2012 International Workshop on Metamaterials
(Meta 2012)

Nanjing, Jiangsu, China
8 – 10 October 2012
Monday, 8th October

08:15-08:30 Opening ceremony

08:30-10:10 Chairperson: Raj Mittra

08:30-09:20 Inside the Wavelength - seeing really small objects with light $^{Keynote}$ N/A
John B. Pendry, Imperial College London, UK

09:20-10:10 Metamaterial-enhanced magnetic responses and their applications $^{Keynote}$ N/A
Sailing He, Zhejiang University, Hangzhou, China

10:10-10:30 Coffee break

10:30-12:10 Chairperson: John B. Pendry

10:30-11:20 Electron induced near field optical microscopy: lighting up tightly confined plasmon modes $^{Keynote}$ N/A
Nicholas X. Fang, Massachusetts Institute of Technology, USA

11:20-12:10 One way propagation manipulation by complex photonic crystals $^{Keynote}$ N/A
Yanfeng Chen, Nanjing University, China

12:10-14:00 Lunch

14:00-16:10 Chairperson: Nicholas X. Fang

14:00-14:50 Active metamaterials based on negative impedance converters $^{Keynote}$ N/A
Yang Hao, Queen Mary College, University of London, UK

14:50-15:40 Plasmonic Wave Holography for Wave-Front Shaping of Light $^{Keynote}$ N/A
Yu-Hui Chen, Lu Huang, Lin Gan, and Zhi-Yuan Li, Chinese Academy of Sciences, China

15:40-16:10 Transformation bending device emulated by graded-index waveguide $^{Invited}$ N/A
Hui Liu, Nanjing University, China

16:10-16:30 Coffee Break

16:30-18:10 Chairperson: Yang Hao

16:30-17:20 Light absorption and photothermal effects in metamaterials and plasmonic nanostructures $^{Keynote}$ N/A
Min Qiu, Zhejiang University, China; Royal Institute of Technology (KTH), Sweden

17:20-18:10 Double-negative acoustic metamaterials composed of meta-molecule $^{Keynote}$ N/A
Xiaopeng Zhao, Northwestern Polytechnical University, China

18:10-19:00 Chairperson: Xiaopeng Zhao

Tuesday, 9th October

08:30-10:10 Chairperson: Jensen Li

08:30-09:20 Wideband and low-loss metamaterial antennas and arrays \textsuperscript{Keynote} N/A
Le-Wei Li, University of Electronic Science & Technology of China, China
09:20-10:10 Gradient-index metamaterials to control electromagnetic waves: From microwaves to visible \textsuperscript{Keynote} N/A
Lei Zhou, Fudan University, China

10:30-12:10 Chairperson: Cheng-Wei Qiu

10:30-11:20 Non-Euclidean transformation optics \textsuperscript{Keynote} N/A
Ulf Leonhardt, University of St Andrews, UK
11:20-12:10 Laser precision engineering for large area metamaterials fabrication \textsuperscript{Keynote} N/A
Minghui Hong, National University of Singapore, Singapore

12:10-14:00 Lunch

14:00-16:10 Chairperson: Zi-Ting Chan

14:00-14:50 Meta-materials-based antennas \textsuperscript{Keynote} N/A
Zhi Ning Chen, National University of Singapore, Singapore
14:50-15:40 Controlling electromagnetic wave propagation with polarization dependent planar metamaterials \textsuperscript{Keynote} N/A
Yijun Feng, Nanjing University, China
15:40-16:10 Large scale cylindrical cloak in free space: from narrow band to broadband \textsuperscript{Invited} N/A
Hongsheng Chen, Zhejiang University, China

16:10-16:30 Coffee Break

16:30-18:10 Chairperson: Ulf Leonhardt

16:30-17:20 Making structured metals transparency for broadband electromagnetic waves \textsuperscript{Keynote} N/A
Ru-Wen Peng, Nanjing University, China
17:20-18:10 Win some and lose some: A competition between metamaterials and non-metamaterials \textsuperscript{Keynote} N/A
Wednesday, 10th October

08:30-10:10  Chairperson: Le-Wei Li

08:30-09:20  Designing nanoantennas: Is it just a matter of scaling down their microwave counterparts? Keynote
Raj Mittra, Penn State University, USA

09:20-10:10  Optical force and stress Keynote N/A
Zi-Ting Chan, Hong Kong University of Science and Technology, China

10:10-10:30  Coffee break

10:30-12:10  Chairperson: Lei Zhou

10:30-11:20  From electrically small zero-scattering particles to thin matched absorbers Keynote N/A
Sergei Tretyakov, Aalto University, Finland

11:20-12:10  Metamaterial cavity resonance: Antireflection coating and perfect absorption Keynote N/A
Hou-Tong Chen, Los Alamos National Laboratory, USA

12:10-14:00  Lunch

14:00-16:10  Chairperson: Zhi-Ning Chen

14:00-14:50  Tunable metamaterial absorber and thermal emitter Keynote N/A
Willie J. Padilla, Xianliang Liu, Boston College, USA

