

(A) **SCI Journal Papers: C. - L. Cheng (1996 ~) \*Corresponding author (Sept 09, 2024 updated)**

Total SCI papers **136**;

International Conference **197**; Plenary **4**; Keynote **3**; invited talk **68**,  
h-index **43**; total citation **6585** (Google Scholar, Sept 9, 2024)

1. Artashes V. Karmenyan<sup>a</sup>, Alexander S. Krivokharchenko<sup>a</sup>, Micahella N. Sarmiento<sup>a</sup>, Eviyona L. Barus<sup>a</sup>, Elena V. Perevedentseva<sup>b</sup>, Chia-Liang Cheng<sup>a,\*</sup>, Impact of graphene oxide nanoparticles on *in vitro* development of a mouse preimplantation embryo and interaction with the zona pellucida, **J. of Biophotonics** (Sept 2024 accepted)
2. K. Manjunatha <sup>a</sup>, Hao Zhang <sup>a</sup>, Hsin-Hao Chiu <sup>a</sup>, Ming-Kang Ho <sup>a</sup>, Tsu-En Hsu <sup>a</sup>, Shih-Lung Yu <sup>a</sup>, Nilesh Chougala <sup>b</sup>, N.S. Maruthi <sup>c</sup>, Sameer Kulkarni <sup>d</sup>, Chia-Liang Cheng <sup>a</sup>, Sheng Yun Wu <sup>a</sup>, Shidaling Matteppanavar <sup>b</sup> Magnetic transition magnetocaloric and supercapacitor behavior in synthesized Sn<sub>0.6</sub>Mn<sub>0.1</sub>Ge<sub>0.3</sub>Te alloy, **Journal of Energy Storage**, V98, B, Sept 20, 2024, 113182
3. Hsin-Hao Chiu, Ming-Kang Ho, Tsu-En Hsu, Shih-Lung Yu, K. Manjunatha, Chia-Liang Cheng, Tai-Yue Li, Chung-Kai Chang, Srikrishna Tummala, Yen-Peng Ho, Jagadeesha Angadi V, Shidaling Matteppanavar, Ashish Chhaganlal Gandhi, Sheng Yun Wu, Manipulating and investigating the room-temperature magnetic memory phenomenon: The impact of rare-earth ion doping on nickel oxide nanoparticles, **Materials Today Chemistry**, Volume 39, 2024, 102190,
4. Fe doped Nanodiamond-Based Photo-Fenton Catalyst for Dual-Modal Fluorescence Imaging and Improved Chemotherapeutic Efficacy against Tumor Hypoxia, Rajakar Selvam<sup>a</sup>, Wrenit Gem Pearl<sup>a</sup>, Elena Perevedentseva<sup>a,b</sup>, Artashes Karmenyan<sup>a</sup>, Chia-Liang Cheng<sup>a,\*</sup>, **RSC Advances**, 2024, 14, 4285-4300. (Accepted 17th January 2024)
5. Berberine mediated fluorescent gold nanoclusters in biomimetic erythrocyte ghosts as a nanocarrier for enhanced photodynamic treatment, Wrenit Gem Pearl,<sup>a</sup> Rajakar Selvam,<sup>a</sup> Artashes V. Karmenyan,<sup>a</sup> Elena V. Perevedentseva,<sup>b</sup> Shih-Che Hung,<sup>c</sup> Hsin-Hou Chang,<sup>c</sup> Natalia Shushunova,<sup>d</sup> Ekaterina S. Prikhozhdenko,<sup>d</sup> Daniil Bratashov,<sup>d</sup> Valery V. Tuchin<sup>d</sup> and Chia-Liang Cheng<sup>\*a</sup>, **RSC Advances**, 2024, **14**, 3321-3334. (Jan 2024)
6. Advancing humidity sensing and magnetocaloric properties of spinel structural CoCr<sub>2</sub>O<sub>4</sub> nanoparticles achieved via innovative bismuth doping by combustion synthesis, Ming-Kang Ho <sup>a</sup>, Hsin-Hao Chiu <sup>a</sup>, Tsu-En Hsu <sup>a</sup>, B. Chethan <sup>b</sup>, Shih-Lung Yu <sup>a</sup>, Chih-Yin Jheng <sup>a</sup>, Chu-En Chin <sup>a</sup>, Rajakar Selvam <sup>a</sup>, Jagadeesha Angadi V <sup>c</sup>, Chia-Liang Cheng <sup>a</sup>, H. Nagabhushana <sup>d</sup>, K. Manjunatha <sup>a</sup>, Sheng Yun Wu <sup>a</sup>, **Materials Today Chemistry**, Advancing humidity sensing and magnetocaloric properties of spinel structural CoCr<sub>2</sub>O<sub>4</sub> nanoparticles achieved via innovative bismuth doping by combustion synthesis. <https://doi.org/10.1016/j.mtchem.2024.101907> (2024)
7. Multifunctional ferromagnetic nanodiamond for dual-mode fluorescence imaging and magnetic drug targeting, Rajakar Selvam<sup>1</sup>, Ashish Gandhi<sup>1</sup>, Shih-Che Hung<sup>3</sup>, Artashes V. Karmenyan<sup>1</sup>, Elena Perevedentseva<sup>1,2</sup>, Wang-Chi Yeh<sup>1</sup>, Sheng-Yun Wu<sup>1</sup>, Hsin-Hou Chang<sup>3</sup>, Chia-Liang Cheng<sup>1\*</sup>, **Diamond and Related Materials**, V139, Nov 2023, 110398.
8. Mg-Doped CoCr<sub>2</sub>O<sub>4</sub> Nanoparticles: Implications for Magnetic Memory and Magnetocaloric Effect, Manjunatha, Krishappa; Chiu, Hsin-Hao; Ho, MING-KANG; Hsu, Tsu-En; Yu, Shih-Lung; Chin, Chu-En; Cheng, Chia-Liang; de Oliveira, Marisa; Longo, Elson; Ribeiro, Renan A. P.; Nagabhushana, Hanumanthappa; Wu, Sheng Yun\*, **ACS Applied Nano Materials** (June 20, 2023, published). *ACS Appl. Nano Mater.* 2023, 6, 13, 12002–12015 Publication Date: June 20, 2023 <https://doi.org/10.1021/acsnm.3c01817>
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2. Fe decorated nanodiamond for enhancing chemodynamical therapy for tumour hypoxia, Rajakar Selvam<sup>1</sup>, Elena V. Perevedentseva<sup>1, 2</sup>, Artashes V. Karmenyan<sup>1</sup>, Chia-Liang Cheng<sup>1\*</sup>, 17th

