

# CURRICULUM VITAE

Lauri Jetsu

24th September 2021

The career highlights and two courses are marked with **red**. The texts denoted with **blue** are connected to web-sites.

## PERSONAL INFORMATION AND ACADEMIC EDUCATION

FULL NAME: Lauri Johannes Jetsu  
DATE AND PLACE OF BIRTH: 21st October 1959, Varkaus, Finland  
NATIONALITY: Finnish  
MARITAL STATUS: Single  
Daughter: Amanda Jetsu (Born: 1997)  
ADDRESS: Department of Physics, Gustaf Hällströminkatu 2a (P.O.Box 64),  
FI-00014 University of Helsinki, Finland  
TELEPHONE: +358-2941 22946  
E-MAIL: lauri.jetsu@helsinki.fi  
EDUCATION: M.Sc., University of Helsinki, Feb. 1988  
Ph.D., University of Helsinki, May 1994  
Docent, University of Helsinki, Jun. 1996  
Docent, University of Oulu, Jun. 1997  
JET Leader (Johtamisen erikoisammattitutkinto,  
Haaga-Perho oppisopimus täydennyskoulutus), May 2006  
PRESENT POSITION: University lecturer, Department of Physics,  
University of Helsinki, 2010 - Present

## CAREER HIGHLIGHTS

**RESEARCH:** The University of Helsinki has undoubtedly received, and will continue to receive, a lot of positive public attention and response for our articles “**Did the Ancient Egyptians Record the Period of the Eclipsing Binary Algol – The Raging One?**” (Jetsu et al. 2013, *The Astrophysical Journal*, **773**, A1, 14pp) and “**Shifting Milestones of Natural Sciences: The Ancient Egyptian Discovery of Algols Period Confirmed**” (Jetsu & Porceddu 2015, *PLOS ONE*, **10(12)**, e0144140, 23pp).

We showed that an ancient Egyptian calendar of Lucky and Unlucky days, the “Cairo Calendar”, is the oldest preserved historical document of the discovery of variable star, Algol. Modern astronomers made the same discovery three thousand years later. Articles describing our research have also been published in international and national popular scientific magazines (e.g. **Battersby S. 2012, New Scientist 2895, 43-45; Liljestrom T., 2012, Tähdet ja Avaruus 5, 14-21; Howard J., 2015, Huffington Post**). Our research was also reported in **Prisma Studio (24.02.2016)** program of the Finnish Broadcasting Company (YLE Yleisradio). More media response to our research has been collected to **this site in my homepage**. Note that no new updates have been added after 2019.

**TEACHING AND SUPERVISION:** My contribution to the Department of Physics was 890 teaching credits during 2015. Of these, 850 credits came from the courses **Scientific Computing I, Observational Astronomy I and Time Series Analysis in Astronomy I**. The remaining 40 credits came from the M.Sc. Thesis of Veikko Mäkelä.

**OTHER PROFESSIONAL ACTIVITY:** My three terms as the Director of the Observatory of the University of Helsinki lasted between 1st January 2001 and 31st December 2009. The last page of this CV summarizes that time interval of my career, like academic degrees completed, refereed papers published or external funding received.

