

***I MINA'TRENTAI SINGKO NA LIHESLATURAN GUÅHAN***  
**RESOLUTIONS**

Resolution No.	Sponsor	Title	Date Intro	Date of Presentation	Date Adopted	Date Referred	Referred to	PUBLIC HEARING DATE	DATE COMMITTEE REPORT FILED	NOTES
152-35 (COR)	Amanda L. Shelton	Relative to recognizing Joseph Michael Lacuna Manuel for his work - " <i>Photometric Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of Type Ia Supernovae</i> ;" and congratulating him as the recipient of the "Chambliss Astronomy Achievement Student Award" from the American Astronomical Society.	6/6/19 9:16 a.m.	6/21/19 12:30 p.m.	6/19/19 2:37 p.m.					

Resolution No. 152-35 (COR)

Introduced by:

Amanda L. Shelton	
William M. Castro	Salma Flores Perez
Regine Biscoe Lee	Clinton E. Rudeell
Kelly Marsh (Tatano), PhD	Joe S. San Agustin
James C. Moylan	Telo I. Tanguen
Louise B. Muña	Jose "Deli" Tetlag
Tina Rose Muña Barnes	Therese M. Tetlag
Telena Cruz Nelson	Mary Camacho Torres



Relative to recognizing Joseph Michael Lacuna Manuel for his work - "*Photometric Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of Type Ia Supernovae*;" and congratulating him as the recipient of the "Chambliss Astronomy 0

BE IT RESOLVED BY THE COMMITTEE ON RULES OF *I MINA'TRENTAI SINGKO NA LIHESLATURAN GUAHAN*:

**WHEREAS**, Joseph Michael Lacuna Manuel is the son of Orlando Tutanés Manuel and Lolita Lacuna Manuel of *Liguan Terrace, Dededo*; and he attended Villanova University in Pennsylvania and received his Bachelor of Science degree in Astrophysics and Planetary; and

**WHEREAS**, the American Astronomical Society is a society of professional astronomers which was founded in 1899 by astronomer George Ellery Hale, the discoverer of the magnetic fields around sun spots, and whose membership totals more than seven thousand (7,000) astronomers, astrophysicists, and related professions whose mission is to promote the advancement of astronomy and closely related branches of science, and to enhance humanity's scientific understanding of the universe; and

**WHEREAS**, Joseph Michael Lacuna Manuel was awarded the "Chambliss Astronomy Achievement Student Award" and the Chambliss Medal from the American Astronomical Society which recognizes exemplary research in astronomy or astrophysics by American Astronomical Society graduates, and undergraduate student members; and

**WHEREAS**, Joseph Michael Lacuna Manuel presented his work "*Photometric Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of Type Ia Supernovae*," which was co-authored by Professor Daniel Scolnic of the Duke University Department of Physics, at the 2019 meeting of the American Astronomical Society; and


**WHEREAS**, photometric calibration is the dominant systematic uncertainty in the analysis of type Ia supernovae (SNIa) for precision cosmology. Recent studies have shown that one percent (1%) level uncertainties in the calibration can propagate to up to five percent (5%) level systematic uncertainties in measurements of the equation-of-state of dark energy. The Pan-STARRS survey (PS1) is critical in this pursuit as it has discovered and measured a large fraction of the SNIa used to measure dark energy, and the PS1 calibration has been used to recalibrate almost every other SN survey; and

**WHEREAS**, Joseph and Professor Scolnic revisited the calibration of PS1 to address percent-level discrepancies in measurements between the Point-Spread Function (PSF) versus aperture photometry of calibration stars. They found significant discrepancy in g passband, likely due to the PSF-shape dependence on color. They corrected for this discrepancy by changing the effective passband and then redetermine the absolute calibration of the PS1 survey. They measured the calibration of each filter to 3 mmag, paving the path to the next best measurements of dark energy with even bigger samples of SNe in the future; now therefore, be it

**RESOLVED**, that *I Mina'trentai Singko Na Liheslaturan Guahan* does hereby, on behalf of the people of Guam, recognize and commend Joseph Michael Lacuna Manuel on his graduation from Villanova University in Pennsylvania and for winning the "Chambliss Astronomy Achievement Student Award" from the American Astronomical Society for his work - "*Photometric Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of Type Ia Supernovae*;" and be it further

**RESOLVED**, that the Speaker and the Chairperson of the Committee on Rules certify, and the Legislative Secretary attest to, the adoption hereof, and that copies of the same be thereafter transmitted to Joseph Michael Lacuna Manuel; and to the Honorable Lourdes A. Leon Guerrero, *I Maga'baigan Guahan*.

DULY AND REGULARLY ADOPTED BY THE COMMITTEE ON RULES OF *I MINA'TRENTAI SINGKO NA LIHESLATURAN GUAHAN* ON THE 19<sup>TH</sup> DAY OF JUNE 2019.

