8	18,441.60
19	Labor General Foreman	8	18,441.60
20	Laboratory Inspector I	8	18,441.60
21	Laboratory Technician II	8	18,441.60
22	Project Development Assistant	8	18,441.60
23	Project Assistant I	8	18,441.60
24	Computer Operator II	9	19,814.40
25	Science Research Assistant	9	19,814.40
26	Laboratory Inspector II	10	21,276.00
27	Project Assistant II	10	21,276.00
28	Computer Maintenance Technologist I	11	22,892.40
29	Computer Programmer I	11	22,892.40
30	Data Entry Machine Operator III	11	22,892.40
31	Information Officer I	11	22,892.40
32	Science Research Analyst	11	22,892.40
33	Project Evaluation Officer I	11	22,892.40
34	Project Development Offier I	11	22,892.40
35	Computer Operator III	12	24,781.20
36	Project Assistant III	12	24,781.20
37	Research Assistant	12	24,781.20
38	University Research Associate I	12	24,781.20
39	Science Research Specialist I	13	26,793.60
40	Computer Operator IV	14	28,969.20

PRESCRIBED SALARY RATE FOR DOST-GIA PERSONNEL
(Effective July 1, 2016)

	Position Title	Salary Grade	Monthly Rate of Personnel
41	Information Systems Researcher II	14	28,969.20
42	Project Assistant IV	14	28,969.20
43	Senior Research Assistant	14	28,969.20
44	University Research Associate II	14	28,969.20
45	Computer Maintenance Technologist II	15	31,430.40
46	Computer Programmer II	15	31,430.40
47	Information Officer II	15	31,430.40
48	Project Evaluation II	15	31,430.40
49	Project Development Officer II	15	31,430.40
50	Information Systems Analyst II	16	34,100.40
51	Research Associate	16	34,100.40
52	Science Research Specialist II	16	34,100.40
53	University Researcher I	16	34,100.40
54	Compu. Maintenance Techno III	17	36,997.20
55	Computer Programmer III	18	40,142.40
56	Information Officer III	18	40,142.40
57	Project Development Officer III	18	40,142.40
58	Project Evalation Officer III	18	40,142.40
59	Research Associate I	18	40,142.40
60	University Researcher II	18	40,142.40
61	Info. Technology Officer I	19	43,690.80
62	Sr. Science Research Specialist	19	43,690.80
63	Project Officer I	20	47,721.60
64	Research Associate II	20	47,721.60
65	University Researcher III	20	47,721.60
66	Project Officer II	21	52,126.80
67	Information Officer IV	22	56,937.60
68	Info. Technology Officer II	22	56,937.60
69	Project Officer III	22	56,937.60
70	Project Evaluation Officer IV	22	56,937.60
71	Project Development Officer IV	22	56,937.60
72	Research Associate III	22	56,937.60
73	Supervising SRS	22	56,937.60
74	University Researcher IV	22	56,937.60
75	Project Officer IV	23	62,191.20
76	Chief SRS	24	67,932.00
77	Project Officer V	24	67,932.00
78	Research Associate IV	24	67,932.00
79	University Researcher V	24	67,932.00

Examples Compared

Items	DA-BAR	CHED	DOST
II. Maintenance and Other Operating Expenses (MOOE)			
A. DIRECT COST (refers to expenses incurred by the implementing agency in the execution of program/project considered indispensable to its operations.)			
a. Travel/Transportation Expenses (includes Field Works, vehicle rental, per diem and porter fees)			
b. Supplies and Materials (office supplies, laboratory, documentation, report and binding cost of draft and final manuscripts)			
c. Communications and Publication Cost			
d. Meetings/Seminars/Workshops/Trainings*			
e. Representation Expenses (e.g. food for meetings)	?	Allowed	Allowed
f. Upgrading of Facilities			
Sub-Total for MOOE			