## PUBLISHED RESEARCH

**List of Publications:** First author in 28 refereed papers and co-author in 20 refereed papers.

## EARLIER PROFESSIONAL POSITIONS

Position	Institute	Start	End
Director of Observatory	Observatory, University of Helsinki	Jan. 2001	Dec. 2009
Amanuensis	Observatory, University of Helsinki	Jan. 2008	Feb. 2010
Assistant	Observatory, University of Helsinki	Aug. 1997	Dec. 2007
Post-doctoral fellow	NORDITA, Copenhagen, Denmark	Aug. 1995	Jul. 1997
Amanuensis	Observatory, University of Helsinki	Aug. 1994	Jul. 1995
Assistant	Observatory, University of Helsinki	Jul. 1993	Dec. 1993
Research assistant	Tuorla Observatory, University of Turku	Jan. 1992	Jun. 1993
Research assistant	Observatory, University of Helsinki (Academy of Finland, PI: Docent V.Piirola)	Jun. 1991	Dec. 1991
Stipendiate	Observatory, University of Helsinki (Jenny and Antti Wihuri Foundation)	Jan. 1991	May 1991
Assistant	Observatory, University of Helsinki	Apr. 1990	Dec. 1990
Research assistant	Observatory, University of Helsinki (Academy of Finland, PI: Docent V.Piirola)	Mar. 1990	Mar. 1990
Stipendiate	Observatory, University of Helsinki (Emil Aaltonen Foundation)	Jan. 1990	Feb. 1990
Research assistant	Observatory, University of Helsinki (Academy of Finland, PI: Docent V.Piirola)	Sep. 1989	Dec. 1989
Stipendiate	Observatory, University of Helsinki (Emil Aaltonen Foundation)	Jul. 1989	Aug. 1989
Amanuensis	Observatory, University of Helsinki	Apr. 1989	Jun. 1989
Stipendiate	Observatory, University of Helsinki (Jenny and Antti Wihuri Foundation)	Jan. 1989	Apr. 1989
Research assistant	Observatory, University of Helsinki (Academy of Finland, PI: Docent I.Tuominen)	Jul. 1988	Dec. 1988
Teacher: math.&phys.	Primary school, Haukilahti, Espoo	Jan. 1988	May 1988
Teacher: physics	Engineering school, Leppävaara, Espoo	Jan. 1998	May 1988
Amanuensis	Observatory, University of Helsinki	Nov. 1987	Dec. 1987
Research assistant	Observatory, University of Helsinki (Academy of Finland, PI: Docent I.Tuominen)	Apr. 1987	Oct. 1987
Research assistant	Observatory, University of Helsinki (Academy of Finland, PI: Docent I.Tuominen)	Aug. 1986	Dec. 1986
Teacher: math.&phys.	Primary and secondary school Helsingin Uusi Yhteiskoulu, Helsinki	Aug. 1985	Nov. 1985
Teacher: math.&phys.	Primary and secondary school Helsingin Uusi Yhteiskoulu, Helsinki	Feb. 1985	May 1985

## TEACHING EXPERIENCE

The research made together with the students of the courses [Time Series Analysis in Astronomy](#) and [Variable stars](#) was published in the refereed articles of the column “Notes”. The best student was the 1st author, I was the 2nd author, and the other students were co-authors in alphabetical order.

