

## **2018 Publications**

1. Abalem MF, Musch DC, **Birch DG**, Pennesi ME, Heckenlively JR, Jayasundera T. Diurnal variations of foveoschisis by optical coherence tomography in patients with X-linked juvenile retinoschisis. *Ophthalmic Genetics*, 2018. Vol 39(4).
2. Barnes CS, Schuchard RA, **Birch DG**, Dagnelie G, Koenekoop RK, Bittner AK. Comparison of Goldmann and Semi-Automated Kinetic Perimetry in Children and Adults with Retinal Dystrophies. *Translational Vision Science & Technology*, In Press.
3. Bennett LD, Metz G, **Klein M**, **Locke KG**, Khwaja A, **Birch DG**. Regional variations and intra-/intersession repeatability for scotopic sensitivity in normal controls and patients with inherited retinal degenerations. *Investigative Ophthalmology & Visual Science*, 2019. 60(4):1122-1131. PMID: 30901388.
4. **Birch DG**, Benz MS, Miller DM, Antoszyk AN, Markoff J, Kozma P, Meunier E, Sergott RC for the Oasis Study Team. Evaluation of Full-Field Electroretinogram Reductions after Ocriplasmin Treatment: Results of the OASIS Trial ERG Substudy. *Retina*, 2018. 38(2):364-378.
5. **Birch DG**, Bernstein PS, Iannacone A, Pennesi ME, Lam BL, Heckenlively J, **Csaky K**, Hartnett ME, Winthrop KL, Jayasundera T, Hughbanks-Wheaton DK, Warner J, Yang P, Fish GE, Teske MP, Sklaver NL, Erker L, Chegarnov E, Smith T, Wahle A, VanVeldhuisen PC, McCormack J, Lindblad R, Bramer S, Zilliox P, Francis PJ, Weleber RG. Effect of Oral Valproic Acid vs. Placebo for Vision Loss in Patients with Autosomal Dominant Retinitis Pigmentosa: A Randomized Phase II Multicenter Placebo-Controlled Trial. *JAMA Ophthalmology*, 2018. Aug 1; 136(8):849-856.
6. **Birch DG**, Bernstein PS, Iannacone A, Pennesi ME, Lam BL, Heckenlively J, **Csaky K**, Hartnett ME, Winthrop KL, Jayasundera T, Hughbanks-Wheaton DK, Warner J, Yang P, Fish GE, Teske MP, Sklaver NL, Erker L, Chegarnov E, Smith T, Wahle A, VanVeldhuisen PC, McCormack J, Lindblad R, Bramer S, Rose S, Zilliox P, Francis PJ, Weleber RG. Effect of Oral Valproic Acid versus Placebo for Vision Loss in Patients With Autosomal Dominant Retinitis Pigmentosa: A Randomized Phase 2 Multicenter Placebo-Controlled Clinical Trial. *JAMA Ophthalmology*, 2018. 136:849-856.
7. **Birch EE**. Pediatric Eye Disease Investigator Group. A randomized trial of a binocular iPad game versus part-time patching in children aged 13 to 16 years with amblyopia. *American Journal of Ophthalmology*, 2018; 186:104-15.
8. **Birch EE**. Pediatric Eye Disease Investigator Group. A randomized trial comparing bilateral lateral rectus recession versus unilateral recess and resect for basic-type intermittent exotropia. *Ophthalmology*, 2018; 126:305-317.
9. **Catchpole T**, **Nguyen T**, **Gilfoyle A**, **Csaky KG**. The Role of Circulating Vascular Progenitor Cells in Human Neovascular Age-Related Macular Degeneration. *Eye Journal (London)*, Submitted.

