

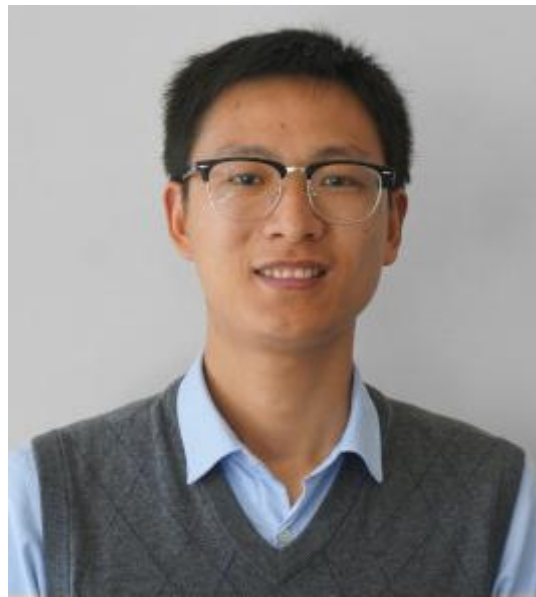
Dr. Cheng Yang

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Cheng Yang received his B.S. degree in electronic science and technology from Wuhan University (WHU), Wuhan, China, in 2009, the M.S. degree and the Ph.D. Degree with electromagnetic field and microwave technology from the National University of Defense Technology (NUDT), Changsha, China, in 2012 and 2016. Since 2019 he has been a senior engineer of the Institute of Electromagnetic Theory, Technische Universität Hamburg (TUHH), Hamburg, Germany. From 2013 to 2015, he was funded by the Chinese Scholarship Council (CSC) as a joint-PhD student at TUHH. From 2017 to 2019, he was a Faculty Member of the State Key Laboratory of Millimeter Wave at Southeast University (SEU), Nanjing, China. His current research interests include computational electromagnetics, radio frequency (RF) discretized modeling, near-field measurements, machine learning and its application in electromagnetic compatibility and biology electromagnetics.

Dr. Yang is a senior member of the IEEE and is a volunteer serving for distinguished lecture program in the IEEE German EMC Chapter since 2020.

Curriculum Vitae

Employment History:

- 04/19 to today Senior Engineer at Institute of Electromagnetic Theory of **Hamburg University of Technology (TUHH)**, Hamburg, Germany.
Research in the areas of computational electromagnetics, microwave measurements, components and interconnect characterization, biology electromagnetics, power and signal integrity.
- 09/17 to 04/19 Faculty Member at State Key Laboratory of Millimeter Wave of **Southeast University (SEU)**, Nanjing, China.
Research in the areas of computational electromagnetics, microwave measurements and nonlinear metamaterials.

Education and Research Scholarships:

- 02/12 to 12/16 Ph.D. Study at **National University of Defense Technology**, China.
Major: Electronic Science & Technology
Thesis: Simulation, Measurement and Protection Application of Energy Selective Surface
Degree: Doctor of Engineering, gained at Dec. 2016
- Academic Guest at **Hamburg University of Technology**, Germany.
Project: HIRF Protection Using Energy Selective Diode Arrays.
Period: 11/2013 – 11/2015 & 07/2016 – 10/2016 (27 months)
- 09/09 to 12/11 Master Study at **National University of Defense Technology**, China
Major: Electronic Science & Technology
Thesis: Analysis of the Protection Mechanism of Energy Selective Surface
Degree: Master of Engineering, gained at Dec. 2011
- 09/05 to 06/09 Bachelor Study at **Wuhan University**, China
Major: Electronic Information Science & Technology
Thesis: Design of a Universal Infrared Remote Controller
Degree: Bachelor of Engineering, gained at Jun. 2009

Areas of Expertise:

- Computational Electromagnetic (CEM)
- Electromagnetic field-circuit co-simulation
- Material & components characterization and modeling
- Software defined radio (SDR)
- Microwave measurement and calibration
- Robotic control and measurement automation