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3. A multifunctional cascade nanoreactor based on Fe decorated nanodiamond for enhancing chemodynamic/starvation Therapy for tumor hypoxia, Rajakar Selvam<sup>1</sup>, Wrenit Gem Pearl<sup>1</sup>, Elena V. Perevedentseva<sup>1, 2</sup>, Artashes V. Karmenyan<sup>1</sup>, Chia-Liang Cheng<sup>1\*</sup> Hasselt Diamond Workshop, SBDD XXVIII, Feb 28-Mar 1, 2024, Hasselt Belgium. **(Oral)**
4. The Interplay of Carotenoids and Reactive Oxygen Species in a Regenerative invertebrate Label-Free, Pooja Manik Badgular<sup>1</sup>, Pei-Yang Huang<sup>1</sup>, Artashes V. Karmenyan<sup>1</sup>, Viktor Nikolayev<sup>2</sup>, Yury V. Kistenev<sup>2</sup>, Jiun-Hong Chen<sup>3</sup>, Chia-Liang Cheng<sup>1\*</sup>, TISRS July 11-12, NTU Taipei. **(Plenary talk)**
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6. Nanodiamond Facilitated Drug Delivery and Drug Efficacy Evaluations in 3D cellular models, Yu-Chung. Lin<sup>1</sup>, Chien-Ying Huang<sup>1</sup>, Yi-Jhen Su<sup>1</sup>, Elena V. Perevedentseva<sup>1,2</sup>, Artashes V. Karmenyan<sup>1</sup>, Chia-Liang Cheng<sup>1\*</sup>, International Conference, Laser Physics, Yerevan Armenia, 12-15 Sept 2023 **(Invited talk)**
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9. Photo responsive nanodiamond based image guided therapeutic strategy for tumour hypoxia, Rajakar Selvam<sup>1</sup>, Wrenit Gem Pearl<sup>1</sup>, Artashes Karmenyan<sup>1</sup>, Elena V. Perevedentseva<sup>2</sup>, Chia-Liang Cheng<sup>1\*</sup>, Hasselt Diamond Workshop, SBDD XXVII, Mar 15-17, 2023, Hasselt Belgium. **(Oral)**
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14. Study the life activity of regenerative worm *Aeolosoma Viride* using Raman spectroscopy and Two-Photon Fluorescence Lifetime Imaging Microscopy, Pooja Manik Badgular, Jia-Hua Wu, Pei-Yang Huang, Wrenit Gem Pearl, Artashes V. Karmenyan, Elena V. Perevedentseva, Jiun-Hong Chen, Chia-Liang Cheng<sup>\*</sup>, ALT22, the 29<sup>th</sup> International Conference on Advanced Laser Technology, Moscow, Russia, Sept 11-16, 2022. **(Invited talk)**