10. **Csaky KG**, Patel PJ, Sepah YJ, **Birch DG**, Do DV, Ip MS, Guymer RH, Luu CD, Gune S, Lin H, Ferrara D. Microperimetry for the assessment of visual function loss in geographic atrophy secondary to age-related macular degeneration. *Survey of Ophthalmology*, 2019 Jan 28 [Epub ahead of print].
11. **Csaky KG**, Patel PJ, Sepah YJ, **Birch DG**, Do DV, Ip MS, Guymer RH, Luu CD, Gune S, Lin H, Ferrara D. Microperimetry for Geographic Atrophy Secondary to Age-Related Macular Degeneration. *Survey of Ophthalmology*, 2019. 64:353-364.
12. Duncan J, Pierce E, Laster A, Daiger S, **Birch D**, Ash J, Iannaccone A, Flannery JG, Sahel J-A, Weleber R, Zack DJ, Zarbin MA. Inherited Retinal Degenerations: Current Landscape and Knowledge Gaps. *Translational Vision Science & Technology*, 2018. Jul 18;7(4):6. PMID: 30034950.
13. Ervin A-M, Strauss RW, Ahmed MI, **Birch DG**, Cheetham J, Ferris FL, Ip MS, Jaffe GJ, Maguire MG, Schonbach EM, Sadda AR, West SK, Csholl WPN, for the ProgStar Study Group. Workshop on measuring the progression of atrophy secondary to Stargardt Disease in the ProgStar Studies: Findings and lessons learned. *Translational Vision Science & Technology*, 2019. 8(2):16.
14. Fujinami K, Strauss RW, Chiang J, Audo I, Bernstein PS, **Birch DG**, Bornotti SM, Cideciyan AV, Ervin AM, Marino MJ, Sahel J-A, Mohand-Said S, Sunness JS, Traboulsi EI, West S, Wojciechowski R, Zrenner E, Michaelides M, Scholl HPN. Detailed genetic characteristics of an international large cohort of patients with Stargardt disease: ProgStar Study Group. *British Journal of Ophthalmology*, 2019. Mar;103(3):390-397. PMID: 29925512.
15. Gregori NZ, Callaway NF, Hoepfner C, Yuan A, Rachitskaya A, Feuer W, Ameri H, Arevalo JF , Augustin AJ, **Birch DG**, Dagnelie G, Grisanti S, Davis J, Hahn P, Handa JT, Ho A, Huang HS, Humayun MS, Iezzi, Jr. R, Jayasundera KT, Kokame GT, Lam BT, Lim JI, Mandava N, Montezuma SR, de Koo LO, Szurman P, Vajzovic L, Wiedemann P, Weiland J, Yan J, Zacks DN. Retinal Anatomy and Electrode Array Position by Optical Coherence Tomography in Retinitis Pigmentosa Patients after Argus II Implantation: An International Study. *American Journal of Ophthalmology*, 2018. Sep; 193:87-99. PMID: 29940167.
16. Hariri AH, Ip MS, Girach A, Lam BL, Fischer MD, Sankila EM, Pennesi ME, Holz FG, MacLaren RE, **Birch DG**, Hoyng CB, MacDonald IM, Black GC, Tsang SH, Bressler NM, Stepien KE, Larsen M, Gorin MB, Meunier I, Webster AR, Sadda S. Macular spatial distribution of preserved autofluorescence in patients with choroideremia. *British Journal of Ophthalmology*, 2018. Oct 8 [Epub ahead of print] PMID: 30297337.
17. Hatt SR, Leske DA, **Castañeda YS**, Wernimont SM, Liebermann L, **Cheng-Patel CS**, **Birch EE**, Holmes JM. Patient-derived questionnaire items for patient-reported outcome measures in pediatric eye conditions. *Journal of AAPOS*, 2018. 22:445-448.
18. **Kelly KR**, **Cheng-Patel CS**, **Jost RM**, **Wang YZ**, **Birch EE**. Fixation instability during binocular viewing in anisometropic and strabismic children. *Experimental Eye Research*, 2018.

