

# Meiyi LI

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## EDUCATION

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**Shanghai Jiao Tong University (SJTU)**

Shanghai, China

• *M.Sc. in Electrical Engineering* | GPA: 3.56/4.0

Sep. 2017-Present

- Received waiver for the National Postgraduate Entrance Examination to enter SJTU (Ranking 10/170)
- **National Scholarship** for Outstanding Academic Achievements (**Highest scholarship, Top 1%, Ranking 1st among female students**)
- **Thesis:** “Stability Analysis and Optimal Control of Virtual Synchronous Generator Controlled Inverter-Interfaced Distributed Generators”

• *B.Sc. in Electrical Engineering and Automation* | **GPA: 4.01/4.3**

Sep. 2013-Jun. 2017

- Outstanding Engineers Honor Class (30 students selected from 170 candidates in the school)
- Merit student of SJTU (Top **3%**)
- Outstanding Graduates of Shanghai (Top **5%**)
- **Thesis:** “Transient Stability and Optimization Control of Microgrid”

## PUBLICATIONS

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- [1] **M Li**, W Huang, N Tai. A Dual-Adaptivity Inertia Control Strategy for Virtual Synchronous Generator. *IEEE Transactions on Power Systems*, 2019. Published.
- [2] **M Li**, W Huang, N Tai. Transient Behavior Analysis of VSG-IIDG During Disturbances Considering the Current Limit Unit. *2019 IEEE Power and Energy Society General Meeting*, 2019. **Prize Conference Paper (4/900), the only Chinese master student who won the prize in the past several years.**
- [3] **M Li**, W Huang, N Tai. Stability Analysis of VSG Under Grid Voltage Drop and Current Saturation. *IEEE Transactions on Power Systems*. Under Review.
- [4] **M Li**, W Huang, N Tai. Stability Analysis of the VSG-IIDG in the Microgrid: A Review. *Applied Energy*. Under Review.
- [5] **M Li**, W Huang, N Tai. Lyapunov-Based Large Signal Stability Assessment for VSG Controlled Inverter-Interfaced Distributed Generators. *Energies*, 2018. Published. **Cited by 6.**
- [6] **M Li**, W Huang, N Tai. Control Strategy for Inverter Interfaced Distributed Generator based on Virtual Synchronous Generator using Adaptive Inertia under Frequency Disturbances. *Power System Technology*, 2018. (Chinese EI Journal). Accepted.
- [7] **M Li**, W Huang, N Tai. Surge Current Calculation and Limit Strategy of the IIDG during Loop Closing Operation in Distribution Networks. 2019 IEEE Sustainable Power & Energy Conference, 2019. Oral. Accepted.
- [8] **M Li**, W Huang, N Tai. Analysis and Limit Strategy of the Surge Current Caused by Closing-Loop Operation in the DG dominated Distribution Network. 2019 China Electrotechnical Society Academic Annual Conference, 2019. Excellent Paper.
- [9] Y Chen, Z Liu, **M Li**. Evaluation Index and Method of Active Distribution Network Based on Multi-source Data. *Electrical Automation*, 2019. (Chinese Core Journal). Accepted.
- [10] M Yu, W Huang, N Tai, **M Li**. Adaptive Transient Stability Control Strategies of Photovoltaic Power Plants. 2019 China Electrotechnical Society Academic Annual Conference, 2019. Excellent Paper.
- [11] **M Li**, W Huang, N Tai. Large Signal Stability of Autonomous Operation of A VSG-IIDG: Modeling and Analysis. Working paper.

## RESEARCH EXPERIENCE

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## **Research Assistant (RA), Key Laboratory of Control of Power Transmission and Conversion, Shanghai**

**Advisor:** Prof. Dongliang Duan (Associate Professor, Department of Electrical & Computer Engineering, University of Wyoming)

- **Adaptive Control of the Inverter-interfaced Distributed Generator (DG) ([1])** Oct. 2018-Jun. 2019
  - Proposed a dual-adaptivity inertia control strategy for inverter-interfaced DGs based on the virtual synchronous generator control scheme to: 1) offer responsive and stable frequency support and 2) achieve the balance between power regulation and frequency regulation according to different operating conditions.
  - Derived the small-signal model of the controller and transfer functions of the DG's power and angular frequency to analyze the response characteristics (overshoot and resettling time).

## **RA, Research Center for Big Data and Artificial Intelligence Engineering and Technologies, Shanghai**

**Advisor:** Prof. Robert (Caiming) Qiu (Professor, Department of Electrical Engineering, SJTU; IEEE Fellow)

- **Virtual Power Angle Stability of the Inverter-interfaced DG ([3])** Jun. 2019-Present
  - Analyzed the power-angle relationship of DGs considering the voltage regulation and line resistance to illustrate when the Q-V controller might have an enhanced or deteriorative effect on the stability of the DG system.
  - Revealed possible instabilities of DGs that were not reported previously by discussing two situations of current saturation: non-instant saturation and instant saturation.