*may be indicated as others for DA-BAR

Examples Compared

Items	DA-BAR	CHED	DOST
B. INDIRECT COST(DOST &CHED)/ **Administrative Cost** (DA-BAR) (%of PS and MOOE)(refers to overhead expenses incurred by the implementing or monitoring agency in managing, evaluation, and monitoring of the program/project. The administrative and project management costs shall be under this classification.)	(10% of PS and MOOE)	(5% of MOOE)	(15% of PS and MOOE)
	For Implementing Institution only	For Implementing Institution only	Implementing Institution (7.5%) PCAARRD (7.5%)
III. Equipment Outlay (EO) (Detailed list of Equipment)			
One (1) Unit Laptop			
One (1) Unit Camera			
Sub-Total for EO			
TOTAL			

PCIEERD <pcieerd@pcieerd.dost.gov.ph> Jun 21 at 8:13 AM

To pcieerd@pcieerd.dost.gov.ph

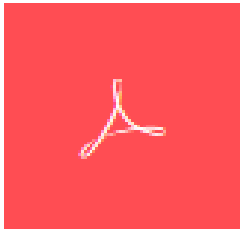
Dear Researchers,

Through the years, there have been a good number of analytical and testing equipment provided to you and your fellow researchers through DOST and PCIEERD project funds. We are providing you with such list hoping that you will potentially see equipment that you may want to use for your particular research. Being purchased with government funds, these should be open for use by other local researchers. However, note that their use may not be free as there are costs associated with maintenance, utilities and expendable materials.

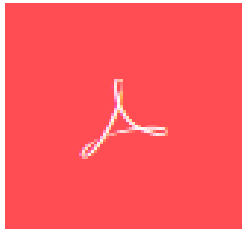
Please find attached a list of majority of these equipment, where these are stationed, who is in charge of these and their contact information.

Thank you.

2 Attachments | View all | Download all



List of Equ.. .pdf



List of Equ.. .pdf

DOST Form No. 2B-2
Budget Breakdown by Source of Fund

Program Title: National Tuna Research Program in the Philippines
Project 2: Genetic Stock Structures of Yellowfin (Thunnus albacares) and big eye (Thunnus obesus) tunas in Philippine Waters

Source of Fund: **DOST-GIA**	Implementing Agency: **National Fisheries Research and Development Institute (NFRDI)/Bureau of Fisheries and Aquatic Resources (BFAR)**					Research & Development Station: **BFAR/NFRDI**		
	Year 1				Total Y1			
ITEM	**Q1**	**Q2**	**Q3**	**Q4**	**Budget**	**YEAR 2**	**YEAR 3**	**TOTAL**
I. PERSONAL SERVICES								
Direct Cost								
Salaries								
(2) Research Asst. @ P17,461/mo.	104,766.00	104,766.00	104,766.00	104,766.00	419,064.00	460,970.40	507,067.44	1,387,101.84
(1) Laboratory Technician @ P11,893/mo.	35,679.00	35,679.00	35,679.00	35,679.00	142,716.00	156,987.60	172,686.36	472,389.96
Honoraria								
(1) Proj Leader @P8,800/mo.	26,400.00	26,400.00	26,400.00	26,400.00	105,600.00	116,160.00	127,776.00	349,536.00
(2) Project Staff (L2) @ P6,00/mo.	36,000.00	36,000.00	36,000.00	36,000.00	144,000.00	158,400.00	174,240.00	476,640.00
(2) Project Staff (L1) @ P4,800/mo.	28,800.00	28,800.00	28,800.00	28,800.00	115,200.00	126,720.00	139,392.00	381,312.00
Indirect Cost								
Honoraria								
NFRDI								
(1) Project Technical Staff L2 @ P1,500/qtr	1,500.00	1,500.00	1,500.00	1,500.00	6,000.00	6,600.00	7,260.00	19,860.00
(1) Project Admin. Staff L2 @ P1,500/qtr.	1,500.00	1,500.00	1,500.00	1,500.00	6,000.00	6,600.00	7,260.00	19,860.00
PCAMRD								
(1) Project Coordinator @ P4,400/qtr.	4,400.00	4,400.00	4,400.00	4,400.00	17,600.00	19,360.00	21,296.00	58,256.00
(1) Project Technical Staff L2 @ P1,500/qtr	1,500.00	1,500.00	1,500.00	1,500.00	6,000.00	6,600.00	7,260.00	19,860.00
(1) Project Admin. Staff L2 @ P1,500/qtr.	1,500.00	1,500.00	1,500.00	1,500.00	6,000.00	6,600.00	7,260.00	19,860.00
SUB-TOTAL (PS)	**242,045.00**	**242,045.00**	**242,045.00**	**242,045.00**	**968,180.00**	**1,064,998.00**	**1,171,497.80**	**3,204,675.80**