Course	Time	Credits	Notes
Time Series Analysis in Astronomy I	Autumn 2021	-	
Observational Astronomy I	Spring 2020	12x5=60	
Variable Stars	Autumn 2020	9x5=45	
Observational Astronomy I	Spring 2019	10x5=50	
Time Series Analysis in Astronomy I	Autumn 2019	4x5=20	
Observational Astronomy I	Spring 2018	12x5=60	
Variable Stars	Autumn 2018	8x5=40	
Scientific Computing I	Autumn 2018	70x5=350	
Time Series Analysis in Astronomy I	Autumn 2017	8x5=40	
Scientific Computing I	Autumn 2017	112x5=560	
Scientific Computing I	Spring 2017	95x5=475	
Observational Astronomy I	Spring 2017	9x5=45	
<a href="#">Variable Stars</a>	Autumn 2016	5x5=35	
Scientific Computing I	Spring 2016	120x5=600	
Observational Astronomy I	Spring 2016	11x5=55	
Time Series Analysis in Astronomy I	Autumn 2015	1x5=5	
Scientific Computing I	August 2015	30x5=150	
Scientific Computing I	Spring 2015	124x5=620	
Observational Astronomy I	Spring 2015	15x5=75	
<a href="#">Variable Stars</a>	Autumn 2014	8x5=40	<a href="#">Siltala et al., 2017, AN 338, 456</a>
Observational Astronomy I	Spring 2014	11x5=55	
Practical Methods in Astronomy	Spring 2014	13x5=65	
Time Series Analysis in Astronomy I	Autumn 2013	5x5=25	
<a href="#">Variable Stars</a>	Autumn 2012	7x5=35	<a href="#">Kajatkari et al., 2015, A&amp;A 577, A84</a>
Practical Methods in Astronomy	Spring 2013	8x5=40	
Time Series Analysis in Astronomy I	Autumn 2012	5x5=25	
Practical Methods in Astronomy	Spring 2012	18x5=90	
Time Series Analysis in Astronomy II	Autumn 2011	8x7=56	
Practical Methods in Astronomy	Spring 2011	23x5=115	
Time Series Analysis in Astronomy I	Spring 2011	5x7=35	
<a href="#">Time Series Analysis in Astronomy</a>	Spring 2000	7x7=49	<a href="#">Lyytinen et al. 2002, A&amp;A 383, 197</a>
<a href="#">Time Series Analysis in Astronomy</a>	Spring 1998	10x7=70	<a href="#">Kahanpää et al. 1999, A&amp;A 350, 513</a>
Research seminars (Coordinator)	1998–2009		
Structure and Evolution of Stars	1991		
Structure and Evolution of Stars (Assistant)	1988		
Fundamentals of Astronomy	1988		
Fundamentals of Astronomy (Assistant)	1987 & 1988		
Fundamentals of Astronomy (Assistant)	1986 & 1984		

I have given the lecture “Leadership in an Expert Organization” (2x45 minutes) in the course “Introduction to Expert Careers” in 2011, 2012, 2013, 2014, 2015 and 2016.

## SUPERVISION EXPERIENCE

Supervisor(-s)	Thesis	Status
L. Jetsu & T. Hackman	Ph.D.-thesis of Teemu Willamo	Unfinished: 8 refereed papers published
L. Jetsu & T. Hackman	Ph.D.-thesis of Perttu Kajatkari	Unfinished: 10 refereed papers published
L. Jetsu	Ph.Lic.-thesis of Joonas Lyytinen	Unfinished: 3 refereed papers published
L. Jetsu	Ph.D.-thesis of Sebastian Pordeccu	Completed 2020
L. Jetsu	M.Sc.-thesis of Ilana Hiilesmaa	Completed 2020
L. Jetsu & T. Hackman	M.Sc.-thesis of Julia Rantakylä	Completed 2020
L. Jetsu & T. Hackman	Ph.D.-thesis of Jyri Lehtinen	Completed 2016
L. Jetsu	M.Sc.-thesis of Veikko Mäkeä	Completed 2015
L. Jetsu	M.Sc.-thesis of Victor Solea	Completed 2014
L. Jetsu & J. Huovelin	Ph.D.-thesis of Lauri Alha	Completed 2010
L. Jetsu & T. Hackman	M.Sc.-thesis of Jyri Lehtinen	Completed 2009
L. Jetsu	M.Sc.-thesis of Joonas Lyytinen	Completed 2008
L. Jetsu	B.A.-thesis of Joonas Lyytinen	Completed 2008
L. Jetsu & T. Markkanen	M.Sc.-thesis of Sebastian Porceddu	Completed 2007
L. Jetsu	B.A.-thesis of Sebastian Porceddu	Completed 2007
L. Jetsu & I. Tuominen	Ph.D.-thesis of Thomas Hackman	Completed 2004
L. Jetsu	M.Sc.-thesis of Mika Kokko	Completed 1994

