

**DEREK SEARS**  
**PUBLICATION LIST MAY 2018**  
**ABSTRACTS AND EXTENDED ABSTRACTS**

2018

- A322 Sehlke A., Sears D.W.G., Sears H., Hughes S.S. (2018). Induced Thermoluminescence as a Method for Dating Recent Volcanism: Variabilities Within the Blue Dragon Flow at Craters of the Moon, Idaho, USA. 49th Lunar and Planetary Science Conference 19-23 March, 2018, held at The Woodlands, Texas LPI Contribution No. 2083, id.1833

2017

- A315 Heldmann J.L., Lim D.S.S., Colaprete A., Garry W.B., Hughes S.S., Kobs Nawotniak S., Sehlke A., Neish C., Osinski G.R., Hodges K., Abercromby A., Cohen B.A., Cook A., Elphic R., Mallonee H., Matiella Novak A., Rader E., Sears D., Sears H., Finesse Team, Basalt Team, 2017. Geologic Exploration Enabled by Optimized Science Operations on the Lunar Surface. 2017 Annual Meeting of the Lunar Exploration Analysis Group, held 10-12 October, 2017 in Columbia, Maryland. LPI Contribution No. 2041, id.5024
- A316 Sehlke A., Kobs-Nawotniak S.E., Hughes S.S., Sears D.W.G., Downs M., Whittington A.G., Lim D.S.S., Heldmann J.L., 2017. The Anatomy of the Blue Dragon: Changes in Lava Flow Morphology and Physical Properties Observed in an Open Channel Lava Flow as a Planetary Analogue American Geophysical Union, Fall Meeting 2017, abstract #P54B-01
- A317 Sehlke A., Kobs Nawotniak S.E., Hughes S.S., Sears D.W., Downs M.T., Whittington A.G., Lim D.S.S. and Heldmann J.L. (2017). The Anatomy of the Blue Dragon: Changes in Lava Flow Morphology and Physical Properties Observed in an Open Channel Lava Flow as a Planetary Analogue. 017 Annual Meeting of the Lunar Exploration Analysis Group, held 10-12 October, 2017 in Columbia, Maryland. LPI Contribution No. 2041, id.5057
- A318 Sehlke A., Sears D.W.G., Friedrich J.M., Rivers M.L., Ebel D.S., 2017. Synchrotron X-Ray Computed Microtomography and the Radiation History of Meteorites. 80th Annual Meeting of the Meteoritical Society, held July 23-28, 2017 in Santa Fe, New Mexico. LPI Contribution No., 1987, id.6404
- A319 Sears D.W.G., 2017. Itokawa is a Regolith Breccia, Not a Rubble Pile. 48th Lunar and Planetary Science Conference, held 20-24 March 2017, at The Woodlands, Texas. LPI Contribution No. 1964, id.2463
- A320 Sehlke A., Kobs Nawotniak S.E., Hughes S.S., Sears D.W., Downs M.T., Whittington A.G., Lim D.S.S., and Heldmann J.L., 2017. Inferred Thermo-Physical Properties of Lava Flows — Implications for Remote Sensing of Planetary Terrains 48th Lunar and Planetary Science Conference, held 20-24 March 2017, at The Woodlands, Texas. LPI Contribution No. 1964, id.1749
- A321 Tosi A.A., Zucolotto M.E., and Sears D.W., 2017. The Conditions to Get Colour Cathodoluminescence by Electron Microprobe Applied to the Classification of Primitive

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- A311 Sears D.W.G., Sears H., Hughes S.S., Sehlke A., 2016. Induced Thermoluminescence Dating of Volcanism on Hawaii. American Geophysical Union, Fall General Assembly 2016, abstract id.P31E-04
- A312 Kobs Nawotniak S.E., Borg C., Hughes S.S., Sears D.W.G., Trcka A., Sandmeyer E., Lim D.S.S., Heldmann J.L., 2016. Reconstructing Phreatic Blasts from Ballistic Block Fields at Kings Bowl, Idaho. 47th Lunar and Planetary Science Conference, held March 21-25, 2016 at The Woodlands, Texas. LPI Contribution No. 1903, abstract #2514
- A313 Sears D.W.G. and Hughes S.S., 2016. A New Method — Potentially Suitable for Spacecraft Instrumentation — for Dating Volcanism on Planetary Surfaces. 47th Lunar and Planetary Science Conference, held March 21-25, 2016 at The Woodlands, Texas. LPI Contribution No. 1903, abstract #1369
- A314 Heldmann J.L., Lim D.S.S., Hughes S., Kobs Nawotniak S., Garry B., Sears D., Neish C., Osinski G. R., Hodges K., Downs M., Busto J., Cohen B., Caldwell B., Jones A.J.P., Johnson S., Kobayashi L., and Colaprete A., the Finesse Team, 2016. Overview of NASA FINESSE (Field Investigations to Enable Solar System Science and Exploration) Science and Exploration Project. 47th Lunar and Planetary Science Conference, held March 21-25, 2016 at The Woodlands, Texas. LPI Contribution No. 1903, abstract #1269