14:50-15:20  Anisotropic dc unit cells in the cylindrical coordinate system: a comparison between accurate and approximate models Invited N/A
Zhong Lei Mei, Lanzhou University, China

15:20-15:50  Application of anisotropic zero index metamaterials in microwave engineering Invited N/A
Qiang Cheng, Southeast University, China

15:50-16:10  Coffee break
16:10-16:40 Deep subwavelength electromagnetic transparency through dual metallic gratings with ultranarrow slits
Invited Chunyin Qiu, Wuhan University, China

16:40-17:10 Flux control in inhomogeneous anisotropic epsilon-near-zero metamaterials
Invited Yun Lai, Soochow University, China

17:10-17:50 Planar and conformal surface plasmons on ultrathin corrugated strips
Keynote Tie Jun Cui, Southeast University, China
Poster Sessions

Poster Session 1
Chairperson: Xiaopeng Zhao, 18:10-19:00, Monday, 8th October

P1.1 Optical trapping using double negative index fishnet metamaterial
T. Cao¹, M. J. Cryan², 1. Dalian University of Technology, China; 2. University of Bristol, UK

P1.2 Determination of the effective constitutive parameters of active transmission line metamaterials
Li-Ming Si¹, Weiren Zhu², Xin Lv¹, 1. Beijing Institute of Technology, China; 2. Monash University, Clayton, Australia

P1.3 Double negative behavior of a circular waveguide with metamaterials
Xin Guo, Jinhua Cao, and Zhaoyun Duan, University of Electronic Science and Technology of China, China

P1.4 A novel approach to further decrease the thickness of ultrathin perfect metamaterial absorbers
Li Huang, et al. Harbin Institute of Technology, China

P1.5 Gradient magnifier lens with homogeneous isotropic dielectrics for subwavelength super-imaging
Tiancheng Han¹, Cheng-Wei Qiu², 1. University of Electronic Science and Technology of China, China; 2. National University of Singapore, Singapore

P1.6 Photothermal direct writing of metallic microstructure for frequency selective surface at terahertz frequencies
Xi Chen¹, Yiting Chen¹, Min Yan¹, Min Qiu¹, Tie Jun Cui², 1. KTH Royal Institute of Technology Kista, Sweden; 2. Southeast University Nanjing, China

P1.7 FSS design research for improving the wide-band stealth performance of radar absorbing materials
Wang Ming-liang, Zhang Sheng-jun, Liu Jia-qi, Liang Wei, Liu Xue-mei, W. Liang, X, National Key Laboratory of Science and Technology on Test Physics & Numerical Mathematical Beijing 100076, China

P1.8 Anisotropic dc unit cells in the cylindrical coordinate system: a comparison between accurate and approximate models
Xiang Ma¹, Zhong Lei Mei¹, Fan Yang¹, Tie Jun Cui², 1. Lanzhou University, Lanzhou, China; 2. Southeast University, China

P1.9 Coupling effect in planar metamaterials
Ran Liu, Bo Na, Jinhui Shi, Zhengping Wang, Harbin Engineering University,
P1.10 Multi-peak transmissions in concentric ring metamaterials mimicking electromagnetically induced transparency
Shengwu Yu, Chunying Guan, Jinhui Shi, Zhengping Wang, Harbin Engineering University, China

P1.11 A transparent polarization transformer based on a bilayered metamaterial
Xingchen Liu, Ran Liu, Zheng Zhu, Jinhui Shi, Zhengping Wang, Harbin Engineering University, China

P1.12 Analysis and design of the pyramidal horn antennas for terahertz applications
Lin Guo, Fengyi Huang, Xusheng Tang, Southeast University, China

P1.13 Bandwidth enhanced metamaterial absorber at terahertz frequency
Huan Zhang, Yijun Feng, Nanjing University, Nanjing, 210093 China

P1.14 Designing planar electromagnetic wave reflectors through transformation optics
Shuai Xiong, Yijun Feng, Tian Jiang, Junming Zhao, Nanjing University, Nanjing, 210093 China

P1.15 Design of near-zero refractive index metamaterials using and near-zero media
C. Soemphol, N. Wongkasem, Khon Kaen University, Thailand

P1.16 Three-dimensional aluminum nano funnel-antenna for enhanced absorption of near-ultraviolet light by TiO2
Xiao-Lan Zhong, Zhi-Yuan Li, Chinese Academy of Sciences, China

P1.17 Fluorescence enhancement assisted by the double plasmonic modes of gold nanorods
Si-Yun Liu, Jia-Fang Li, Lu Huang, Zhi-Yuan Li, Chinese Academy of Sciences, China

P1.18 One-way tamm plasmon-polaritons at a magnetophotonic crystals/Metal interface
Hui Yuan Dong, Jin Wang, Tie Jun Cui, Southeast University, China

P1.19 Large scale cylindrical cloak in free space without superluminal propagation
Hongsheng Chen, et al. Zhejiang University, China