Professional Activities at Hamburg University of Technology (TUHH):

- Teaching courses at Bachelor's and Master's level since 04/19 in:
 - Seminar on Electromagnetic Compatibility and Electric Power Systems
 - Electromagnetics for Engineers I: Time-Independent Fields (summer semester, since 2020)
 - Electromagnetics for Engineers II: Time-Dependent Fields (winter semester, 2020-2021)
 - Electrical Engineering I (winter semester, starting from 2021)
 - Machine Learning in Electrical Engineering and Information Technology (summer semester, since 2023, partial contribution on near-field measurement)

Further Professional Activities:

- Volunteer of the IEEE EMC German Chapter since 2020 ([link](#)).
- Group organizer of AG Physics-based Machine Learning (PB-ML) at TUHH since 2021 ([link](#))
- Event organizer of EMC Forum in 2023 ([link](#))
- TPC member of ACES 2018 (International Applied Computational Electromagnetics Society Symposium), China
- Reviewer of IEEE Transactions on Microwave Theory and Techniques (TMTT), IEEE Transactions on Electromagnetic Compatibility (TEMC), Journal of Applied Computational Electromagnetics Society, Optics Express (OE), IEEE Antennas and Wireless Propagation Letters (AWPL)

Selected Publications

Peer-Reviewed Conference Contributions:

1. **C. Yang**, C. Adam, S. Götschel, "Single-probe Near-field Phase Retrieval using On-The-Fly Scan and Hilbert Transform", EMC Europe 2023, Krakow, Poland, 2023.
2. **C. Yang**, M. Schierholz, E. Trunczik, L.M. Helmich, H.-D. Brüns, C. Schuster, "Efficient and Flexible Huygens' Source Replacement of mm-scale Human Brain Implants". IEEE International Joint EMC/SI/PI and EMC Europe Symposium (virtual), July 26 – August 20, 2021.
3. **C. Yang**, Q. Ma, G. D. Bai, L. Bao, T. J. Cui, "Design of an X-band Photoconductive Metasurface with Variable Amplitude Control". IEEE International Symposium on Electromagnetic Compatibility (EMC EUROPE). Amsterdam, Netherlands, August 27-30, 2018
4. **C. Yang**, P.G. Liu, H.-D. Brüns, C. Schuster, "Design Aspects for HIRF Protection of a Rectangular Metallic Cavity Using Energy Selective Diode Grids", IEEE Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC), Shenzhen, China, May 17-21, 2016.
5. **C. Yang**, H.-D. Brüns, P.G. Liu, C. Schuster, "Validation of a Flexible Causality Treatment for Transient Analysis of Nonlinearly Loaded Structures ", IEEE Symposium on Electromagnetic Compatibility, Dresden, August 16-22, 2015.
6. H. Esmaeili, **C. Yang**, C. Schuster, "Flexible Numerical Evaluation of Human Head Exposure to a Transmitter Coil for Wireless Power Transfer at 13.56MHz", IEEE International Symposium on Electromagnetic Compatibility (EMC Europe 2022), Gothenburg, Sweden, September 5–8, 2022.
7. T. Wendt, **C. Yang**, C. Schuster, S. Grivet-Talocia, "Numerical Complexity Study of Solving Hybrid Multiport Field-Circuit Problems for Diode Grids", IEEE International Conference on Electromagnetics in Advanced Applications (ICEAA), Granada, Spain, September 9-13, 2019.
8. L. Wang, **C. Yang**, H.-D. Brüns, C. Schuster, "Effect of the Interference from Conducting Plates on OAM Based Wireless Communication", IEEE International Conference on Electromagnetics in Advanced Applications (ICEAA), Grenada, Spain, September 9-13, 2019.