  
TINA ROSE MUÑA BARNES  
Speaker

  
REGINE BISCOE LEE  
Chairperson, Committee on Rules

  
AMANDA L. SHELTON  
Legislative Secretary



Recd 6/20/19  
J. D. [Signature]

## Clerks

---

**From:** Office of Senator Shelton Guam Legislature  
<officeofsenatorshelton@guamlegislature.org>  
**Sent:** Friday, June 7, 2019 8:52 AM  
**To:** Cerks; Tom Unsiog; Protocol; Audio / Video; Management Information System; Office of Senator Shelton Guam Legislature; phmaterials@guamlegislature.org; phnotice@guamlegislature.org  
**Subject:** Presentation of Resolution No. 152-35 (COR)

## MEMORANDUM

**TO:** All Senators  
35<sup>th</sup> Guam Legislature

**FROM:** Senator Amanda L. Shelton

**SUBJECT:** Presentation of Resolution No. 152-35 (COR)

*Buenas yan Hafa Adai!*

Your presence is kindly requested at the presentation of **Resolution No. 152-35 (COR)** relative to recognizing Joseph Michael Lacuna Manuel for winning the Chambliss Achievement Student Award from the American Astronomical Society for his work "Photometric Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of Type Ia Supernovae" and for his graduation from Villanova University in Pennsylvania with a degree in Astrophysics.

The presentation will take place, **Friday, June 21, 2019 at 12:30pm** at the **Public Hearing Room, Guam Congress Building, Hagatna**. We look forward to your attendance and participation.

*Un Dangkolo Na Si Yu'os Ma'âse'*



### **Aguarin Iriarte**

Office of the People • Senator Amanda L. Shelton  
Legislative Secretary & Chairwoman of the Committee  
on Higher Education and the Advancement of Women,  
Youth and Senior Citizens  
35th Guam Legislature  
*I Mina'trentai Singko na Liheslaturan Guåhan*

Tel: (671) 969-2574

Email: [officeofsenatorshelton@guamlegislature.org](mailto:officeofsenatorshelton@guamlegislature.org)

***I MINA'TRENTAI SINGKO NA LIHESLATURAN GUÅHAN***  
**2019 (FIRST) Regular Session**

**Resolution No. 152-35 (COR)**

Introduced by:

Amanda L. Shelton  
William M. Castro  
Régine Biscoe Lee  
Kelly Marsh (Taitano), PhD  
James C. Moylan  
Louise B. Muña  
Tina Rose Muña Barnes  
Telen Cruz Nelson  
Sabina Flores Perez  
Clynton E. Ridgell  
Joe S. San Agustin  
Telo T. Taitague  
Jose “Pedo” Terlaje  
Therese M. Terlaje  
Mary Camacho Torres

**Relative to recognizing Joseph Michael Lacuna Manuel for his work - “*Photometric Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of Type Ia Supernovae*,” and congratulating him as the recipient of the “Chambliss Astronomy Achievement Student Award” from the American Astronomical Society.**

- 1        **BE IT RESOLVED BY THE COMMITTEE ON RULES OF *I***  
2        ***MINA'TRENTAI SINGKO NA LIHESLATURAN GUÅHAN*:**  
3        **WHEREAS,** Joseph Michael Lacuna Manuel is the son of Orlando Tutanés  
4        Manuel and Lolita Lacuna Manuel of *Liguan* Terrace, *Dededo*; and he attended

1 Villanova University in Pennsylvania and received his Bachelor of Science degree in  
2 Astrophysics and Planetary; and

3 **WHEREAS**, the American Astronomical Society is a society of professional  
4 astronomers which was founded in 1899 by astronomer George Ellery Hale, the  
5 discoverer of the magnetic fields around sun spots, and whose membership totals more  
6 than seven thousand (7,000) astronomers, astrophysicists, and related professions  
7 whose mission is to promote the advancement of astronomy and closely related  
8 branches of science, and to enhance humanity's scientific understanding of the universe;  
9 and

10 **WHEREAS**, Joseph Michael Lacuna Manuel was awarded the "Chambliss  
11 Astronomy Achievement Student Award" and the Chambliss Medal from the American  
12 Astronomical Society which recognizes exemplary research in astronomy or  
13 astrophysics by American Astronomical Society graduates, and undergraduate student  
14 members; and

15 **WHEREAS**, Joseph Michael Lacuna Manuel presented his work "Photometric  
16 Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of  
17 Type Ia Supernovae," which was co-authored by Professor Daniel Scolnic of the Duke  
18 University Department of Physics, at the 2019 meeting of the American Astronomical  
19 Society; and

20 **WHEREAS**, photometric calibration is the dominant systematic uncertainty in  
21 the analysis of type Ia supernovae (SNIa) for precision cosmology. Recent studies have  
22 shown that one percent (1%) level uncertainties in the calibration can propagate to up  
23 to five percent (5%) level systematic uncertainties in measurements of the equation-of-  
24 state of dark energy. The Pan-STARRS survey (PS1) is critical in this pursuit as it has  
25 discovered and measured a large fraction of the SNIa used to measure dark energy, and  
26 the PS1 calibration has been used to recalibrate almost every other SN survey; and