19. **Kelly KR, Jost RM, Wang YZ**, Lori Dao L, Beauchamp CL, Leffler JN, **Birch EE**. Improved binocular outcomes following binocular treatment for childhood amblyopia. *Investigative Ophthalmology & Visual Science*, 2018. 59:1221-28
20. **Kelly KR, Jost RM**, De La Cruz A, **Birch EE**. Multiple-choice answer form completion time in children with amblyopia and strabismus. *JAMA Ophthalmology*, 2018. 136:938-41.
21. Kiser K, **Webb-Jones KD**, Bowne SJ, Sullivan LS, Daiger SP, **Birch DG**. Time course of disease progression in *PRPF31*-mediated retinitis pigmentosa. *American Journal of Ophthalmology*, 2018. Dec 21 [Epub ahead of print] PMID: 30582903.
22. Lin T-C, Wanf L-C, Yue L, Zhang Y, Falabella P, Zhu D, Hinton DR, Rao NA, **Birch DG**, Spencer R, Dom JD, Humayun MS. Histopathologic Assessment of Optic Nerves and Retina from a Patient Chronically Implanted with Argus® II Retinal Prosthesis System. *Translational Vision Science & Technology*. In Press.
23. Ong T, Penessi M, **Birch D**, Lam B, Tsang S. Adeno-associated viral gene therapy for inherited retinal disease. *Pharmaceutical Research*, 2019. Jan 7;36(2):34. PMID: 30617669.
24. Pennesi ME, **Birch DG**, Jayasundera T, Parker M, Ou Tan, Gurses-Ozden R, Reichley C, Beasley, Yang P, Weleber RG, Bennett LD, Heckenlively JR, Kothapalli K, Chulay JD. Prospective evaluation of patients with x-linked retinoschisis during 18 months. *Investigative Ophthalmology & Visual Science*, 2018. Dec 3;59(15):5941-5956 PMID: 30551202.
25. Pennesi ME, **Birch DG**, Duncan JL, Bennett J, Girach A. Choroideremia: a high unmet need disease. *Retina*. Published ahead of print 17 April, 2019.
26. Rosenfeld PJ, Dugel P U, Holz FG, Heier JS, Pearlman JA, Novack RL, **Csaky KG**, Koester JM, Gregory JK, Kubota R. Emixustat Hydrochloride for Geographic Atrophy Secondary to Age-Related Macular Degeneration: A Randomized Clinical Trial. *Ophthalmology*, 2018. 125:1556-1567.
27. Sadda SR, Guymer R, Holz FG, Schmitz-Valckenberg S, Curcio CA, Bird AC, Blodi BA, Bottoni F, Chakravarthy U, Chew EY, **Csaky K**, Danis RP, Fleckenstein M, Freund KB, Grunwald J, Hoyng CB, Jaffe GJ, Liakopoulos S, Monés JM, Pauleikhoff D, Rosenfeld PJ, Sarraf D, Spaide RF, Tadayoni R, Tufail A, Wolf S, Staurengi G. Consensus Definition for Atrophy Associated with Age-Related Macular Degeneration on OCT: Classification of Atrophy Report 3. *Ophthalmology*, 2018. 125:537-548.
28. Schönbach EM, Strauss RW, Kong X, Muñoz B, Ibrahim MA, Cideciyan AV, Sunness JS, **Birch DG**, Hahn G-A, Nasser F, Zrenner E, Sadda SR, West SK, Scholl HPN. Longitudinal changes in fixation location and stability with 12 months in Stargardt disease; ProgStar report No. 12. *American Journal of Ophthalmology*, 2018. Sep; 193:54-61. PMID: 29890160

