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| **基本信息** | | | | | | |
| 姓名 | 中文 | 孙雪光 | | 性 别 | 男 | SXG照片 |
| 英文 | Xueguang Sun | | 出生日期 | 1972 年9月 |
| 出生地 | | 黑龙江,中国 | | 国 籍 | 美国 |
| 有效身份证件名称 | |  | | 证件号码 |  |
| 最终毕业院  校及专业、学位 | | 中文 | 佐治亚理工大学(美国),　分子生物学,　博士学位 | | | |
| 英文 | Georgia Inst. Of Technology ( USA), molecular biology, Ph.D. | | | |
| 工作单位  及职务 | | 中文 | 美国辛辛那提儿童医院, DNA测序和分型中心实验室主任  兼辛辛那提大学，人类遗传学副教授 | | | |
| 英文 | Cincinnati Children Hospital Medical Center,  Director of DNA Sequencing and genotyping Core | | | |
| 教 育  经 历 | | 学位 时间 国家 院校 专业  　　学士,　 1991-1995 中国,　 北京科技大学　 应用化学  　　博士,　 1995-1999 中国, 中科院生物物理所　 生物物理学    　　博士,　 2000-2005 美国,　 佐治亚理工大学　 分子生物学    　 博士后　 2006-2008 美国,　 耶鲁大学　　 表观遗传学 | | | | |
| 工 作  经 历 | | 职务 时间 国家 单位  高级研究员　 2008－2010 美国,　 Agrivida Inc. (USA)  平台技术总监　 2010－2016　 美国,　 Zymo Research Corp  基因测序分型中心主任 2016－目前 美国,　 辛辛那提儿童医院  兼人类遗传学副教授 辛辛那提大学 | | | | |

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| **专长及代表性成果** |
| 1、个人专长：拥有中美多学科的教育背景以及多年在学术和企业界的工作经验。熟悉生物医药领域的最新进展，掌握本领域的前沿技术，特别是在下一代测序技术和表观基因组学方面有着丰富的技术积累，熟悉生物制剂和临床分子诊断试剂的研发流程。视野开阔，具有创新精神，目标感强。有在初创企业的工作经历和成功开发多项产品的实际经验以及面向客户的技术服务经历。  2、领导（参与）过的主要项目：   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 起止时间 | 项目名称 | 金额 | 参与人数 | 职位和任务 | | 2012-2015 | 用于重大疾病诊断的表观生物标志物的筛选和验证 | 100万美元 | 12 | 技术负责人  和研发人  技术的设计和研发 | | 2010-2015 | 用于表观基因组学的二代测序数据分析技术和流程 | 30万美元 | 5 | 技术负责人  和研发人  技术的设计和研发 | | 2012-2015 | 基于二代测序的全基因组羟甲基分析技术 (RRHP， JBP1-Seq, Mirror-Seq） | 50万美元 | 6 | 技术负责人  和研发人  技术的设计和研发 | | 2012-2014 | 二代基因测序的文库制备试剂研发 | 50万美元 | 5 | 技术负责人  和研发人  技术的设计和研发 | | 2010-2012 | 基于二代测序的全基因甲基化分析技术 (Methyl MiniSeq, Meythyl MidiSeq, Methyl MaxiSeq ) | 30万美元 | 4 | 技术负责人  和研发人  技术的设计和研发 |   https://ssl.gstatic.com/ui/v1/icons/mail/images/cleardot.gif  3、主要成果：  （1）代表性论著（论文）\*通讯作者   * Ashktorab H, Shakoori A, Zarnogi S, **Sun X,** Varma S, Lee EL, Shokrani B, Laiyemo A, Washington K, and Brim H, Reduced Representation Bisulfite Sequencing Determination of Distinctive DNA Hypermethylated Genes in the Progression to Colon Cancer in African Americans, [*Gastroenterology Research and Practice*](http://www.hindawi.com/journals/grp/aip/) 2016 ( Accepted ) IF 1.742 * [Bock C](http://www.ncbi.nlm.nih.gov/pubmed/?term=Bock%20C), [Halbritter F](http://www.ncbi.nlm.nih.gov/pubmed/?term=Halbritter%20F), [Carmona FJ](http://www.ncbi.nlm.nih.gov/pubmed/?term=Carmona%20FJ), [Tierling S](http://www.ncbi.nlm.nih.gov/pubmed/?term=Tierling%20S), [Datlinger P](http://www.ncbi.nlm.nih.gov/pubmed/?term=Datlinger%20P), [Assenov Y](http://www.ncbi.nlm.nih.gov/pubmed/?term=Assenov%20Y), [Berdasco M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Berdasco%20M), [Bergmann AK](http://www.ncbi.nlm.nih.gov/pubmed/?term=Bergmann%20AK), [Booher K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Booher%20K), [Busato F](http://www.ncbi.nlm.nih.gov/pubmed/?term=Busato%20F), [Campan M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Campan%20M), [Dahl C](http://www.ncbi.nlm.nih.gov/pubmed/?term=Dahl%20C), [Dahmcke