1       **WHEREAS**, Joseph and Professor Scolnic revisited the calibration of PS1 to  
2 address percent-level discrepancies in measurements between the Point-Spread  
3 Function (PSF) versus aperture photometry of calibration stars. They found significant  
4 discrepancy in g passband, likely due to the PSF-shape dependence on color. They  
5 corrected for this discrepancy by changing the effective passband and then redetermine  
6 the absolute calibration of the PS1 survey. They measured the calibration of each filter  
7 to 3 mmag, paving the path to the next best measurements of dark energy with even  
8 bigger samples of SNe in the future; now therefore, be it

9       **RESOLVED**, that *I Mina'trentai Singko Na Liheslaturan Guåhan* does hereby,  
10 on behalf of the people of Guam, recognize and commend Joseph Michael Lacuna  
11 Manuel on his graduation from Villanova University in Pennsylvania and for winning  
12 the “Chambliss Astronomy Achievement Student Award” from the American  
13 Astronomical Society for his work - “*Photometric Calibration of the Pan-STARRS*  
14 *Survey to Improve Cosmological Measurements of Type Ia Supernovae*”; and be it further

15       **RESOLVED**, that the Speaker and the Chairperson of the Committee on Rules  
16 certify, and the Legislative Secretary attest to, the adoption hereof, and that copies of  
17 the same be thereafter transmitted to Joseph Michael Lacuna Manuel; and to the  
18 Honorable Lourdes A. Leon Guerrero, *I Maga'hågan Guåhan*.

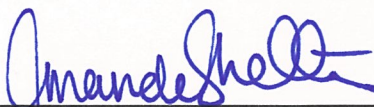
**DULY AND REGULARLY ADOPTED BY THE COMMITTEE ON RULES OF I  
MINA'TRENTAI SINGKO NA LIHESLATURAN GUÅHAN ON THE 19<sup>TH</sup> DAY OF  
JUNE 2019.**



TINA ROSE MUÑA BARNES  
Speaker



RÉGINE BISCOE LEE  
Chairperson, Committee on Rules



AMANDA L. SHELTON  
Legislative Secretary

Senator Amanda L. Shelton,  
Vice Chairperson

Speaker Tina Rose Muña Barnes,  
Member

Vice Speaker Telena Cruz Nelson,  
Member

Senator Kelly Marsh (Taitano), PhD,  
Member

Senator Sabina Flores Perez  
Member

Senator Clynton E. Ridgell  
Member



## COMMITTEE ON RULES

### SENATOR RÉGINE BISCOE LEE, CHAIR

I MINA'TRENTAI SINGKO NA LIHESLATURAN GUÅHAN

35TH GUAM LEGISLATURE

### COMMITTEE VOTE SHEET

Senator Joe S. San Agustin,  
Member

Senator Jose "Pedro" Terlaje,  
Member

Senator Therese M. Terlaje,  
Member

Senator James C. Moylan,  
Member

Senator Mary Camacho Torres,  
Member and

Chair, Subcommittee on Protocol

**Resolution No. 152-35 (COR) – Amanda L. Shelton** – “Relative to recognizing Joseph Michael Lacuna Manuel for his work - *“Photometric Calibration of the Pan-STARRS Survey to Improve Cosmological Measurements of Type Ia Supernovae;”* and congratulating him as the recipient of the “Chambliss Astronomy Achievement Student Award” from the American Astronomical Society.”

	SIGNATURE	DATE	TO ADOPT	TO NOT ADOPT	TO ABSTAIN	To Place in Inactive File.
Senator Régine Biscoe Lee Chairperson	VIA e-vote	6/18/19	✓			2019 JUN 18 PM 2:37
Legislative Secretary Amanda L. Shelton Vice Chairperson	VIA e-vote	6/18/19	✓			
Speaker Tina Rose Muña Barnes Member	VIA e-vote	6/18/19	✓			
Vice-Speaker Telena Cruz Nelson Member	VIA e-vote	6/18/19	✓			
Senator Kelly Marsh (Taitano), PhD Member	VIA e-vote	6/19/19	✓			
Senator Sabina Flores Perez Member						
Senator Clynton E. Ridgell Member	VIA e-vote	6/19/19	✓			
Senator Joe S. San Agustin Member	VIA e-vote	6/18/19	✓			
Senator Jose "Pedro" Terlaje Member	VIA e-vote	6/18/19	✓			
Senator Therese M. Terlaje Member						
Senator James C. Moylan Minority Member	VIA e-vote	6/18/19	✓			
Senator Mary Camacho Torres Minority Member	VIA e-vote	6/18/19	✓			
For Sponsor's Office Use Only						
Sponsor Signature: <u>Amanda Shelton</u>			Staff Contact Person: <u>EVELYN CLARUS</u>			
For COR/Clerk's Office Use Only						
<u>10</u> Certified _____ Returned						
Name: <u>Tricia Benavente</u>						
Adopted Date: <u>6-19-19</u> (TIME STAMPED ON RIGHTSIDE)						
Notes: _____						