## **RA, Department of Electrical Engineering, SJTU**

**Advisor:** Prof. Nengling Tai (Professor and Chair, Department of Electrical Engineering, SJTU)

- **Project I: Stability Mechanism of DGs ([2], [4], [5], [6], [10], [11])** Sep. 2017-Present
  - Derived a Lyapunov function using Popov's theory to determine the large-signal stability domain of virtual synchronous generators.
  - Calculated the operation area of the DG controller according to: 1) phase and gain margin, 2) system capacity, 3) standards in accordance with power quality, and 4) characteristic roots.
- **Project III: Surge Current of DGs during Closing-Loop Operation ([7], [8])** Sep. 2018-Sep. 2019
  - Proposed a control scheme to calculate and limit the surge current of DGs (voltage source inverters and current source inverters) during closing-loop operation in the distribution network.

## **INDUSTRIAL COLLABORATIVE PROJECTS**

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### **Key Technologies Study on Control of Multi-microgrids**

- **Electric Power Research Institute of Guangxi Province** Dec. 2017-Dec. 2018
  - Established a simulation platform of Guangxi No.1 middle school microgrid with three photovoltaic plants, a wind generator, three storage batteries, a diesel generator, and their controllers, et al.
  - Designed and implemented an automated software tool to determine the stability of microgrids based on MATLAB.

## **WORK EXPERIENCE**

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**Intern Electrical Engineer, State Grid Corporation of China, Shanghai ([9])** Sep. 2018-Nov. 2018

- Led a team of 3 students and established the simulation platform of the grid-connected photovoltaic power system of the Songjiang District of Shanghai.
- Calculate and analyze the overvoltage and high impact current with the increase of penetration of photovoltaic power.

## **TECHNICAL SKILLS**

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Programming: MATLAB, Simulink, Power Systems Computer Aided Design/Electro-Magnetic Transient in DC System (PSCAD/EMTDC), Real Time Digital Simulator (RTDS), Python, C/C++

Standardized tests: GRE:327 (V158-Q169-A3.5), TOFEL:106 (R30-L28-S25-W23)



# RECORDS FOR UNDERGRADUATE

COLLEGE: School of Electronic Information and Electrical Engineering  
STUID: 5130309456

MAJOR: Electric Power Engineering and Automation  
NAME: Li Meiyi

CLASS: F1303015

## ACADEMIC YEAR: 2013-2014

CODE	COURSES	SEMESTER	CREDIT	GRADECODE	CODE	COURSES	SEMESTER	CREDIT	GRADECODE
CS902	Thinking and Approach of Programming	1	3	B+	EN026	University English II	2	3	B
EI901	Science and Technology Innovation (Part I)	1	2	B+	EV017	Water Resource and Water Environment Protection	2	2	A-
EN025	University English I	1	3	B	MA043	Mathematical Analysis II	2	6	A
IN901	Information Literacy and Practice	1	2	A	MA119	Probability and Statistics	2	3	A
MA077	Linear Algebra	1	3	A	MU903	World Ethnic Music Appreciation	2	2	A
MA115	Discrete Mathematics	1	2	A+	PE002	Physical Education II	2	1	A-
MA118	Mathematical Analysis I	1	6	A	PH001	Physics I	2	4	A+
PE001	Physical Education I	1	1	A	PH028	Physics Lab. I	2	1	A-
TH000	Cultivation of Ethics and Fundamentals of Law	1	3	A	TH009	Circumstance and Policy	2	1	A-
TH004	Military Theory	1	1	A	TH010	Military Training	2	3	P
TH009	Circumstance and Policy	1	1	A-	TH021	Modern Chinese History	2	2	A-
CS048	C++ Programming	2	3	B+	XP000	General Education Practice	2	2	P

## ACADEMIC YEAR: 2014-2015

CODE	COURSES	SEMESTER	CREDIT	GRADECODE	CODE	COURSES	SEMESTER	CREDIT	GRADECODE
AM923	Innovation and Entrepreneurship	1	2	A-	BI903	Experimental Exploration to Life Science	2	2	A+
EI203	Fundamental Circuit Theory	1	4	B+	CH927	Introduction to Modern Chinese Poetry	2	3	A
EI204	Basic Circuit Lab.	1	2	A	EE206	Cognitive Practice	2	1	A-
EI205	Digital Electronics Technology	1	3	B-	EE207	ARM Embedded Systems and its Experiments	2	5	A-
EN027	University English III	1	3	B+	EI200	Electromagnetic Field	2	2	B+
MA097	Mathematical Methods in Physics	1	3	A-	EI207	Analog Electronic Technology	2	3	B+
ME068	Modern Technology of Electric Automobile	1	1	A-	EI210	Signals and Systems	2	3	A
PE003	Physical Education III	1	1	A+	EI227	Science and Technology Innovation (Part 2A)	2	2	A
PH002	Physics II	1	4	A	EN026	University English II	2	3	A-
PH029	Physics Lab. II	1	1	A-	ES003	Electronics Lab.	2	3	A
PU933	Political Man	1	2	A-	ME037	Basics of Machine Manufacturing	2	2	A-
SO923	News Media and Society	1	2	A	PE004	Physical Education IV	2	1	A-
TH007	Basic Theory of Marxism	1	3	A-	TH009	Circumstance and Policy	2	1	A+
TH009	Circumstance and Policy	1	1	A	TH012	Introduction to Mao Zedong's Thoughts and Theoretical System of Socialism with Chinese Characteristics	2	6	A-