CM](http://www.ncbi.nlm.nih.gov/pubmed/?term=Dahmcke%20CM), [Diep D](http://www.ncbi.nlm.nih.gov/pubmed/?term=Diep%20D), [Fernández AF](http://www.ncbi.nlm.nih.gov/pubmed/?term=Fern%C3%A1ndez%20AF), [Gerhauser C](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gerhauser%20C), [Haake A](http://www.ncbi.nlm.nih.gov/pubmed/?term=Haake%20A), [Heilmann K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Heilmann%20K), [Holcomb T](http://www.ncbi.nlm.nih.gov/pubmed/?term=Holcomb%20T), [Hussmann D](http://www.ncbi.nlm.nih.gov/pubmed/?term=Hussmann%20D), [Ito M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Ito%20M), [Kläver R](http://www.ncbi.nlm.nih.gov/pubmed/?term=Kl%C3%A4ver%20R), [Kreutz M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Kreutz%20M), [Kulis M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Kulis%20M), [Lopez V](http://www.ncbi.nlm.nih.gov/pubmed/?term=Lopez%20V), [Nair SS](http://www.ncbi.nlm.nih.gov/pubmed/?term=Nair%20SS), [Paul DS](http://www.ncbi.nlm.nih.gov/pubmed/?term=Paul%20DS), [Plongthongkum N](http://www.ncbi.nlm.nih.gov/pubmed/?term=Plongthongkum%20N), [Qu W](http://www.ncbi.nlm.nih.gov/pubmed/?term=Qu%20W), [Queirós AC](http://www.ncbi.nlm.nih.gov/pubmed/?term=Queir%C3%B3s%20AC), [Reinicke F](http://www.ncbi.nlm.nih.gov/pubmed/?term=Reinicke%20F), [Sauter G](http://www.ncbi.nlm.nih.gov/pubmed/?term=Sauter%20G), [Schlomm T](http://www.ncbi.nlm.nih.gov/pubmed/?term=Schlomm%20T), [Statham A](http://www.ncbi.nlm.nih.gov/pubmed/?term=Statham%20A), [Stirzaker C](http://www.ncbi.nlm.nih.gov/pubmed/?term=Stirzaker%20C), [Strogantsev R](http://www.ncbi.nlm.nih.gov/pubmed/?term=Strogantsev%20R), [Urdinguio RG](http://www.ncbi.nlm.nih.gov/pubmed/?term=Urdinguio%20RG), [Walter K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Walter%20K), [Weichenhan D](http://www.ncbi.nlm.nih.gov/pubmed/?term=Weichenhan%20D), [Weisenberger DJ](http://www.ncbi.nlm.nih.gov/pubmed/?term=Weisenberger%20DJ), [Beck S](http://www.ncbi.nlm.nih.gov/pubmed/?term=Beck%20S), [Clark SJ](http://www.ncbi.nlm.nih.gov/pubmed/?term=Clark%20SJ), [Esteller M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Esteller%20M), [Ferguson-Smith AC](http://www.ncbi.nlm.nih.gov/pubmed/?term=Ferguson-Smith%20AC), [Fraga MF](http://www.ncbi.nlm.nih.gov/pubmed/?term=Fraga%20MF), [Guldberg P](http://www.ncbi.nlm.nih.gov/pubmed/?term=Guldberg%20P), [Hansen LL](http://www.ncbi.nlm.nih.gov/pubmed/?term=Hansen%20LL), [Laird PW](http://www.ncbi.nlm.nih.gov/pubmed/?term=Laird%20PW), [Martín-Subero JI](http://www.ncbi.nlm.nih.gov/pubmed/?term=Mart%C3%ADn-Subero%20JI), [Nygren AO](http://www.ncbi.nlm.nih.gov/pubmed/?term=Nygren%20AO), [Peist R](http://www.ncbi.nlm.nih.gov/pubmed/?term=Peist%20R), [Plass C](http://www.ncbi.nlm.nih.gov/pubmed/?term=Plass%20C), [Shames DS](http://www.ncbi.nlm.nih.gov/pubmed/?term=Shames%20DS), [Siebert R](http://www.ncbi.nlm.nih.gov/pubmed/?term=Siebert%20R), [Sun X](http://www.ncbi.nlm.nih.gov/pubmed/?term=Sun%20X), [Tost J](http://www.ncbi.nlm.nih.gov/pubmed/?term=Tost%20J), [Walter J](http://www.ncbi.nlm.nih.gov/pubmed/?term=Walter%20J), [Zhang K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Zhang%20K). 