P1.20 A microwave wideband hyperlens based on metamaterials closed-rings
Bin Zheng, Weibin Zhang, Yang Xu, Hongsheng Chen, Zhejiang University, China

P1.21 Effects of discharge types on plasma collisional absorption of electromagnetic waves
Runhui Wu, Shengjun Zhang, Jiaqi Liu, Aimin Ren, Gang Meng, Wei Liang, Xuemei Liu, NationalKey Laboratory of Science and Technology on test physics & numerical mathematical, Beijing, China
Poster Session 2
Chairperson: Yijun Feng, 18:10-19:00, Tuesday, 9th October

P2.1 Design and simulation of multi-functional layer double negative fishnet metamaterial at optical communication wavelength 
Hossein Seifoory, Ali Golestani, Parissa Tabatabaei, University of Tabriz, Iran

P2.2 A design of multi-band stealth compatibility with the application of fusion type FSS
Xiaodi Weng, Xuliang Lv, Baicao Pan, Zhaoyang Zeng, Liuqiang Wen, PLA University of Science and Technology, China

P2.3 Optical trapping of metallic nanoparticles using two types of vector beams
Lu Huang, Honglian Guo and Zhi-yuan Li, Chinese Academy of Sciences, China

P2.4 Derivation of an effective model for plasmonic coupling
Bin Xi, Meng Qiu, Shiyi Xiao, Hao Xu, and Lei Zhou, Fudan University, China

P2.5 A hyperlens realized by a plasmonic metamaterial
Qiong He, Shiyi Xiao, Xin Li, and Lei Zhou, Fudan University, China

P2.6 Second-harmonic generations in fishnet metamaterials
Shiwei Tang, et al. Fudan University, China

P2.7 A new mechanism to design transparent electrodes: THz realizations
Zhengyong Song, et al. Fudan University, China

P2.8 Making transparent metals based on scattering cancellations
Zhengyong Song, Qiong He, Shiyi Xiao, and Lei Zhou, Fudan University, China

P2.9 A theoretical study on graphene-based metamaterials
Kun Ding, Yuan Shen, Jack Ng and Lei Zhou, Fudan University, China

P2.10 Reflectionless ultra-thin microwave wave-plate based on metamaterials
Wujiong Sun, Qiong He, Jiaming Hao, Lei Zhou, Fudan University, China

P2.11 A flat metamaterial lens working in reflection geometry
Xin Li¹, Shiyi Xiao¹, Bengeng Cai², Qiong He¹, Tie Jun Cui², Lei Zhou¹, 1. Fudan University, China; 2. Southeast University, China

P2.12 Tunable metamaterials based on ferrites and the applications
Yongjun Huang¹, Guangjun Wen¹, Weiren Zhu², 1. University of Electronic Science and Technology of China, 2. Monash University, Australia

P2.13 Applying effective medium theory in characterizing dielectric constant of solids

XVI
Sucheng Li, et al. Soochow University, China

P2.14 The role of single loading dielectric layer on properties of frequency selective surfaces
S. J. Zhang¹, J. Q. Liu¹, M. L. Wang¹, W. M. Ms¹, W. Liang¹, X. M. Liu, X. C. Hou², 1. National Key Laboratory of Science and Technology on Test Physics & Numerical Mathematics, China; 2. Aerospace Science & Industry Defense Technology R&T Center, China

P2.15 An accurate 2-D nonuniform fast fourier transform method applied to high resolution SAR image reconstruction
K. Han, et al. Equipment Research Institute of Air Force, China

P2.16 Rapid analysis of metamaterial structures using the discrete Maxwell's equation method
Q. F. Guo, Y. Q. Ma, X. L. Cui, Y. Liu, Equipment Research Institute of Air Force, China

P2.17 Dynamic echo simulation of precession target based on electromagnetic scattering model
W. F. Sun, H. Y. Yao, X. Y. Ma, X. X. Li, Air Force Early Warning Academy, China

P2.18 ISAR imaging of complex targets based on electromagnetic scattering field
H. Y. Yao, X. Y. Zhou, W. F. Sun, X. Y. Ma, Air Force Early Warning Academy, China

P2.19 A broadband bandpass rectangular waveguide filter based on metamaterials
Y. Liu and H. F Ma, Southeast University, China

P2.20 TE-polarized microwave broadband carpet cloak
Su Xu, Runren Zhang, Hongsheng Chen, Zhejiang University, China

P2.21 Polarization-insensitive metamaterial absorber based on carbon fiber cut-wire arrays
Yongqiang Pang, Haifeng Cheng, Yongjiang Zhou, National University of Defense Technology, China

P2.22 A novel helical metamaterial absorber: Simulation study with the FDTD method
ZhenYu Yang, ZeQin Lu, Lin Wu, Peng Zhang, and Ming Zhao, Huazhong University of Science and Technology, China

P2.23 Preparation of a gradient wettability surface based on organic-inorganic hybrid coating
Liang Zhou¹, Ziheng Huang², Yuhong Tao², Jiang Cheng², 1. Guangdong Industry Technical College, China, 2. South China University of Technology, China