## ACADEMIC YEAR: 2015-2016

CODE	COURSES	SEMESTER	CREDIT	GRADECODE	CODE	COURSES	SEMESTER	CREDIT	GRADECODE
AM001	Basic Management	1	2	B+	EC016	Engineering Economics(F)	2	2	A-
EE301	Fundamentals of Electrical Engineering I	1	4	A	EE302	Fundamentals of Electrical Engineering II	2	2	B+
EE303	Fundamentals of Power Electronics Technology	1	3	A	EE308	Relay Protection of Power System	2	3	A
EE311	Database	1	2	A+	EE315	Electrical Power System Automation	2	3	A-
EE314	Electrical Machinery Theory	1	4	A	EE318	Motor Control Technology	2	3	A-
EE317	Digital Signal Processing (B)	1	2	A	EE319	Electrical and Electronic Measurement Technology	2	2	A
EI205	Digital Electronics Technology	1	3	A+	EE329	Electrical Professional Practice	2	2	A
EI303	Automatic Control Theory B	1	3	A	EE332	Course Design in Power Electronic	2	2	A
EI310	Science and Technology Innovation (Part 3-A)	1	2	A-	EE413	Transient Analysis of Power System	2	2	A
PE901	Sport Culture	1	1	A+	EI317	Science and Technology Innovation (Part 4-B)	2	2	A
AU321	Motion Control System Integrated Test	2	2	B+	T030PRP2	PRP(T030PRP28075) 8075	2	2	A

## ACADEMIC YEAR: 2016-2017

CODE	COURSES	SEMESTER	CREDIT	GRADECODE	CODE	COURSES	SEMESTER	CREDIT	GRADECODE
EE404	Digital Power Systems Protection and its Application	1	2	A	EE422	Numerical Computation of Electro-Magnetic Field	1	2	A
EE411	Course Design in Power System Protection	1	2	A-	EE431	Electrical System Lab.	1	2	A+
EE412	Electrical Power System Optimization and Marketing	1	2	A	EI302	Communication Fundamentals (B)	1	2	A-
EE414	Modern Electrical Technology	1	1	B+	BS055	Undergraduate Project (Thesis)	2	17	B+





# TRANSCRIPT FOR GRADUATE STUDENT

Date Issued:25-OCT-2019

Name: Li Meiyi

Nationality:China

Gender:Female

Date of Birth:22-JUL-1994

Study Program:Professional Master

Enrollment Date:SEP-2017

Student ID: 117031910072

Supervisor:Tai Nengling

School: School of Electronic Information & Electrical Engineering

Major:Electrical Engineering

COURSE TITLE	CREDIT	GRADE	SEMESTER
☆ Academic Speech and Seminar	2	A	2018 Fall
☆ English for Academic Purposes	2	A-	2018 Spring
☆ Power System Security Analysis	2	A	2018 Spring
☆ Reliability of Power Systems	2	A+	2018 Spring
☆ Introduction to Computer Relaying Protection	2	A	2018 Spring
Distribution automation system	2	A	2018 Spring
Advanced Optimization of Power System Operation	2	B	2017 Fall
☆ Theory and Application of Optimization in Modern Power System Operation	2	B-	2017 Fall
Relaying Protection for Extra-high Voltage Transmission Line	2	B	2017 Fall
☆ Fundamentals and Theory for Optimization Methods	3	B-	2017 Fall
Dialectic of nature	1	A	2017 Fall
The Theory and Practice of Socialism in China	2	B+	2017 Fall
☆ Modern Control Theory	3	A-	2017 Fall
☆ Project Management	1	A-	2017 Fall

----- E N D -----

Total Credits	Credits for GPA	Cumulative GPA	Degree-Specific Requirements	Semester	Grade
28	19	3.56/4.0	research assistant	2019 Spr	P
Degree Conferred			Conferred Date		
Thesis Title					

\* Courses marked with ☆ are used for calculating GPA.

\*\* The transcript should be stamped to be official.

\*\*\* Explanatory legend is printed on the back page.



Dean:

Kang Shengrong

Shanghai Jiao Tong University  
Graduate School

成绩专用章