29. Schönbach EM, Strauss RW, Muñoz B, Wolfson Y, Ibrahim MA, **Birch DG**, Cideciyan AV, Zrenner E, Sunness JS, Ip MS, Sadda SR, West SK, Scholl HPN. Longitudinal changes of macular light sensitivity derived from microperimetry in Stargardt Disease: ProgStar Report No. 13. Submitted.
30. Strauss RW, Munoz B, Ahmed MI, et al. The Progression of the Stargardt Disease Type 4 (ProgStar-4) Study: Design and Baseline Characteristics (ProgStar-4 Report No. 1). *Ophthalmic Research* 2018. 60:185-194.
31. Strauss RW, Kong X, Bittencourt MG, Ho A, Jha A, Schönbach EM, Ahmed MI, Munoz B, Ervin AM, Michaelides M, **Birch DG**, Sahel JA, Sunness JS, Zrenner E, Bagheri S, Ip M, Sadda S, West S, Scholl HPN. Scotopic microperimetric assessment of rod function in Stargardt disease (SMART) study. Design and baseline characteristics (Report No. 1). *Ophthalmic Research*, 2019. 61(1):36-43 PMID: 29940588.
32. Strauss RW, Muñoz B, Ahmed MI, Bittencourt M, Schönbach E, Michaelides M, **Birch DG**, Zrenner E, Ervi A-M, Issa PC, Wolfson Y, Shah M, Bagheri S, West S, Scholl HPN. The Progression of Stargardt Disease Type 4 (ProgStar-4) Study; Design and baseline characteristics (*ProgStar-4 Report No. 1*). Submitted.
33. Täger J, Kohl S, Wissinger B, **Birch DG**, Wheaton DKH, Reuter P. An early nonsense mutation facilitates the expression of a short isoform of CNGA3 by alternative translation initiation. *Experimental Eye Research*, 2018. 171:48-53.
34. Webber AL, Wood J, Thompson B, **Birch EE**. From suppression to stereoacuity – a composite binocular function score for clinical research. *Ophthalmic & Physiological Optics*, 2018. 39:53–62.
35. Whitcup SM, Cidlowski JA, **Csaky KG**, Ambati J. Pharmacology of Corticosteroids for Diabetic Macular Edema. *Investigative Ophthalmology & Visual Science*. 59:1-1 (2018).
36. Wong NA, Rafique SA, **Kelly KR**, Moro SS, Gallie BL, Steeves JKE. Altered white matter structure in the visual system following early monocular enucleation. *Human Brain Mapping*, 2018. 39(1), 133-144. \*Note that this was done in collaboration with researchers at York University in Toronto.
37. **Wang Y-Z**, He YG, Mejia P, Bartlett MB, Zhang S, and **Csaky KG**. Association of visual function (VF) with central subfield thickness (CSFT) and photoreceptor outer segment length (CSFOS) in 3-month treatment of diabetic macular edema (DME). *Investigative Ophthalmology & Visual Science*, 2018. 59(9):3442.
38. Wu WC, **Denlar R**, **Csaky KG**. The Relationship Between Drusen Volume and Low-Luminance Deficit in Intermediate Age-Related Macular Degeneration. *Translational Vision Science & Technology*, Submitted.

39. Wu WC, **Denlar R, Csaky KG**. Differences in Rod Sensitivity with Varying Spot Sizes in Patients with Intermediate Age-Related Macular Degeneration, Submitted.

### **2018 Abstract Presentations**

1. Bennett L, Metz G, **Klein M, Birch D**. Test-retest variability on the Medmont dark-adapted chromatic (DAC) perimeter in controls and patients with inherited retinal disease (IRD). *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
2. **Birch DG**. Assessing Efficacy and Endpoints. *Monaciano II Symposium*, Siena, Italy, October 2018.
3. **Birch DG, Locke KG**, Francis P, Holt P. Annual change in ellipsoid zone (EZ) length and preserved autofluorescence (PAF) in choroideremia. *Association for Vision in Research and Ophthalmology*, Vancouver, BC, May 2019.
4. **Birch EE, Jost RM, Wang Y-Z, Kelly KR**, Giaschi DE. Impaired fellow eye motion perception in amblyopic children is alleviated by binocular treatment. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
5. **Birch EE, Jost RM, Wang Y-Z, Kelly KR**, Giaschi DE. Impaired motion perception in the fellow eye of amblyopic children is related to abnormal binocular function. *American Association for Pediatric Ophthalmology & Strabismus*, Washington, D.C., March 2018.
6. Branham K, Fisher J, Trzuppek K, **Birch D**, Duncan J, Daiger S, Mansfield B. Genetic Testing Adds Research and Clinical Value to a Retinal Degeneration Registry. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
7. Espino K, Velaga S, Nittala M, Hariri A, **Birch D**, Stambolian D, Ip M, Sadda S. Microperimetry fixation characteristics in an Amish Population with Age-Related Macular Degeneration. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
8. Fahim AT, Sullivan LS, Bowne SJ, **Jones K**, Wheaton KH, Khan N, Heckenlively JR, Jayasundera TK, Branham K, Andrews CA, Othmann M, Karoukis AJ, **Birch DG**, Daiger SP. X-Chromosome Inactivation as a Biomarker of Clinical Severity in Female Carriers of X-linked Retinitis Pigmentosa. *Association for Vision in Research and Ophthalmology*, Vancouver, BC, May 2019.
9. Galles D, **Birch DG, Wang Y-Z**. The Rate of Progressive Loss of Central Subfield Thickness (CSFT) and Visual Function in Stargardt Macular Dystrophy (STGD). *Association for Vision in Research and Ophthalmology*, Vancouver, BC, May 2019.
10. Hariri A, Girach A, Ip M, Lam B, Fischer D, Sankila E-M, Pennesi M, Holz F, **Birch D**, MacLaren R, MacDonald I, Hoyng C, Black G, Bressler N, Tsang S, Sadda S. Spatial distribution of preserved autofluorescence in patients with choroideremia. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.