DOST-GIA

SUB-TOTAL (PS)	**242,045.00**	**242,045.00**	**242,045.00**	**242,045.00**	**968,180.00**	**1,064,998.00**	**1,171,497.80**	**3,204,675.80**
II. MAINTENANCE AND OTHER OPERATING EXPENSES								
Direct Cost								
Travel								
Local	98,500.00	121,500.00	131,000.00	133,000.00	484,000.00	436,350.00	237,000.00	1,157,350.00
Foreign				100,000.00	100,000.00	200,000.00	200,000.00	500,000.00
Supplies and Materials								
Office Supplies	50,000.00	50,000.00	50,000.00	50,000.00	200,000.00	150,000.00	100,000.00	450,000.00
Laboratory Chemicals	500,000.00	500,000.00	500,000.00	500,000.00	2,000,000.00	1,000,000.00	500,000.00	3,500,000.00
Fish samples	50,000.00	50,000.00	50,000.00	50,000.00	200,000.00	150,000.00		350,000.00
DNA Sequencing Cost			250,000.00	250,000.00	500,000.00	500,000.00	200,000.00	1,200,000.00
Professional Services				100,000.00	100,000.00	100,000.00	100,000.00	300,000.00
Repair of Laboratory Equipment	25,000.00	25,000.00	25,000.00	25,000.00	100,000.00	100,000.00		200,000.00
Communication	25,000.00	25,000.00	25,000.00	25,000.00	100,000.00	65,000.00	30,000.00	195,000.00
IEC Materials/Printing Expense				50,000.00	50,000.00	250,000.00	350,000.00	650,000.00
Indirect Cost								
NFRDI								
Utilities	15,000.00	10,000.00	10,000.00	10,000.00	45,000.00	49,500.00	54,450.00	148,950.00
Office Supplies and Materials	10,000.00	7,500.00	5,000.00	5,000.00	27,500.00	30,250.00	33,275.00	91,025.00
Communication	3,500.00	2,000.00	1,000.00	1,000.00	7,500.00	8,250.00	9,075.00	24,825.00
Representation (Mtg. Expense)	5,000.00	5,000.00	5,000.00	5,000.00	20,000.00	22,000.00	24,200.00	66,200.00
PCAMRD								
Travel (Local)	15,000.00	15,000.00	15,000.00	15,000.00	60,000.00	66,000.00	72,600.00	198,600.00
Office Supplies and Materials	10,000.00	5,000.00	5,000.00	5,000.00	25,000.00	27,500.00	30,250.00	82,750.00
Communication	5,000.00	5,000.00	5,000.00	5,000.00	20,000.00	22,000.00	24,200.00	66,200.00
Representation (Mtg. Expense)	10,000.00	10,000.00	5,000.00	5,000.00	30,000.00	33,000.00	36,300.00	99,300.00
SUB-TOTAL (MOOE)	**822,000.00**	**831,000.00**	**1,082,000.00**	**1,334,000.00**	**4,069,000.00**	**3,209,850.00**	**2,001,350.00**	**9,280,200.00**
III. EQUIPMENT OUTLAY								

DOST-GIA

III. EQUIPMENT OUTLAY								
Ultra Low Freezer	600,000.00	-	-	-	600,000.00	-	-	600,000.00
Gel Documentation System	1,200,000.00	-	-	-	1,200,000.00	-	-	1,200,000.00
Water Bath	170,000.00	-	-	-	170,000.00	-	-	170,000.00
Centrifudge (Interchangeable rotors)	800,000.00	-	-	-	800,000.00	-	-	800,000.00
Autoclave	300,000.00	-	-	-	300,000.00	-	-	300,000.00
1 printer	25,000.00				25,000.00			
(1) Units Laptop Computer	75,000.00	-	-	-	75,000.00	-	-	75,000.00
(2) Desktop Computer	100,000.00	-	-	-	100,000.00	-	-	100,000.00
Digital Camera	50,000.00	-	-	-	50,000.00	-	-	50,000.00
SUB-TOTAL (EO)	**3,320,000.00**	**-**	**-**	**-**	**3,320,000.00**	**-**	**-**	**3,320,000.00**
TOTAL	**4,384,045.00**	**1,073,045.00**	**1,324,045.00**	**1,576,045.00**	**8,357,180.00**	**4,274,848.00**	**3,172,847.80**	**15,804,875.80**