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- A305 Bryson, K. L.; Agrawal, P.; Ostrowski, D. R.; Sears, D. W. G., 2015. Fracture Characterization of Meteorites. 78th Annual Meeting of the Meteoritical Society, held July 27-31, 2015 in Berkeley, California. LPI Contribution No. 1856, p.5361.
- A306 Hughes, S. S.; Kobs Nawotniak, S. E.; Sears, D. W. G.; Garry, W. B.; Haberle, C. W.; Bleacher, J. E.; Lim, D. S. S.; Heldmann, J. L., 2015. King's Bowl, Idaho — A Volcanic Analog for Fissure Eruptions, Pit Craters and Dike Injection Along Rima Hyginus, Moon, and Cyane Fossae, Mars 46th Lunar and Planetary Science Conference, held March 16-20, 2015 in The Woodlands, Texas. LPI Contribution No. 1832, p.2846.
- A307 Ostrowski, D.; Sears, D. W. G.; Bryson, K.; Agrawal, P., 2015. Physical Properties of Meteorite Falls in Relation to Planetary Defense .78th Annual Meeting of the Meteoritical Society, held July 27-31, 2015 in Berkeley, California. LPI Contribution No. 1856, p.5363
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- A309 Sears, D. W. G.; Lee, T. J.; Dotson, J.; Bruck Syal, M.; Swift, D. C., 2015. A Meteorite Perspective on Planetary Defense 46th Lunar and Planetary Science Conference, held March 16-20, 2015 in The Woodlands, Texas. LPI Contribution No. 1832, p.1608.

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- A310 Sears, D. W. G.; Hughes, S. S.; Kobs-Nawotniak, S.; Borg, C.; Kim, K. J.; Sears, H.; Skok, J. R.; Lim, D. S. S.; Heldmann, J. L.; Haberle, C.; Downs, M.; Tornabene, L. L.; Osinsky, G. R., 2015. A Study of the King's Bowl Phreatic Explosion Crater as a Planetary Analog. 46th Lunar and Planetary Science Conference, held March 16-20, 2015 in The Woodlands, Texas. LPI Contribution No. 1832, p.1601.
- A311 Sears, D.; Wooden, D. H.; Korycanksy, D. G., 2015. Asteroid Geophysics and Quantifying the Impact Hazard. Conference on Spacecraft Reconnaissance of Asteroid and Comet Interiors, held 8-10 January, 2015 in Tempe, Arizona. LPI Contribution No. 1829, p.6049.

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- A299 Hughes, S. S.; Garry, B.; Kobs-Nawotniak, S. E.; Sears, D. W. G.; Borg, C.; Elphic, R. C.; Haberle, C. W.; Kobayashi, L.; Lim, D. S. S.; Sears, H.; Skok, J. R.; Heldmann, J. L., 2014. King's Bowl Pit Crater, Lava Field and Eruptive Fissure, Idaho - A Multipurpose Volcanic Planetary Analog. American Geophysical Union, Fall Meeting 2014, abstract #P13D-3831.
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- A302 Sears, Derek, 2014. The potential of continuum slopes in the near-IR spectrum for the analysis of the surface of Ceres. American Astronomical Society, DPS meeting #46, id.#500.07.
- A303 Sears, D. W. G.; Tornabene, L. L.; Osinsky, G. R.; Hughes, S. S.; Heldmann, J. L., 2014. The Ponds on Eros: Possible New Insights from Experiment, Vesta, Mars, and Terrestrial Analogs. 45th Lunar and Planetary Science Conference, held 17-21 March, 2014 at The Woodlands, Texas. LPI Contribution No. 1777, p.1606.
- A304 Sears, D. W. G.; Hughes, S. S.; Kobs-Nawotniak, S. E.; Borg, C.; Kim, K. J.; Sears, H.; Skok, J. R.; Elphic, R. C.; Lim, D. S. S.; Heldmann, J. L.; Haberle, C. W.; Guy, H.; Kobayashi, L.; Garry, B.; Neish, C., 2014. A Study of the King's Bowl Phreatic Explosion Crater as an Analog to Pits on Solar System Exploration Target Bodies American Geophysical Union, Fall Meeting 2014, abstract #P13D-3830.

