Friedrich Praus
FH-Prof. Mag. Dipl.-Ing. Dr.

- 08.01.1981, Vienna
- Hallergasse 11/29, 1110 Vienna
- +43 681 106 399 04
- https://www.praus.at
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About me ──────

> Nationality: Austrian
> Languages: German (native), English, French (basic)
> Martial Status: married since 2019, 2 children (born 2011 and 2019)
> Hobbies: sailing, biking

Main focus ──────

> Smart Homes
> Active and Assisted Living
> Embedded Systems
> Security
> ICT

Education

2006-2015	Doctor	Vienna University of Technology
	technicae (with distinction)	
2007-2008	Mag.rer.soc.oec.	Vienna University of Technology
	in Computer Science Management (with distinction)	
2000-2005	Dipl.-Ing.	Vienna University of Technology
	in Computer Sciences (with distinction)	
1999-now	Ready reserve, Major	Austrian Armed Forces
	Signal Officer Infantry Bataillon Wien 1 Hoch- und Deutschmeister	
1991-1999	Federal high school	Vienna 1140, Astgasse 3

Qualifications

2022	OVE seminar *IEC 62443 - Security for Industrial Automation and Control Systems*
2017	BACnet Interest Group Europe *Introduction to Building Automation via BACnet*
2017	Diversity Management (16h) and Gender Mainstreaming (8h)
2015	KNX Basic, Advanced and Tutor Course
2015	Webinar *Gender in Horizon 2020*
2014	OVE seminar *Low-voltage Switchgear*
2013	University Didactics I and II
2013	Seminar *Presentation Techniques*
2012	Didactics-short seminar: *Diverse students - simple teaching? About gender-sensitive teaching*
2012	Workshop *Diversity at UAS Technikum Wien*

Professional background _1

2020	COVID-19 service	Austrian Armed Forces
	Garde, coordination partial mobilization, responsible for ICT	
2020	Parental leave, 2 months	
2019-2020	Project lead	Technikum Wien GmbH
	Industry project with KFV: *Accident prevention in your own 4 walls with AAL and Smart Home solutions*	
2016-2021	Council	UAS Technikum Wien
	Member of UAC council	
2018-now	Program director	UAS Technikum Wien
	Bachelor program Information- and Communication Systems	
2018	Project lead	Department Embedded Systems, UAS Technikum Wien
	Industry project with Technische Alternative RT GmbH: *Wireless protocols for Smart Home*	
2018	Project member	Department Renewable Energy, UAS Technikum Wien
	FFG Project: *HdZ2Market* qualification network	
2017-2018	Project lead	Department Embedded Systems, UAS Technikum Wien
	City of Vienna project: *ULEA – Teaching laboratory for electromobility assistive technologies*	
2017|18|19	Academic course director	Technikum Wien GmbH
	AMS FiT pre qualification for bachelor degree programs at UAS Technikum Wien with focus on *Smart Homes and Assistive Technologies*	
2016-now	Program director	UAS Technikum Wien
	Bachelor program *Smart Homes and Assistive Technologien*	

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❯ ICT

Professional background _2

2015	Project member	Department Renewable Energy, UAS Technikum Wien

FFG Project: *Smart Energy Services*

2014-2018	Project lead	Department Embedded Systems, UAS Technikum Wien

City of Vienna Project: *ViTAL – assistiVe domoTics for Autonomous Living*

2014	Award of the title *FH Professor* at UAS Technikum Wien

2012-2015	Project member	Department Embedded Systems, UAS Technikum Wien

FFG benefit Project: *moduLAAr – A modular, scalable AAL system as a lifestyle element for silver-agers through to assisted living*

2012	Parental leave, 2 months

2010-2014	City of Vienna Foundation Professor	Department Embedded Systems, UAS Technikum Wien

Ambient Assistive Technologies

2007-2010	Research assistant	Automation Systems Group, Vienna University of Technology

FWF Project: *seBAS – Security in Buidling Automation*

2006-2007	Research assistant	Dep. Integrated Sensor Systems, Austrian Academy of Sciences

FFG BRIDGE Project: *IMAGINE – Introduction of Master Group Based Industrial Ethernet Highly precise clock synchronization and more*

2006-2010	Hardware technician	Automation Systems Group, Vienna University of Technology

ICT system administration, hardware administration (acquisition, maintenance, operation)

2005-2010	Project lead	self-employed

Maintenance Polymnia

2004-2005	Software development	Siemens AG

Program and Systems Development Department (PSE)

2003-2010	IT support	self-employed

Pluradent Austria, Wien: webmaster, designer

2002-2004	Software development	self-employed

Design and implementation of Polymnia, an administration software for the music schools in Burgenland

