

Professional Experience

- Nov. 2018–Now Postdoc (High-resolution Spectroscopy Using Fabry–Perot Interferometer) *(Harvard, USA)*
2015–2018 PhD Candidate *(PUC, Chile)*
- Optical design
- Optical design, optomechanical design and tolerance analysis of an infrared spectrograph TARdYS: Tao Aiuc high Resolution (d) Y band Spectrograph; PI. Dr. Leonardo Vanzi & Dr. K. Motohara
 - Instrument design concept of AIUCOCAM, a visible spectrograph camera using DMD technology; PI. Dr. Franz E. Bauer
 - Upgrade of telescope interface of FIDEOS, a fiber dual high-resolution spectrograph for 1m ESO telescope
- Instrument tests and integration
- Detector Characterization
 - Alignment, tests & calibration of TARdYS
- Software
- Exposure Time Calculator for TARdYS
 - EXOFIND: an RV fitting tool based on nested sampling technique
 - EPRV3 Evidence Challenge
(<https://github.com/EPRV3EvidenceChallenge/Inputs/tree/master/results/TeamPUC>)
- 2012–2014 Optomechanical Design / Research Assistant *(USM/MPE, Germany)*
- Development of a Multifocal Station for the 2m Fraunhofer Telescope
Wavefront sensor alignment for 2m Fraunhofer Telescope, Germany
Science observation and data reduction using VIRUS-W IFU spectrograph at McDonald Observatory
- Dynamical Properties of the Milky Way Globular Clusters
- 2010–2012 Optomechanical Design / Research Assistant *(KASI, South Korea)*
- IGRINS Mirrors Mount Optomechanical Design
Development of GMTNIRS Mirror Mount Optomechanical Design

Education

- 2015–2019 Pontificia Universidad Católica de Chile
(PhD program in Astro-engineering), Chile
- Thesis Title Optical design and prototype of cost-effective high resolution NIR spectrograph for astronomy
- 2010–2012 University of Science and Technology (Campus: Korea Astronomy and Space Science Institute)
(M.Sc. in Astronomy and Space Science), South Korea
- Thesis Title IGRINS: Mirror Mounts Optomechanical Design
- 2006–2010 Department of Physics, Chiang Mai University
(B.Sc. in Physics), Thailand
- Thesis Title The Development of Échelle Spectrograph to use with a Small Telescope for the Purpose of Education

Scholarships and Awards

2015–2018	Beca VRI-CPD Pontificia Universidad Católica de Chile for Doctoral Degree Program
2017	Visiting fellowship at Rochester Institute of Technology (US\$1,300)
2017	Visiting fellowship at Macquarie University, Australia (US\$1,300)
2017	Beca Estadía en el Extranjero para Tesistas de Doctorado (US\$2,775)
2017	Newport Research Excellence Travel Award SPIE Photonics West (US\$600)
2016	Best Article Awards from UC-USM student congress (US\$2,300)
2012-2014	Fellowship International Max Planck Research School
2010-2012	Scholarship for master degree study Korea Astronomy and Space Science Institute

Awarded Research Grant as Co-Author

2018-2020	FONDO ASTRONOMÍA QUIMAL– CONVOCATORIA 2017: <i>The Tao Aiuc high Resolution Y band Spectrograph – TARdYS dedicated to H1RG detector</i> (US\$314,000) PI: Prof. Leonardo Vanzi
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Teaching and mentoring

2016	Teaching Assistant <ul style="list-style-type: none">- IEE3864: Fundamental Astronomical Instrumentation- IEE3873: Laboratory Astronomical Instrumentation
2017-2018	Mentoring PhD student: Angelica Suarez Diaz (PUC) on the optical design of PLATOSPEC
2018	Mentoring undergrad student: Abigail Stein (MIT) on the characterization of TARdYS cut-off filter

Publications

Journals

1. **Rukdee, S.**, Park, C., Kim, K.-M., Lee, S.-H., Chun, M.-Y., Yuk, I.-S., Oh, H.-Y., Jung, H.-K., chung uk, L., Lee, H., D. Rafal, M., Barnes S., and T. Jaffe, D. (2012). *Igrins mirror mount design for three off-axis collimators and one slit-viewer fold mirror*. 29:233–244.)
2. Fabricius, M. H., Noyola, E., **Rukdee, S.**, Saglia, R. P., Bender, R., Hopp, U., Thomas, J., Opitsch, M., and Williams, M. J. (2014). *Central Rotations of Milky Way Globular Clusters*. 787:L26. ApJ Letters
3. **Rukdee, S.** et al. 2019., *TARdYS: Design and Prototype of an Exoplanet Hunter for TAO using a R6 Echelle Grating.*, (in press), ExpAstron, Springer
4. L. Vanzi, R. Brahm, N. Espinoza, M. Flores, M. Jones, A. Jordan, S. Ramirez, S. Ropert, **S. Rukdee**, T. Schen, V. Suc, M. Tala, A. Zapata, 2018, *Precision radial velocity measurement with FIDEOS at the ESO 1-m telescope of La Silla*, MNRAS
5. B. Nelson, E. Ford et al. 2019, *Quantifying the Bayesian Evidence for a planet in radial velocity data* (accepted), AJ, URL: <https://github.com/EPRV3EvidenceChallenge/Inputs>

Proceedings

1. **Rukdee, S.**, L., V., and C., S. (2016). *Optical design and tolerance analysis of a high resolution near IR spectrograph for astronomy*. Conference proceeding, URL: <http://ipre.investigacion.ing.uc.cl/wp-content/uploads/2016/05/Surangkhana-Rukdee-LVanzi.pdf>.
2. C. Schwab, N. Jovanovic, T. F. M. B. Y. V. G. J. S. R. A. L. V. **S. Rukdee**. J. S. L. D. W. C. N. C. S. M. G. K. S. S. P. H. O. G. (2016). *Adaptive optics fed single-mode spectrograph for high-precision doppler measurements in the near-infrared*. SPIE
3. **S. Rukdee**, F. Bauer, H. D. L. V. A. J. F. B. (2017). *Conceptual design for an aiuc multi-purpose spectrograph camera using DMD technology.*, SPIE
4. Kuo Tiong, B. C., Schwab, C., Feger, T., **Rukdee, S.**, Vanzi, L., Coutts, D. W. (2018) *Developing an ultra-stable single mode fiber spectrograph for adaptive optics assisted observation in the infrared*, SPIE