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- A296 Sears, D. W. G. (2013). The Metamorphic History of Two Major New Finds of Antarctic CO Chondrites (DOM 08004) and MIL 07531) Determined from Thermoluminescence

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- A298 Beauford, R. E.; Arnold, S. K.; Sears, D. (2013) The Macrostructure of the Sutter's Mill CM Chondrite Regolith Breccia. *44th Lunar and Planetary Science Conference*, held March 18-22, 2013 in The Woodlands, Texas. LPI Contribution No. 1719, p.1683.
- A298a Sears D. (2013) Gerard Kuiper and the Infrared Detector. American Astronomical Society, DPS meeting #45, id.104.02

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- A290 Beauford, R. E.; Arnold, S. K.; Sears, D. (2012). The Macrostructure of the Sutter's Mill Meteorite. 75th Annual Meeting of the Meteoritical Society, held August 12-17, 2012 in Cairns, Australia. Published in Meteoritics and Planetary Science Supplement, id.5091
- A291 Jenniskens, P.; Girtten, B.; Sears, D.; Sandford, S.; Cooper, G.; Ehrgott, A.; Koop, M.; Albers, J.; Fries, M.; Klotz, D.; Hankey, M.; Schmidt, G.; Worden, P. (2012). Recovery of the Sutter's Mill Meteorite. 75th Annual Meeting of the Meteoritical Society, held August 12-17, 2012 in Cairns, Australia. Published in Meteoritics and Planetary Science Supplement, id.5376
- A292 Sears, D. W. G. (2012). Thermoluminescence Characterization of the Sutter's Mill Meteorite. 75th Annual Meeting of the Meteoritical Society, held August 12-17, 2012 in Cairns, Australia. Published in Meteoritics and Planetary Science Supplement, id.5098
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- A288 Sissay A. Ostrowski D. Gietzen K. M. Sears D. W. G. Near-IR Reflectance Spectral Properties and Metamorphic History of Unequilibrated (Type 3) Ordinary Chondrites. *42nd Lunar and Planetary Science Conference*, (Lunar and Planetary Science XLII), held March 7-11, 2011 in The Woodlands, Texas, id.1601.
- A287 Ostrowski D. R. Sears D. W. G. Comparison of Spherules of Heated Phyllosilicate-Evaporite Mixtures to Spherules in CI and CR Chondrites. *42nd Lunar and Planetary Science Conference*, (Lunar and Planetary Science XLII), held March 7-11, 2011 in The Woodlands, Texas, id.1209.

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- A283 Sears D. W. G. Craig J. P. (2010) Thermoluminescence and the History of Cometary Particles. *41st Lunar and Planetary Science Conference*, (Lunar and Planetary Science XLII), held March 1-5, 2010, in The Woodlands, Texas, id.1404.
- A282 Ostrowski D. R. Sears D. W. G. Lacy C. H. S. Gietzen K. M. (2010) Heating Experiments on Phyllosilicates-Evaporite Mixtures: Implications for the Surface Composition of C Asteroids. *41st Lunar and Planetary Science Conference*, (Lunar and Planetary Science XLII), held March 1-5, 2010, in The Woodlands, Texas, id.1235.
- A281 Craig J. and Sears D. W. G. (2010) The Fine-Scale Cosmogenic History of the Semarkona Unequilibrated Ordinary Chondrite. 72nd Annual Meeting of the Meteoritical Society, held July 26-30, 2009, in New York, New York, abstract no. 5055.
- A280 Craig J. P. Sears D. W. G. (2010) Natural and Induced Thermoluminescence Data for Twenty-five 10–15  $\mu\text{m}$  Particles from the LL3.0 Ordinary Chondrite Semarkona: Implications for the Nature and History of Primitive Solar System Material. *41st Lunar and Planetary Science Conference*, (Lunar and Planetary Science XLII), held March 1-5, 2010, in The Woodlands, Texas, id.1401.