15. Microrheologic effects of magnetic nanodiamonds assessed by laser methods; A. E. Lugovtsov<sup>1</sup>, P.B. Ermolinskiy<sup>1</sup>, E.V. Perevedentseva<sup>2</sup>, C.-L. Cheng<sup>3</sup>, A.V. Priezzhev; ALT22, Moscow, Russia, Sept 11-16, 2022. **(Invited talk)**
16. Nanoparticles safety verification for their biomedical applications: from micro rheologic point of view; The 3rd international scientific school on “Biomedical laser technologies; Andrei Lugovtsov<sup>1</sup>, Evgeny Shirshin<sup>2</sup>, Petr Ermolinskiy<sup>3</sup>, Chia-Liang Cheng<sup>4</sup>, Alexander Priezzhev<sup>5</sup> FLAMN-2022 **(Invited talk)**
17. A 3D Co-cultured model for evaluation of nanoparticle facilitated drug delivery, Chia-Chi Chang, Yu-Chung Lin and Chia-Liang Cheng<sup>\*</sup>, International Conference on Laser Applications on Life Science, LALS 2022, Nancy France, 04 01-02, 2022. **(Invited talk, online)**
18. Multimodalities of diamond nanoparticles for imaging and drug delivery in 3D cellular models E. Perevedentseva<sup>1,2</sup>, Y.-C. Lin<sup>1</sup>, Z.-R. Lin<sup>1</sup>, C.-C. Chang<sup>1</sup>, C.-L. Cheng<sup>1\*</sup>, 2021 MRS Fall Meeting, Symposium SB03.06, 12/06-12/08, 2021, Boston, MA, USA. **(Invited talk, online)**
19. The Impact of Nanodiamond on Early Developing Mammalian Embryos, Micahella Sarmiento<sup>1</sup>, A. Krivoharchenko<sup>2</sup>, S. Manuel<sup>1,3</sup>, C.-H. Lee<sup>3</sup>, A. Karmenyan<sup>1</sup>, E. Perevedentseva<sup>1,4</sup>, V. Natochenko<sup>2</sup>, Chia-Liang Cheng<sup>1\*</sup>, International Conference on New Diamond and Nano Carbon, NDNC, June 06-07, 2021 Japan. (Oral, online)
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**(E) 指導大專生參與國科會「大學部學生專題研究計畫」：**

112. 國科會 97 年度大專生參與專題研究計畫計畫主持人，「利用光譜學分析官能基化奈米鑽石-生物分子/藥物複合體·邱鈺中」·NSC-97-2815-C-259-002-M·計畫主持人(**研究報告獲選全國前 6 名**)
113. 國科會 96 年度大專生參與專題研究計畫計畫主持人，「摻雜奈米碳管對二氧化鈦的相變效果·王家彬」·NSC-96-2815-C-259-004-M·計畫主持人(**研究報告獲選全國前 6 名**)
114. 國科會 95 年度大專生參與專題研究計畫計畫主持人，「利用傅立葉轉換紅外線光譜學研究並分析羥基化奈米鑽石表面上 C=O 鍵結之紅外線吸收光譜與奈米粒徑的關係·涂誌賢」·NSC-95-2815-C-259-012-M·計畫主持人。**(研究報告獲選全國前 6 名)**

115. 國科會 94 年度大專生參與專題研究計畫計畫主持人，「二氧化鈦與氣體光催化反應之紅外線光譜臨場觀測研究·周博文」，NSC-94-2815-C-259-012-M，計畫主持人。
116. 國科會 93 年度大專生參與專題研究計畫計畫主持人，「利用拉曼光譜即傅立葉轉換紅外光譜學研究奈米級多孔洞材料：做為未來氫氣儲存理想材料的可能性研究·顏秀蘭」，NSC-93-2815-C-259-010-M，計畫主持人。
117. 國科會 90 年度大專生參與專題研究計畫計畫主持人，「立方氮化硼(c-BN)材料熱處理與氫原子蝕刻之林場紅外光譜量測與研究·吳岳翰」，NSC-90-2815-C-259-004-M，計畫主持人。
118. 國科會 89 年度大專生參與專題研究計畫計畫主持人，「GaN 半導體材料之紅外光譜量測·林永倫」，NSC-89-2815-C-259-006-M，計畫主持人。