## OTHER PROFESSIONAL ACTIVITIES

– Director and director of the Board: Observatory, University of Helsinki (Tähtitieteen laitoksen johtaja ja johtoryhmän puheenjohtaja)	2001 – 2003, 2004 – 2006, 2007 – 2009
– Member of Faculty Planning Committee (Tiedekunnan suunnittelutoimikunnan jäsen)	2004 – 2006, 2007–2009
– Member of the Board: Finnish National Committee of Astronomy (IAU) (Suomen tähtitieteen kansalliskomitean jäsen)	2001 – 2007
– Representative of the Helsinki University Museum Foundation (Helsingin yliopistomuseon säätiön edustajiston jäsen)	2010 – 2012, 2013– 2015
– Member: International Astronomical Union (IAU)	2004 – Present
– PI in “Time Series Analysis in Astronomy” (Grant: University of Helsinki)	1999 – 2001
– CoI in Stellar-Planetary-Astronomy project (PI: Docent K. Muinonen)	1998 – 2002
– CoI in EC Human Capital and Mobility project	1994 – 1997
“Late-type stars: activity, magnetism, turbulence” (PI: Prof. I. Tuominen)	
– Member of the Board: Finnish Astronomical Society	1989 – 1990
– Member: Finnish Astronomical Society	1989 – Present
– Referee in Scientific articles	A&A, MNRAS, JGR, JAAVSO

## PARTICIPATION IN SCIENTIFIC CONFERENCES

Conference title	Location	Contribution	Date
Statistical Challenges in Modern Astronomy VII	Penn. State, USA	1 poster	Jun. 2021
Setting a New Standard in the Analysis of Binary Stars	Leuven, Belgium	1 paper	Sep. 2013
Expanding Universe (Invited Lecturer)	Tarto, Estonia	1 paper	May 2011
Research Seminar, “Exoplanets and Astronomy” (Editor)	Helsinki	1 monograph	May 2005
IAU Symposium No. 176, Stellar Surface Structures	Vienna, Austria	1 paper	Oct. 1995
9th Cambridge Workshop: Cool Stars, Stellar Systems, and the Sun	Florence, Italy	1 paper	Oct. 1995
Applications of time series analysis in Astronomy and Meteorology	Padova, Italy	1 paper	Sep. 1993
7th Cambridge Workshop: Cool Stars, Stellar Systems, and the Sun	Tucson, Arizona	1 paper	Oct. 1991
IAU Colloquium No. 130, The Sun and Cool Stars: activity, ...	Helsinki	2 papers	Jul. 1990
Annual Meeting of Finnish Astronomical Society	Helsinki	1 paper	Jun. 1990
6th Cambridge Workshop: Cool Stars, Stellar Systems, and the Sun	Seattle, Washington	1 paper	Sep. 1989
Annual Meeting of Finnish Astronomical Society	Helsinki	1 paper	Jun. 1989

## RESEARCH FUNDING AND GRANTS

Time Series Analysis in Astronomy (Funded: University of Helsinki)	1999 – 2001
NORDITA post-doctoral fellow, Copenhagen, Denmark	1995 – 1997
Jenni and Antti Wihuri Foundation (Ph.D.-thesis)	1991
Emil Aaltonen Foundation (Ph.D.-thesis)	1989
Jenni and Antti Wihuri Foundation (Ph.D.-thesis)	1989

**SHORT DESCRIPTION OF MY NINE YEAR TERM  
AS THE DIRECTOR OF OBSERVATORY  
OF THE UNIVERSITY OF HELSINKI**

In 2001–2009, I worked as the director of the Observatory of the University of Helsinki. My personal research and teaching merits during this time interval are modest, because I chose to do the administrative work required for improving the level of research and education of the whole institute.