1999-2003	IT support	Schaffer Dental

Webmaster, Designer

1998-2000	Software development	Printing house Manz Crossmedia

DTP, data migration

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Teaching

Ministry of Defence, Theresan Military Academy

2020-2021	Study program development: member of development team for the Bachelor Program Military Information- and Communication Technology Leadership

University of Applied Sciences Technikum Wien

2014-2015	Study program development: member of the development team for the Bachelor Program Smart Homes and Assistive Technologies
2010-now	Supervision of more than 110 Bachelor- and Master Theses
2010-now	Course lead (exemplary)

- Automation Networks and Smart Home Lab
- Installation Technology
- Networks in Building Technology
- Software Development | Programming
- Embedded Systems Software
- Selected Topics in Smart Homes
- Specialisation 1 + 2 Ambient Assistive Technologies / Smart Homes and Assistive Technologies
- Elective Course Smart Homes
- Embedded Systems and MTI-3 Project
- Basics of Medical Measurement Technology
- Selected Chapters in Embedded Systems
- Electronic Project and Scientific Work
- Application Prototyping
- Diploma and Internal Seminar
- Practical semester support

Technikum Wien GmbH

2015-2019	Course development and management AMS FiT pre qualification for Bachelor Degree Programs at UAS Technikum Wien with focus on *Smart Homes and Assistive Technologies*
2016-2019	Course lead (exemplary)

- Smart Homes and Assistive Technologies
- Practical part
- Kick-Off and excursion

University of Applied Sciences Campus Wien

2010	Operating System and Middleware Security
2008-2010	Basics of Computer Architecture and Operating Systems

Vienna University of Technology

2007-2010	Course lead

- Home and Building Automation
- Wireless in Automation Systems
- Wireless Communication Systems in Home and Building Automation

2004-2006	Tutor

- Introduction to Automation
- Distributed Systems
- Process Automation

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Research and development

Research Focus

Security, Automation (especially Home and Building Automation), Active and Assisted Living, Embedded and Cyber-physical Systems, Hardware Software Co-Design

Review activities

WHO Global report on assistive technology'21, SA'21, KFV Forschungspreis'20, ETFA'19, Techn. Gutachten Autonome Provinz Bozen (Amt für Innovation und Technologie)'18, KNXSci'18, ETFA'18, OAGM-ARW'17, IEEE Transactions on Industrial Informatics'16, MESA'16, IEEE Transactions on Industrial Informatics'15, WESS'15, IECON'15, ETFA'15, MESA'14, FFH'14, ETFA'14, ARW'13, MESA'13, ETFA'13, ICETI'12, IECON'11, ICIT'11, IEEE Transactions on Industrial Electronics'10, IECON'10, ETFA'10, ICIT'10, WFCS'10, HSI'09, WFCS'08, INDIN'08, IECON'08, ICIT'08, ETFA'08, AMC'08, INDIN'07, IECON'07, WFCS'06, ETFA'06

Conference organization

Session chair, organising comittee, program comittee: KNX'18, WESS'15, ARW'13, ISPCS'07, KNX'06

Project acquisition

2018	Technikum Wien GmbH project with KFV *Accident prevention in your own 4 walls with AAL and Smart Home Solutions* (Project volume: ~5k€)
2017	FFG Innovationscheck *Wireless protocols for Smart Home* (Project volume: ~5k€)
2015	MA23 Call 18 *ToRaDeS* (Project volume: ~791k€)
2013	MA23 Call 15 *ViTAL* (Project volume: ~427k€)

Project acquisition (participation)

2019	MA23 Call 26 *Knowledge hub for barrier-free technologies* (Project volume: ~697k€)
2013	MA23 Call 14 *AsTeRICS Academy* (Project volume: ~425k€)
2012	FFG benefit *moduLAAr* (Project volume: ~1,4Mio€)
2005	FWF *seBAS* (Project volume: ~297k€)

Awards

2020	KNX-Award 2020 in category special for *The Smart Living Lab at the UAS Technikum Wien*.
2020	Living Standards Award 2020 from Austrian Standards in category IEEE for *Apartment of the Future in the Smart Living Lab*.
2016	KNX Scientific Award for *KNX Security Devices.*
2014	KNX Scientific Award for *Spotting Unsecured KNX Installations.*
2012	Best Presentation Award of 3rd international conference on education, training and informatic for *Source Code Plagiarism in Computer Engineering Courses*.
2006	Best Paper Award of 6th IEEE international workshop on factory communication systems for *Security in Networked Building Automation Systems*.