PART 5. BUDGET SUMMARY

Budget Estimate (in pesos)							
Expense Code	Budget Year / Items	Year 1 Q1	Q2	Q3	Q4	Total	Year 2
01	I. Personnel Services (PS)						
	Sub-Total for PS					-	
	II. Maintenance & Other Operating Expenses (MOOE)						
02	A. Travel and Insurance	50,000	50,000	50,000	50,000	200,000	320,000
03	B. Communications	27,500	27,500	27,500	27,500	110,000	150,000
04	C. Supplies and Materials	608,750	608,750	608,750	608,750	2,435,000	2,435,000
05	D. Sundries	10,000	10,000	10,000	10,000	40,000	40,000
29	E. Other services (contract staff, incentives)	299,285	299,285	299,285	299,285	1,197,141	1,522,051
	Sub-Total for MOOE	995,535	995,535	995,535	995,535	3,982,141	4,467,051
06	III. Equipment Outlay (EO)						
	Sub-Total for EO					-	
07	IV. Administrative Cost - 10% (PS + MOOE)	56,449	56,449	56,449	56,449	225,796	274,287
	TOTAL	1,051,984	1,051,984	1,051,984	1,051,984	4,207,937	4,741,338

PART 5A. WORKSHEET DETAILS ON OTHER SERVICES (Project Contractual Staff and Incentives)

BUDGET SCHEDULE - OTHER SERVICES										
List of Personnel	Salary Per Month	No. of Persons	No. of Months	% Time	Year 1					Year 2
					Q1	Q2	Q3	Q4	Total	
A. Salaries and Wages										
1. Regular										
B. Incentives										
Proj leader (Rice, Fish)	8,800	2	24		52,800	52,800	52,800	52,800	211,200	211,200
Proj leader (Database)	8,800	1	15					26,400	26,400	105,600
Proj consultant	9,000	1	15					27,000	27,000	108,000
Proj staff level 1	4,800	1	24		14,400	14,400	14,400	14,400	57,600	57,600
Proj support staff	500	4	24		6,000	6,000	6,000	6,000	24,000	24,000
C. Others										
1. Contractual										
SRS I	17,880	1	24	100%	53,640	53,640	53,640	53,640	214,560	214,560
Research Asst	17,461	2	24	100%	104,766	104,766	104,766	104,766	419,064	419,064
Lab asst	8,854	1	24	100%	26,562	26,562	26,562	26,562	106,248	106,248
Computer programmer	16,471	1	15	100%				49,413	49,413	197,652
2. Contractual benefits								61,656	61,656	78,127
Sub Total for Other Services					258,168	258,168	258,168	422,637	1,197,141	1,522,051

PART 5B. WORKSHEET DETAILS ON EXPENSES (MOOE)

BUDGET SCHEDULE - MOOE						
Details of Expenses	Year 1					Year 2
	Q1	Q2	Q3	Q4	Total	
Code 02 - Travel and Insurance	50,000	50,000	50,000	50,000	200,000	320,000
Code 03 - Communications	27,500	27,500	27,500	27,500	110,000	150,000
Code 04 - Supplies and Materials	608,750	608,750	608,750	608,750	2,435,000	2,435,000
Code 05 - Sundries	10,000	10,000	10,000	10,000	40,000	40,000
Code 29 - Other Services (includes contract services & incentives)	299,285	299,285	299,285	299,285	1,197,141	1,522,051
Sub-Total for MOOE	995,535	995,535	995,535	995,535	3,982,141	4,467,051

Thank you!

END