Peer-Reviewed Journal Contributions:

1. **C. Yang**, T. Wendt, M. De Stefano, M. Kopf, C.M. Becker, S. Grivet-Talocia, C. Schuster, "Analysis and Optimization of Nonlinear Diode Grids for Shielding of Enclosures With Apertures," in IEEE Transactions on Electromagnetic Compatibility, vol. 63, no. 6, pp. 1884-1895, Dec. 2021.
2. **C. Yang**, H.-D. Brüns, P. Liu, C. Schuster, "Impulse Response Optimization of Band-Limited Frequency Data for Hybrid Field-Circuit Simulation of Large-Scale Energy-Selective Diode Grids", IEEE Transactions on Electromagnetic Compatibility, vol. 58, no. 4, pp. 1072-1080, August 2016.
3. **C. Yang**, P. G. Liu, X. J. Huang. "A Novel Method of Energy Selective Surface for Adaptive HPM/EMP Protection". IEEE Antennas & Wireless Propagation Letters, vol. 12, pp. 112-115, January 2013.
4. M. De Stefano, T. Wendt, **C. Yang**, S. Grivet-Talocia and C. Schuster, "Regularized and Compressed Large-Scale Rational Macromodeling: Theory and Application to Energy-Selective Shielding Enclosures," in IEEE Transactions on Electromagnetic Compatibility, 2022.
5. T. Wendt, M. D. Stefano, **C. Yang**, S. Grivet-Talocia and C. Schuster, "Iteration Dependent Waveform Relaxation for Hybrid Field Nonlinear Circuit Problems," in IEEE Transactions on Electromagnetic Compatibility, vol. 64, no. 4, pp. 1124-1139, Aug. 2022.
6. M. Wulff, W. Park, L. Wang, **C. Yang**, H. -D. Brüns and C. Schuster, "Shielding of Orbital Angular Momentum Waves by a Cavity With Apertures," in IEEE Transactions on Electromagnetic Compatibility, vol. 64, no. 3, pp. 692-701, June 2022.
7. M. Wulff, T. Hillebrecht, L. Wang, **C. Yang** and C. Schuster, "Multiconductor Transmission Lines for Orbital Angular Momentum (OAM) Communication Links," in IEEE Transactions on Components, Packaging and Manufacturing Technology, vol. 12, no. 2, pp. 329-340, Feb. 2022.
8. M. De Stefano, S. Grivet-Talocia, T. Wendt, **C. Yang** and C. Schuster, "A Multistage Adaptive Sampling Scheme for Passivity Characterization of Large-Scale Macromodels," in IEEE Transactions on Components, Packaging and Manufacturing Technology, vol. 11, no. 3, pp. 471-484, March 2021.
9. Ö. F. Yildiz, O. Thomsen, M. Bochard, **C. Yang** and C. Schuster, "Vertical Integration of Passive Microwave Components Using Functional Via Structures in LTCC Multilayer Substrates," in IEEE Transactions on Components, Packaging and Manufacturing Technology, vol. 11, no. 4, pp. 635-646, April 2021.
10. S. Liu, S. Ma, **C. Yang**, L. Zhang, W. Gao, Y.J. Xiang, T.J. Cui, S. Zhang. "Gain- and Loss-Induced Topological Insulating Phase in a Non-Hermitian Electrical Circuit". Physical Review Applied. vol. 13, iss 1, pp. 014047, January 2020.

Invited or Non-Peer-Reviewed Papers and Presentations:

1. **C. Yang**, “Near Field Scans“, EMC Boot Camp 2022 of the IEEE German EMC Chapter, training center of Rohde & Schwarz, Munich Germany, Nov. 09. 2022.
2. **C. Yang**, “Nonlinear Shielding: A New Paradigm in EMI Control“, EMC Professional Talk (online), IEEE German EMC Chapter, Sep. 23, 2021.
3. **C. Yang**, H.-D. Brüns, C. Schuster, “Using the Method of Moments for Computation of Nonlinear Shielding“, Joint IEEE Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC) and IEEE International Symposium on Electromagnetic Compatibility (EMCS), contribution to the workshop “Computational Electromagnetics (CEM) for EMC Applications“, Singapore, May 14-17, 2018.