Our teaching was evaluated in 2001 by an international panel. Their report noted that *the learning atmosphere in Astronomy particularly is excellent and it is also markedly good in the relatively small Swedish-speaking units in the larger departments.* Between 1995 and 2009, the number of degrees completed in the Observatory of University of Helsinki were (from the Observatory Annual Report 2009):

	M.Sc.	Ph.Lic.	Ph.D.
1995	1	-	2
1996	-	1	-
1997	2	-	1
1998	-	-	1
1999	4	-	2
2000	-	-	1
2001	1	-	1
2002	-	-	-
2003	5	-	1
2004	2	-	-
2005	2	-	2
2006	6	-	3
2007	5	-	-
2008	11	1	3
2009	1	-	3

The yearly average number of M.Sc. and Ph.D. degrees completed before 2001 were  $7/6 = 1.16$  and  $7/6 = 1.16$ . In the next nine years these averages rose to  $33/9 = 3.67$  and  $13/9 = 1.44$ . The shortest realistic times for students to complete these two degrees are about 5 and 8 years, respectively. One can therefore assume that the consequences of any actions taken in the first years of my term can be seen only the later, let us say between 2005 and 2009.

Our board of the Observatory worked actively for the ESO (European Southern Observatory) membership of Finland, which started in July 2004. We were also involved in the establishment of FINCA (Finnish Centre for Astronomy with ESO, Turku, from January 2010 onwards). In 2009, we also succeeded in funding and establishing a new vacancy of a personal professorship for Karri Muinonen together with the Finnish Geodetic Institute.

During my term, one assessment of the level of research in all institutes of the University of Helsinki was made by an international panel in 2005. Astronomy received the highest rating of 7/7. The former rating in 1999 was 6/7.

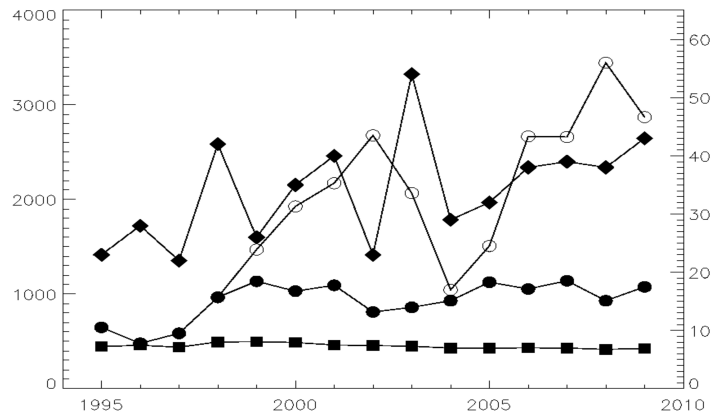
Between 2005 and 2006, I completed a Leadership Degree (Finnish: Johtamisen Erikoisammatti Tutkinto, Haaga-Perho oppisopimus täydennyskoulutus). During this one year of training we made a long-term strategic plan for the Observatory. The vision was that we would be the most efficient Finnish astronomical institute in researcher training between 2005–2010.

The numbers of completed Astronomy Ph.D.-degrees in UH (University of Helsinki), HUT (Helsinki University of Technology), UO (University of Oulu), and UT (University of Turku) were

	UH	HUT	UO	UT
1995	2	1	-	1
1996	-	1	-	-
1997	1	-	1	2
1998	1	-	-	-
1999	2	1	1	2
2000	1	-	2	2
2001	1	1	-	2
2002	-	1	2	1
2003	1	-	-	2
2004	-	-	1	3
1995-2004	9	5	7	15
2005	2	-	1	-
2006	3	-	1	2
2007	-	-	2	3
2008	3	1	-	1
2009	3	1	-	-
2005-2009	11	2	4	6

between 1995 and 2009. This information was collected in the beginning of the year 2010 when the departments of Astronomy and Physics were merged. The above numbers show that our vision was achieved already in the end of 2009.

The figure from “the Observatory Annual Report 2009” shown below illustrates that although the funding from University of Helsinki constantly decreased, we were able to maintain a high level of project funding and scientific output.



**FIGURE CONTENTS**

- Budget funding from the University of Helsinki (Closed squares: Scale on the left [kEUR])
- Project funding for Observatory (Closed circles: Scale on the left [kEUR])
- Project funding for Observatory, including industrial subcontracts (Open circles: Scale on the left [kEUR])
- Number of articles in refereed journals (Closed diamonds: Scale on the right)