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- A276 Ragland, C.; Bretzius, S. A.; Naranjo, A. M.; Thomas, T.; Grossman, J. N.; Rubin, A. E.; Sears, D. W. G. 2009. Metamorphism of Ordinary Chondrites at the Type-3/Type-4 Boundary. *40th Lunar and Planetary Science Conference*, (Lunar and Planetary Science XL), held March 23-27, 2009 in The Woodlands, Texas, id.1122
- A275 Ostrowski, D. R.; Sears, D. W. G.; Lacy, C. H. S.; Gietzen, K. M. 2009. Asteroidal Origins for Carbonaceous Chondrites *72nd Annual Meeting of the Meteoritical Society*, July 13-18, 2009, Nancy, France, abstract no. 5309.
- A274 Ostrowski, D. R.; Sears, D. W. G.; Gietzen, K. M.; Lacy, C. H. S. 2009. An Investigation of Phyllosilicates, C Chondrites, and C Asteroids Using Continuum Slopes of Near Infrared Spectra. *40th Lunar and Planetary Science Conference*, March 23-27, 2009, The Woodlands, Texas, abstract no. 1136.
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- A270 Bryson, K. L.; Sears, D. W. G. 2009. Evaporation Effects on the Formation of Martian Gullies. *40th Lunar and Planetary Science Conference*, (Lunar and Planetary Science XL), held March 23-27, 2009, The Woodlands, Texas, abstract no. 1368.

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- A261 Gietzen, K. M.; Lacy, C. H. S.; Ostrowski, D. R.; Sears, D. W. G. (2008) Analysis of Reflectance Spectra of Ordinary Chondrites: Implications for Asteroids. *39th Lunar and Planetary Science Conference*, March 10-14, 2008, League City, Texas, abstract no. 1125
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- A259 Bryson, K. L.; Chevrier, V. F.; Kennington, D.; Sears, D. W. G. (2008) Adsorption Kinetics in Martian Regolith Analogs. *39th Lunar and Planetary Science Conference*, March 10-14, 2008, League City, Texas, abstract no. 2123
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- A255 Ostrowski, D. R.; Chevrier, V.; Chastain, B. K.; Sears, D. W. G. (2007) Experimental Study of the Water Vapor Interaction with Clay Regolith During Ice Sublimation on Mars. *38th Lunar and Planetary Science Conference*, March 12-16, 2007, League City, Texas, abstract no. 2097
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- A243 Lebofsky, L. A.; Lebofsky, N. R.; Sears, D.; Schmitt, B. (2006a) STORI and ORION: Bringing Inquiry into the Classroom. *37th Annual Lunar and Planetary Science Conference, March 13-17, 2006, League City, Texas, abstract no.1107.*
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- A11 Sears, D.W., Willis, J. and Wasson, J.T. (1980) Formation of IAB and IIICD iron meteorites. *Lunar Planet. Sci.* **XI**, 1018-1021.
- A10 Sears, D.W. and Marshall, C. (1980) Some studies on magnetic extracts from unequilibrated ordinary chondrites. *Meteoritics*, **15**, 364-365.
- A9 Melcher, C.L., Ross, L.M., Mills, A.A., Grossman, J.N. and Sears, D.W. (1980) A new measure of the metamorphic history of ordinary chondrites. *Meteoritics*, **15**, 332-333.

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- A8 Sears, D.W. (1979) Thermoluminescence of meteorites; relationships with their K-Ar age and their shock and reheating histories. *Meteoritics*, **14**, 534-535.
- A7 Durrani, S.A., Bull, R.R., McKeever, S.W.S., Mold, P. and Sears, D.W. (1979) Thermoluminescence and charged particle track studies of individual chondrules from the Alta'Ameen (LL5), Dhajala (H3) and Kirin (H5) meteorites. *Meteoritics*, **14**, 388-390.

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- A6 Sears, D.W. and Durrani, S.A. (1978) Thermoluminescence and the K-Ar age of meteorites. *Meteoritics*, **13**, 632.
- A5 Sears, D.W. (1978) Thermoluminescence of ten meteorites with greater than 4.0 aeon Argon 40/Argon 39 ages. *Meteoritics*, **13**, 628-632.
- A4 Sears, D.W. (1978) Formation of E chondrites. *Meteoritics*, **13**, 628.

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- A3 Sears, D.W. and Axon, H.J. (1977) Condensation/accretion conditions of the major iron meteorite groups. *Meteoritics*, **12**, 362.
- A2 Sears, D.W. (1977) The origin of meteorites. *Meteoritics*, **12**, 361.

1975

- A1 Sears, D.W. and Axon, H.J. (1975) The metal content of common chondrites. *Meteoritics*, **10**, 486-487.