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IF 32.4 * **Sun X**\*, Chung TH, Tan D, Kim A, Practical guidelines and consideration of using RRHP for 5hmC detection, *Epigenetics*, 2016, 8, 2, 225-235 IF 4.780 * Zhou J, Yang L, Zhong T, Mueller M, Men Y, Zhang N, Xie J, Giang K, Chung T, **Sun X**, Lu L, Carmichael G., Taylor H and Huang Y, H19 lncRNA alters DNA methylation genome-wide by regulating S-adenosylhomocysteine hydrolase, *Nature Communications*, 2016 21;6:10221. doi: 10.1038 / ncomms 10221 IF 11.470 * Petterson A, Chung TH, Tan D, **Sun X\***, [Jia XY](http://www.ncbi.nlm.nih.gov/pubmed?term=Jia%20XY%5BAuthor%5D&cauthor=true&cauthor_uid=25218799)，RRHP:A tag-based approach for 5-hydroxymethylcytosine mapping at single-site resolution. [*Genome Biol.*](http://www.ncbi.nlm.nih.gov/pubmed/25248841) 2014 Sep 24;15(9):456. IF : 10.3 * [Cui L](http://www.ncbi.nlm.nih.gov/pubmed?term=Cui%20L%5BAuthor%5D&cauthor=true&cauthor_uid=25218799), [Chung TH](http://www.ncbi.nlm.nih.gov/pubmed?term=Chung%20TH%5BAuthor%5D&cauthor=true&cauthor_uid=25218799), [Tan D](http://www.ncbi.nlm.nih.gov/pubmed?term=Tan%20D%5BAuthor%5D&cauthor=true&cauthor_uid=25218799), [**Sun X**](http://www.ncbi.nlm.nih.gov/pubmed?term=Sun%20X%5BAuthor%5D&cauthor=true&cauthor_uid=25218799)**\***, [Jia XY](http://www.ncbi.nlm.nih.gov/pubmed?term=Jia%20XY%5BAuthor%5D&cauthor=true&cauthor_uid=25218799)，JBP1-seq: A fast and efficient method for genome-wide profiling of 5hmC. 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IF : 4.060 * [Ashktorab H](http://www.ncbi.nlm.nih.gov/pubmed?term=Ashktorab%20H%5BAuthor%5D&cauthor=true&cauthor_uid=24441198), [Daremipouran M](http://www.ncbi.nlm.nih.gov/pubmed?term=Daremipouran%20M%5BAuthor%5D&cauthor=true&cauthor_uid=24441198), [Goel A](http://www.ncbi.nlm.nih.gov/pubmed?term=Goel%20A%5BAuthor%5D&cauthor=true&cauthor_uid=24441198), [Varma S](http://www.ncbi.nlm.nih.gov/pubmed?term=Varma%20S%5BAuthor%5D&cauthor=true&cauthor_uid=24441198), [Leavitt R](http://www.ncbi.nlm.nih.gov/pubmed?term=Leavitt%20R%5BAuthor%5D&cauthor=true&cauthor_uid=24441198), [**Sun X**](http://www.ncbi.nlm.nih.gov/pubmed?term=Sun%20X%5BAuthor%5D&cauthor=true&cauthor_uid=24441198)\*, [Brim H](http://www.ncbi.nlm.nih.gov/pubmed?term=Brim%20H%5BAuthor%5D&cauthor=true&cauthor_uid=24441198)，DNA methylome profiling identifies novel methylated genes in African American patients with colorectal neoplasia. [*Epigenetics*.](http://www.ncbi.nlm.nih.gov/pubmed/?term=DNA+methylome+profiling+identifies+novel+methylated+genes+in+African+American+patients+with+colorectal+neoplasia) 2014 17;9(4). IF : 4.58 * Liao XH, Lu DL, Wang N, Liu LY, Wang Y, Li YQ, Yan TB, **Sun X**, Hu P, Zhang TC. [Estrogen receptor α mediates proliferation of breast cancer MCF-7 cells via a p21/PCNA/E2F1-dependent pathway.](http://www.ncbi.nlm.nih.gov/pubmed/24283290) *FEBS J*. 