**(F) 指導學生論文：**

**2009, 碩士論文**

1. 蔡易宏：使用拉曼光譜技術對含碳混相的二氧化鈦研究(光電工程研究所)  
Yi-Hong Cai : Studies of carbon-containing mixed phase titanium dioxide using Raman spectroscopy
2. 唐淑芸：奈米鑽石與大腸桿菌交互作用之拉曼光譜學研究(光電工程研究所)  
Shu-Yun Tang : Raman spectroscopic investigation of nanodiamond interaction with bacteria Escherichia coli
3. 蔡弦助：利用熱脫附與光譜學方法研究表面官能基化的奈米鑽石以及其生物醫學上的應用(應用物理研究所)  
Sian-Jhu Cai : Temperature desorption and spectroscopic studies of surface functionalized nanodiamond and their bio-medical applications
4. 蔡沛真：溶菌酶與奈米鑽石複合物生物應用製備之光譜學及蛋白質活性研究(應用物理研究所)  
Pei-Jhen Cai : Spectroscopic and protein activity studies of lysozyme and nanodiamond complex prepared for bio-applications

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1. 黃致業：單一根氧化銅奈米線之光譜學研究(應用物理研究所)  
Chih-Yeh Huang : Spectroscopic studies of a single cupric oxide nanowire
2. 朱啟東：生物分子官能基化的奈米鑽石與細胞作用之光譜學研究(應用物理研究所)  
Ci-Dong Chu : Temperature-dependent surface C=O stretching bio-application of carboxylated nanodiamond
3. 洪子奇：利用可見光反應之二氧化鈦還原硝酸銀產生 Ag-TiO<sub>2</sub> 奈米結構藉以觀察表面增強拉曼散射效應(光電工程研究所)  
Zih-Ci Hong : Surface enhanced Raman scattering observed using Ag-TiO<sub>2</sub> nano-structured powder from the photoreduction of AgNO<sub>3</sub> with visible-light activated TiO<sub>2</sub>

4. 吳書葆：經由碳協助的二氧化鈦相變化研究(應用物理研究所)  
Shu-Bau Wu：Carbon assisted TiO<sub>2</sub> phase transformation
5. 涂誌賢：利用光譜學方法研究與尺寸相關以及單一經過光學鑷子操縱的奈米鑽石粒子(應用物理研究所)  
Jhih-Sian Tu：The spectroscopic studies of size dependent and one single trapped aggregated nanodiamond particles
6. 周博文：碳與氧對於含碳之二氧化鈦薄膜在熱處理時相變化之效應(材料科學與工程研究所)  
Po-Wen Chou：Effect of carbon and oxygen on phase transformation of annealed titania films

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1. 鄭智元：奈米鑽石-蛋白質複合體與細菌及細胞作用之光譜學研究(應用物理研究所)  
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Yan-Ting He：Surface enhanced Raman scattering investigation of nanodiamonds
2. 鐘珮華：生物分子官能基化的奈米鑽石與細胞作用之光譜學研究(應用物理研究所)  
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#### 2005, 碩士論文

1. 李承遠：以拉曼光譜研究石墨包裹金屬的奈米晶粒(應用物理研究所)  
Chen-Yuan Lee：On graphite encapsulated metal nanoparticles: A Raman spectroscopic study
2. 董法揆：雷射誘發經過裂解的乙稀以化學氣相層積法成長碳化矽與氧化鎢合成物之拉曼光譜研究(應用物理研究所)  
Fa-Kuei Tung：Raman spectroscopic studies on the laser induced SiC/WO<sub>3</sub> composites produced from decomposed ethylene on Si substrate by hot filament chemical vapor deposition

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Kuo-Yen Tang：Size-dependent Raman spectroscopic Studies of Nonometer-sized Diamonds
2. 蕭維紀：裂解乙烯於氫化的奈米級鑽石表面之反應研究：重現星際的未定義紅外線頻帶的光譜 (應用物理研究所)  
Wei-Chi Hsiao：Reaction of decomposed ethylene on the surface of hydrogenated nanometer-sized diamonds: implication on interstellar unidentified infrared bands

#### 2003, 碩士論文

1. 許智明：氮化硼單層膜與氮化鋁多層膜的合成與特性 (材料科學與工程研究所)  
Chih-Ming Hsu：Synthesis and Characterization of BN Thin Films and BN/AlN Multilayers

#### 2001, 碩士論文

1. 陳啟峰：奈米鑽石之紅外光譜研究 (材料科學與工程研究所)

Chi-Feng Chen : Infrared Spectroscopic Studies of Nanocrystal Diamonds

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1. 邱建超：氫原子對類鑽石薄膜材料反應之研究 (材料科學與工程研究所)

Cheng-Chao Chiu : Spectroscopic Studies of Hydrogen Etching on Diamond-Like Carbon Films

**(G) 指導專題研究學生：**

蔣宜庭、邱鈺中、王家彬、黃郁仁、張尚樺、陳俊銘、顏秀蘭、吳岳翰、蔡東昇