11. Holmes JM, Hatt SR, Leske DA, Wernimont SM, **Castañeda YS**, Liebermann L, **Cheng-Patel CS**, **Birch EE**. New pediatric vision questionnaires for assessing health-related quality of life and functional vision in childhood eye conditions. *American Association for Pediatric Ophthalmology & Strabismus*, Washington, D.C., March 2018.
12. **Jones K**, **Birch D**, MacDonald I, Radziwon A. A novel SVA retrotransposon insertion in CHM results in loss of REP-1 protein causing choroideremia. *Association for Vision in Research and Ophthalmology*, Vancouver, BC, May 2019.
13. **Kelly KR**, **Cheng-Patel C**, Jost RM, **Birch EE**. Fixation instability during binocular viewing in strabismic and anisometropic children. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
14. **Kelly KR**, Morale SE, Jost RM, Wang S, **Birch EE**. Intact reading but impaired motor skills during binocular viewing in deprivation amblyopia. *American Association for Pediatric Ophthalmology & Strabismus*, Washington, D.C., March 2018.
15. **Kelly KR**, **Morale SE**, **Jost RM**, Wang S, **Birch EE**. Intact reading but impaired fine motor skills during binocular viewing in children with deprivation amblyopia. *American Association for Pediatric Ophthalmology and Strabismus*, Washington, D.C., March 2018.
16. **Kelly KR**, **Cheng-Patel CS**, **Jost RM**, **Birch E**. Fixation instability during binocular viewing in strabismic and anisometropic children. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
17. **Klein M**, Mejia P, Galles D, **Birch DG**. Full-Field Stimulus Thresholds (FSTs) in Subjects with Inherited Retinal Degenerations (IRDs) – a 10 Year Review. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
18. Lam B, Fischer D, Pennesi M, Sankila E-M, Holz F, MacLaren R, **Birch D**, MacDonald I, Black G, Hoyng C, Bressler N, Tsang S, Stepien K, Ip M, Pavlovic V, Girach A. Natural History of Progression of Choroideremia (NIGHT) Study: Cross-Sectional Analysis of Baseline Characteristics. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
19. Leske DA, Hatt SR, Wernimont SM, Castañeda YS, Liebermann L, **Cheng-Patel CS**, **Birch EE**, Holmes JM. The new Pediatric Vision Questionnaire (PVQ) for assessing health-related quality of life and functional vision in children with eye conditions. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
20. **Locke K**, Hood D, **Birch D**. Relationships among Spectral Domain Optical Coherence Tomography (SD-OCT) Parameters and Semi-Automated Kinetic Perimetry (SKP) Parameters in Subjects with Autosomal Dominant Retinitis Pigmentosa (adRP). *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.