2014 281(3):927-42 IF : 4.25 * Guo W, Fiziev P, Yan W, Cokus S, **Sun X**, Zhang MQ, Chen PY, Pellegrini M. [BS-Seeker2: a versatile aligning pipeline for bisulfite sequencing data.](http://www.ncbi.nlm.nih.gov/pubmed/24206606) *BMC Genomics*. 2013;14:774 IF : 4.40 * Shen B, **Sun X**, Zuo X, Shilling T, Apgar J, Ross M, Bougri O, Samoylov V, Parker M, Hancock E, Lucero H, Gray B, Ekborg NA, Zhang D, Johnson JC, Lazar G, Raab RM. 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IF: 1.22 * Cao E., Chen A., **Sun X.** et al, Formation of sequence -specific telomeric DNA loops via a direct effects of psoralen-photosensitization on telomeres/. *Proceedings of SPIE* 4224, 45-49, 2000 * Cao E., **Sun X**., Zhang X, Li J, Bai C. Fold-back tetraplex DNA species in DNase I-resistant DNA isolated from HeLa cells. *J Biomol. Struct. Dyn*. 17(5), 871-878, 2000. IF: 4.99 * **Sun X.,** Cao E, He Y, Qin J, Spectroscopic comparison of different DNA structures formed by oligonucleotides, *J. Biomol. Struct. Dyn*. 16(4), 863-872, 1999. IF: 4.99 * **Sun X.,** Cao E, Liu M, Bai C, Direct visualization of DNA decondensation on mica by atomic force microscopy. *Chemistry Letters,* 9, 981-982, 1999. IF: 1.59   Cao E, **Sun X.,** Bai C, Liu C, He Y, Wang X, Ye F, Formation and characteristics of an unusual DNA Species, *Biochem.& Mol.Bio.Intl.,* 43(3), 541-549, 1997 IF: 1.318  （2）专利   |  |  |  |  | | --- | --- | --- | --- | | 专利号 | 专利名称 | 授于国家 | 专利所有者 | | PCT/US2014/0349977 (Patent Cooperation Treaty) | Epigenetic markers for detection of Autism Spectrum Disorders | 美国 | 孙雪光 | | PCT/US2014/046876  (Patent Cooperation Treaty) | Mirror Bisulfite Analysis | 美国 | 孙雪光 | | PCT/US13/48988  (Patent Cooperation Treaty) | System for Positive Identification Hydroxymethylcytosine | 美国 | 孙雪光 | | 61/789,770  (Provisional) | Epigenetic Markers for Detection of Alzheimer's Disease | 美国 | 孙雪光 | |  |  |  |  |   （3）产品  开发了三种用于下一代测序技术文库制备的试剂盒 ：   1. RRHP™ 5-hmC文库制备试剂盒（RRHP™ 5-hmC Library Prep Kit），用于基因组范围内的5hmC 分析。利用对不同甲基化状态敏感的MspI来制备测序文库。它的操作流程如下：首先用MspI消化基因组DNA，然后连接接头，并用 β-葡萄糖基转移酶在5-hmC的羟基上添加葡萄糖，从而防止接头被消化。之后再次进行MspI消化，而那些缺乏5-hmC的片段接头将被消化。只有两侧 带有完整接头的片段能够被扩增，用于后续的测序。 2. Pico Methyl-Seq™文库制备试剂盒（Pico Methyl-Seq™ Library Prep Kit），适用于常规的亚硫酸氢盐测序。这款试剂盒的独特之处在于起始量特别低，只需要10 pg – 100 ng基因组DNA，特别适合珍贵样品（如FFPE）或靶向富集样品的甲基化分析。在亚硫酸氢盐测序中，传统的文库制备方法通常要将基因组DNA片段化，末端修复，连上接头，亚硫酸氢盐转 化，接着进行扩增。这需要大量的DNA以及多次纯化，导致珍贵的DNA样品损失。而此试剂盒先开展亚硫酸氢盐转化，接着采用独特设计的引物进行三轮的扩 增，从而实现了微量样品的分析。 3. Mirror-Seq 5hmC 文库制备试剂盒 （ 产品 Mirror-Seq library Prep Kit). 适用于基因组范围内的5hmC分析。通过先合成文库镜像单链，然后依次进行葡萄糖基转移酶，MsssI甲基化酶以及亚硫酸盐处理，文库片断中的5hmC位点因被葡萄糖修饰，会抑制镜像链中的CpG位点被MsssI甲基化，因而在随后的亚硫酸盐处理中会被转化，随后通过选择扩增新合成的单链对其进行测序，来推断基因组中的5hmC状态。优点是可以进行单碱基，定量检测。   4、获得的重要奖项   * Award for Extraordinary Contribution (Zymo Research Corp.) 2014 * Awards for Excellent Service Team ( Zymo Research Corp) 2013 * Award for Excellence in Leadership (Zymo Research Corp.) 2012 * Awards for Excellence employee in Agrivia Inc ( Agrivida Inc) 2010 * 中国科学院院长奖学金 1999 * 中国科学院伟华科技奖学金 1999 * 中科科学院刘永龄奖学金 1998 * 中国科学院生物物理所所长奖学金 1997-1999 |
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