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Invited Talks

08.09.2022	Moderation: Forum IT: The modern data center
20.02.2020	Bauen und Energie: Smart Home and Assisted Living
20.02.2020	Bauen und Energie: KNX solutions in the home
03/2019	Powerdays Salzburg
28.02.2019	Energiesparmesse Wels: Smart City – Smart Space – Smart User
30.05.2018	5th ACROSSING training event: Smart Home Security
22.05.2018	Immodienstag: Smart Home
30.11.2017	Digital Business Trends: Smart lLiving
02/2017	KNX Secure Day Dubai
06.10.2015	AAL Austria Summit workshop Qualification and Education
29.10.2014	ENISA European Cyber Security Month, Security in Smart Homes and Buildings
04.06.2013	Wiener Technikgespräche, Smart Homes - Intelligent Living through Automation

More

- Amateur radio license *OE1VHA*
- IEEE Senior Member
- 2013-now IEEE Austria Section Web Officer
- AAL Austria Founding and Curatorship Member
- AAL Austria Auditor
- Lead of AAL Austria Qualification and training working group
- Participation in AAL Austria working groups on Vision and Exchange of Experiences
- Participation in the Alpbach Technology Talks 2012 *Opportunities and Limits of Ambient Assisted Living*
- Participation in the eHI working groups AAL 2012 and 2013

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Publications _1

Dissertation, diploma thesis

[1] F. Praus, "Secure control applications in smart homes and buildings," Ph.D. dissertation, Technische Universität Wien, Nov. 2015.
[2] F. Praus, "A Versatile Networked Embedded Platform for KNX/EIB," M.S. thesis, Vienna University of Technology, Institute of Computer Aided Automation, Automation Systems Group, 2005.

Articles

[1] F. Praus, W. Kastner, and P. Palensky, "Secure Control Applications in Smart Homes and Buildings," *Journal of Universal Computer Science*, vol. 22, no. 9, pp. 1249–1273, Sep. 2016.
[2] W. Granzer, F. Praus, and P. Balog, "Source Code Plagiarism in Computer Engineering Courses," *JSCI: Journal of Systemics, Cybernetics and Informatics*, vol. 11, no. 6, p. 4, 2013.
[3] W. Granzer, F. Praus, and W. Kastner, "Security in Building Automation Systems," *IEEE Transactions on Industrial Electronics*, vol. 57, no. 11, pp. 3622–3630, Nov. 2010.

Books

[1] W. Kastner, F. Praus, G. Neugschwandtner, and W. Granzer, "KNX," in *Industrial Electronics Handbook*, B. Wilamowski and J. Irwin, Eds., 2nd, vol. 2: Industrial Communication Systems, CRC Press, 2011, ch. 42, pp. 42-1 – 42-14.

Workshops and conferences 2013-now

[1] M. Billmann, S. Werner, R. Höller, F. Praus, A. Puhm, and N. Kerö, "Open-Source Crypto IP Cores for FPGAs - Overview and Evaluation," in *Proceedings of the 27th Austrochip Conference on Microelectronics*, Vienna, Austria, Oct. 2019, p. 8.
[2] M. Deinhofer, A. Sabic, and F. Praus, "Unterstützungstechnologien in Smart Homes: kostengünstig & praxisnah; AsTeRICS: Alternative Eingabegeräte & AAC," in *IKT Forum*, Linz, Austria, Jul. 2019.
[3] A. Sabic, W. Granzer, and F. Praus, "Network Intrusion Detection in Building Automation Systems," in *Proc. KNX Scientific Conference*, Oct. 2018.
[4] C. Orth, D. Tsiamitros, G. Kokkonis, *et al.*, "Smart buildings and electric transportation systems for a secure and efficient power network," in *Smart Cities and Mobility as a Service*, Dec. 2017.
[5] C. Hammer, J. Klug, and F. Praus, "KNX in academic education and training," in *Proc. KNX Scientific Conference*, Oct. 2016.
[6] F. Praus, W. Granzer, and P. Balog, "KNX security devices," in *Proc. KNX Scientific Conference*, KNX Scientific Award 2016, Oct. 2016.
[7] F. Praus, W. Kastner, and P. Palensky, "Software security requirements in building automation," in *Sicherheit 2016: Sicherheit, Schutz und Zuverlässigkeit, Beiträge der 8. Jahrestagung des Fachbereichs Sicherheit der Gesellschaft für Informatik e.V. (GI), 5.-7. April 2016, Bonn*, 2016, pp. 217–228.
[8] D. Schindelböck, F. Praus, and W. Gall, "A Diabetes Self-Management Prototype in an AAL-Environment to Detect Remarkable Health States," in *Health Informatics Meets eHealth*, G. Schreier, E. Ammenwerth, A. Hörbst, and D. Hayn, Eds., ISBN: 978-1-61499-645-3, Best Scientific Poster Award eHealth Summit Austria 2016, vol. 223, IOS Press, 2016, pp. 273–280.
[9] F. Praus and W. Kastner, "Identifying Unsecured Building Automation Installations," in *Proc. 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'14)*, Sep. 2014.
[10] F. Praus and W. Kastner, "Spotting Unsecured KNX Installations," in *Proc. KNX Scientific Conference*, KNX Scientific Award 2014, Nov. 2014.
[11] J. Kropf, B. Prazak-Aram, L. Roedl, F. Praus, and C. Siegel, "Large Scale Integration and evaluation of AAL Technologies in Eastern Austria - the moduLAAr project," in *AAL Forum*, vol. Session D3, Sep. 2013.
[12] R. Wagner, P. Wolff, K. Schäffer, and F. Praus, "Ambient Assitive Technologies: The mobile robot P3AAT," in *Proceedings of the Austrian Robotics Workshop (ARW'13)*, W. Kubinger, A. Hofmann, and F. Praus, Eds., FH Technikum Wien, May 2013, pp. 93–97.