21. Menghini M, **Birch DG**, Boon C, Duncan JL, Fischer MD, Holz FG, Hoyng CCB, Khan KN, Meunier IA, Pennesi ME, Sankila E-M, MacLaren RE. Natural History of the Progression of X-Linked Retinitis Pigmentosa (XOLARIS) Study: Cross-Sectional Analysis of Baseline Characteristics. *Association for Vision in Research and Ophthalmology*, Vancouver, BC, May 2019.
22. Pavlovic V, Pennesi M, Lam B, Fischer D, Sankila E-M, Holz F, MacLaren R, **Birch D**, MacDonald I, Black G, Hoyng C, Bressler N, Tsang S, Stepien K, Ip M, Girach A. The Natural History of the Progression of Choroideremia (NIGHT) Study: Longitudinal Changes in Visual Acuity over 20 Months. *American Academy of Ophthalmology*, Chicago, Illinois, October 2018.
23. Pennesi M, Lam B, Fischer D, Sankila E-M, Holz F, MacLaren R, **Birch D**, MacDonald I, Black G, Hoyng C, Bressler N, Tsang S, Stepien K, Ip M, Pavlovic V, Girach A. The Natural History of the Progression of Choroideremia (NIGHT) Study: Longitudinal Changes in Visual Acuity over 12 Months. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
24. Rupert Strauss R, Xiangrong Kong X, Munoz B, West S, Ip M, Ho A, Jha A, Bernstein P, **Birch D**, Cideciyan A, Michaelides M, Sahel J-A, Sunness J, Traboulsi E, Zrenner E, Scholl H. Progression of Stargardt disease as measured by spectral-domain optical coherence tomography (SD-OCT) in the ProgStar Study. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
25. Schonbach E, Cideciyan A, Ibrahim M, Strauss R, **Birch D**, Sunness J, Sadda S, Scholl H. Static and dynamic assessment of fixation stability in Stargardt disease. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
26. **Wang Y-Z**, Galles D, **Klein M**, **Locke KG**, **Birch DG**. A deep convolutional neural network (CNN) model for automatic measurement of ellipsoid zone (EZ) width in retinitis pigmentosa (RP). *Association for Vision in Research and Ophthalmology*, Vancouver, BC, May 2019.
27. Webber AL, Wood JM, Thompson B, **Birch EE**. From suppression to stereoacuity – A composite binocular function for clinical research. *Academy of Optometry*, 2018.
28. Wu R, Manny RE, Melia BM, Lazar EL, Holmes JM, **Birch EE**, Cotter SA, Kraker RT, Wallace DK. Classifying no improvement in visual acuity in children with amblyopia using simulations. *Society for Clinical Trials*, 2018.
29. Wu R, Manny RE, Melia BM, Lazar EL, Holmes JM, **Birch EE**, Cotter SA, Kraker RT, Wallace DK. Classifying no improvement in visual acuity in children with amblyopia using simulations. *Association for Vision in Research and Ophthalmology*, Honolulu, Hawaii, May 2018.
30. Zhai Y, Xu M, Dimopoulos IS, **Birch D**, Bernstein P, Francis P, Holt J, Kirn D, MacDonald IM. Qualification of RPE changes in choroideremia using a Photoshop-based protocol. *Association for Vision in Research and Ophthalmology*, Vancouver, BC, May 2019.

### **2018 Invited National and International Talks**

1. **Birch EE** (2018). Binocular therapy for amblyopia treatment. AAO-AAPOS Symposium "Get Up to Date on Amblyopia," *American Academy of Ophthalmology*.
2. **Csaky, KG (2018)**. Medical Retina Panel Discussion - Retina Subspecialty, Chicago I
3. **Csaky, KG** (2018). Human Computational Analysis Input in Machine Learning of OCT Images - *Sixth International Congress on OCT Angiography and Advances in OCT* - Rome, Italy.
4. **Csaky, KG** (2018). OCT-Angiography Helps Define Details of Choroidal Neovascularization on Indocyanine Green Angiography - *Chinese Fundus Meeting* - Qingdao, China.
5. **Csaky, KG** (2019). Common Age-related Macular Degeneration Genetic Risk Variants and Geographic Atrophy Lesion Growth in the Phase 3 Lampalizumab Trials: Update – *Angiogenesis*, Miami, Florida.
6. **Kelly, KR** (2019). New advances in treatment for amblyopia. *Translational Visual Psychophysics Forum* - Wenzhou Medical University, Wenzhou, China.