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Workshops and conferences till 2012

[13] W. Granzer, F. Praus, and P. Balog, "Source Code Plagiarism in Computer Engineering Courses," in *Proc. 3rd International Conference on Education, Training and Informatic (ICETI'12)*, Best presentation award, Paper ID: EB266TP, Mar. 2012.

[14] R. Isaacs and F. Praus, "Design & development of a prototype android app for a KNX home," in *Proc. KNX Scientific Conference*, Nov. 2012.

[15] L. Samardzija and F. Praus, "ANT goes KNX – an open platform gateway for ANT and KNX," in *Proc. KNX Scientific Conference*, Nov. 2012.

[16] F. Praus and W. Kastner, "Secure Control Applications in Building Automation Using Domain Knowledge," in *Proc. 8th IEEE International Conference on Industrial Informatics (INDIN'10)*, Jul. 2010, pp. 52–57.

[17] F. Praus, C. Reinisch, P. Leitner, and W. Kastner, "Open Source Approaches to Integrate KNX into Media Centers," in *Proc. KNX Scientific Conference*, Nov. 2010.

[18] W. Granzer, D. Lechner, F. Praus, and W. Kastner, "Securing IP Backbones in Building Automation Networks," in *Proc. 7th IEEE International Conference on Industrial Informatics (INDIN '09)*, Jun. 2009, pp. 410–415.

[19] F. Praus, W. Granzer, and W. Kastner, "Enhanced Control Application Development in Building Automation," in *Proc. 7th IEEE International Conference on Industrial Informatics (INDIN'09)*, Jun. 2009, pp. 390–395.

[20] F. Praus, T. Flanitzer, and W. Kastner, "Secure and Customizable Software Applications in Embedded Networks," in *Proc. 13th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'08)*, Sep. 2008, pp. 1473–1480.

[21] F. Praus and W. Kastner, "User Applications Development Using Embedded Java," in *Proc. KNX Scientific Conference*, Nov. 2008.

[22] C. Reinisch, W. Granzer, F. Praus, and W. Kastner, "Integration of Heterogeneous Building Automation Systems Using Ontologies," in *Proceedings of 34th Annual Conference of the IEEE Industrial Electronics Society (IECON '08)*, Nov. 2008, pp. 2736–2741.

[23] F. Praus, W. Granzer, G. Gaderer, and T. Sauter, "A Simulation Framework for Fault-Tolerant Clock Synchronization in Industrial Automation Networks," in *Proc. 12th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'07)*, Sep. 2007, pp. 1465–1472.

[24] W. Granzer, W. Kastner, G. Neugschwandtner, and F. Praus, "A Modular Architecture for Building Automation Systems," in *Proc. 6th IEEE International Workshop on Factory Communication Systems (WFCS '06)*, Jun. 2006, pp. 99–102.

[25] W. Granzer, W. Kastner, G. Neugschwandtner, and F. Praus, "Security in Networked Building Automation Systems," in *Proc. 6th IEEE International Workshop on Factory Communication Systems (WFCS '06)*, Best Paper Award of WFCS '06, Jun. 2006, pp. 283–292.

[26] F. Praus and W. Kastner, "A Versatile Networked Embedded Platform for KNX/EIB," in *Junior Scientific Conference*, Apr. 2006, 59–60.

[27] F. Praus, W. Kastner, and G. Neugschwandtner, "A Versatile Networked Embedded Platform for KNX/EIB," in *Proc. KNX Scientific Conference*, Nov. 2006.

[28] C. Reinisch, W. Granzer, F. Praus, and W. Kastner, "Wireless Communication in KNX/EIB," in *Proc. KNX Scientific Conference*, Nov. 2006.

[29] F. Praus, W. Kastner, and O. Alt, "Yet Another All-purpose EIBNet/IP Gateway," in *Proc. KNX Scientific Conference*, Oct. 2004.